As confidentially submitted to the Securities and Exchange Commission on June 19, 2020
as Amendment No. 1 to the draft registration statement

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM F-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

CureVac B.V.*
(Exact name of Registrant as specified in Its charter)

(*) We intend to convert the legal form of our company under Dutch law from a private company with limited liability (*besloten vennootschap met beperkte aansprakelijkheid*) to a public company (*naamloze vennootschap*) and to change our name from CureVac B.V. to CureVac N.V. prior to the closing of this offering.

Not Applicable
(Translation of Registrant's name into English)

The Netherlands		**Not Applicable**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

Friedrich-Miescher-Strasse 15, 72076
Tübingen,
Germany
+49 7071 9883 0
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

CureVac Inc.
250 Summer St. 3rd Fl.
Boston, Massachusetts 02210
+1-617-377-4044
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Richard D. Truesdell, Jr. **Leo Borchardt** **Davis Polk & Wardwell LLP** **450 Lexington Avenue** **New York, New York 10017** **+1 (212) 450-4000**	**Paul van der Bijl** **NautaDutilh N.V.** **Beethovenstraat 400** **1082 PR Amsterdam** **The Netherlands** **+31 (20) 717-1000**	**Nathan Ajiashvili** **Oliver Seiler** **Latham & Watkins LLP** **885 Third Avenue** **New York, New York 10022** **+1 (212) 906-1200**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐ _____

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐ _____

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐ _____

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933.
Emerging growth company ☒

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	**Proposed maximum aggregate offering price[(1)]**	**Amount of registration fee**
Common shares, par value €0.12 per share	$	$

(1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended. Includes the offering price of additional shares that the underwriters have the option to purchase.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to such Section 8(a), may determine.

Subject to Completion
Preliminary Prospectus dated , 2020

P R O S P E C T U S

Shares

Common Shares

CureVac B.V.

to be converted and renamed

CureVac N.V.

(incorporated in the Netherlands)

This is CureVac B.V.'s initial public offering. We are selling common shares, €0.12 par value per share.

We expect the public offering price to be between $ and $ per common share. This is our initial public offering and no public market currently exists for our common shares. We have applied to list our common shares on The Nasdaq Global Market under the symbol "CVAC."

We are both an "emerging growth company" and a "foreign private issuer" as defined under the U.S. federal securities laws and, as such, will be subject to reduced public company reporting requirements. See "Prospectus Summary — Implications of Being an Emerging Growth Company" and "— Implications of Being a Foreign Private Issuer."

Investing in our common shares involves risks. See "Risk Factors" beginning on page 13 of this prospectus.

	Per Share	Total
Public offering price	$	$
Underwriting discounts (1)	$	$
Proceeds, before expenses, to us	$	$

(1) We refer you to "Underwriting" beginning on page 256 of this prospectus for additional information regarding underwriting compensation.

The underwriters may also exercise their option to purchase up to an additional common shares from us, at the public offering price, less the underwriting discount, for 30 days after the date of this prospectus.

Neither the U.S. Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The common shares will be ready for delivery on or about , 2020.

BofA Securities **Jefferies** **Credit Suisse**
Nomura **Kempen & Co**

The date of this prospectus is , 2020.

TABLE OF CONTENTS

We and the underwriters have not authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may provide you. We are offering to sell, and seeking offers to buy, common shares only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common shares.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus or any free writing prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus or any free writing prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common shares and the distribution of this prospectus and any free writing prospectus outside the United States.

ABOUT THIS PROSPECTUS

Unless otherwise indicated or the context otherwise requires, all references in this prospectus to "CureVac" or the "Company," "we," "our," "ours," "ourselves," "us" or similar terms refer to (i) CureVac AG, together with its subsidiaries, prior to the completion of the contribution and transfer to CureVac B.V. of all of the outstanding shares of CureVac AG in a capital increase in exchange for newly issued common shares of CureVac B.V., (ii) CureVac B.V., together with its subsidiaries, as of the completion of the contribution and transfer to CureVac B.V. of all of the outstanding shares of CureVac AG in a capital increase in exchange for newly issued common shares of CureVac B.V. and (iii) CureVac N.V., together with its subsidiaries, after giving effect to the conversion of CureVac B.V. into CureVac N.V. See "Corporate Reorganization."

We are incorporated in the Netherlands, and a majority of our outstanding securities are owned by non U.S. residents. Under the rules of the U.S. Securities and Exchange Commission, or the SEC, we are currently eligible for treatment as a "foreign private issuer." As a foreign private issuer, we will not be required to file periodic reports and financial statements with the SEC as frequently or as promptly as domestic registrants whose securities are registered under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

We have not authorized anyone to provide any information other than that contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we may have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters have not authorized any other person to provide you with different or additional information. Neither we nor the underwriters are making an offer to sell the common shares in any jurisdiction where the offer or sale is not permitted. This offering is being made in the United States and elsewhere solely on the basis of the information contained in this prospectus. You should assume that the information appearing in this prospectus is accurate only as of the date on the front cover of this prospectus, regardless of the time of delivery of this prospectus or any sale of the common shares. Our business, financial condition, results of operations and prospects may have changed since the date on the front cover of this prospectus.

PRESENTATION OF FINANCIAL INFORMATION

We report under International Financial Reporting Standards, or IFRS, as issued by the International Accounting Standards Board, or IASB. We have made rounding adjustments to some of the figures included in this prospectus. Accordingly, numerical figures shown as totals in some tables may not be an arithmetic aggregation of the figures that preceded them.

Our financial statements included in this prospectus are presented in euro and, unless otherwise specified, all monetary amounts are in euro. All references in this prospectus to "$," "U.S. dollars" and "dollars" means U.S. dollars and all references to "€" and "euro" mean euro, unless otherwise noted.

In this prospectus, unless otherwise indicated, some euro amounts have been translated into U.S. dollars at the rate of $1.00 to € , the official exchange rate quoted as of , 2020 by the Federal Reserve Bank of New York.

This prospectus contains the historical financial statements and other financial information of CureVac AG, which is expected to be acquired by CureVac B.V. as a consequence of a capital increase of CureVac B.V. in the context of which the shareholders of CureVac AG will contribute and transfer their shares in CureVac AG as contribution in kind to CureVac B.V. prior to the closing of this offering. CureVac B.V.'s common shares are being offered hereby. CureVac B.V. is a newly incorporated holding company incorporated for the purpose of effecting the offering and has not engaged in any activities except those incidental to its formation, the corporate reorganization and the initial public offering of our common shares. CureVac B.V. has no assets, liabilities or contingent liabilities and will have no assets, liabilities or contingent liabilities until the completion of our corporate reorganization. Following the corporate reorganization, CureVac N.V. will become the holding company of CureVac AG and the historical consolidated financial statements of CureVac AG included in this prospectus will become the historical consolidated financial statements of CureVac N.V. See "Corporate Reorganization."

TRADEMARKS

We own or have rights to various trademarks and trade names, including CureVac® and the CureVac logo, that we use in connection with the operation of our business. This prospectus may also contain trademarks, service marks and trade names of third parties, which are the property of their respective owners. We do not intend our use or display of other entities' trademarks, trade names or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entity. Solely for convenience, the trademarks, trade names and service marks in this prospectus are referred to without the symbols ® and ™, or ^{SM}, but the omission of such references should not be construed as any indication that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable owner of these trademarks, service marks and trade names.

MARKET, INDUSTRY AND OTHER DATA

Unless otherwise indicated, information contained in this prospectus concerning our industry, including our general expectations and market position, market opportunity and market size estimates, is based on information from independent industry analysts, third-party sources and management estimates. Management estimates are derived from publicly available information released by independent industry analysts and third-party sources, as well as data from our internal research, and are based on assumptions made by us based on such data and our knowledge of such industry and market, which we believe to be reasonable. In addition, while we believe the market opportunity information included in this prospectus is generally reliable and is based on reasonable assumptions, such data involves risks and uncertainties and is subject to change based on various factors, including those discussed under the heading "Risk Factors" and "Cautionary Statement Regarding Forward-Looking Statements."

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary may not contain all the information that may be important to you, and we urge you to read this entire prospectus carefully, including the "Risk Factors," "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections and our audited consolidated financial statements and notes to those statements, included elsewhere in this prospectus, before deciding to invest in our common shares.

Our Company

We are a leading global clinical-stage biopharmaceutical company developing a new class of transformative medicines based on messenger ribonucleic acid that has the potential to improve the lives of people. Our vision is to revolutionize medicine and open new avenues for developing therapies by enabling the body to make its own drugs. Messenger ribonucleic acid, or mRNA, plays a central role in cellular biology in the production of proteins in every living cell. We are the pioneers in successfully harnessing mRNAs designed to prevent infections and to treat diseases by mimicking human biology to synthesize the desired proteins. Our technology platform is based on a natural approach to optimize mRNA constructs that encode functional proteins that replace defective or missing proteins using the cell's intrinsic translation machinery. Our current product portfolio includes clinical and preclinical candidates across multiple disease indications in oncology, prophylactic vaccines and protein therapy. Our lead clinical programs are CV8102, which we are evaluating in a Phase 1 clinical trial for the treatment of four types of solid tumors, and CV7202, which we are currently investigating in a Phase 1 clinical trial for potential vaccination against rabies. We are also rapidly advancing our mRNA vaccine program against coronavirus (SARS-CoV-2), for which we initiated a Phase 1 clinical trial in healthy volunteers in June 2020, with results expected in the fourth quarter of 2020.

mRNA-based medicines represent a novel class of medicine that have the potential to address limitations of conventional treatment modalities. We believe the modular nature of mRNA has the potential for higher efficacy, greater speed and lower cost of production as compared to conventional treatment modalities. We are leveraging the inherent advantages of mRNA-based medicines in the development of our technology platform. We have built an extensive expertise in the fields of mRNA biology, optimization and production. We have continued to invest in developing our proprietary technology platform, which we refer to as the RNAoptimizer, over the past 20 years. We optimize mRNAs to preserve critical protein-RNA interactions as these are an inherent feature of the natural building blocks we employ. Our differentiated technology platform is designed to optimize each component of the mRNA-based medicine. Our RNAoptimizer platform is built on three core pillars:

- ***Protein design:*** optimizing the specific properties of encoded protein;
- ***mRNA optimization:*** increasing translation efficacy of the mRNA molecule; and
- ***mRNA delivery:*** selecting the best-suited delivery system from our diverse portfolio of proprietary and third party delivery systems.

By leveraging each of these pillars, we have observed improved protein expression levels while modulating the interaction with the immune system in preclinical and clinical trials. We continue to invest in all levels of optimization to improve the methods we currently employ and to further advance our mRNA-based medicines.

We consider our manufacturing process an important part of our strategy that allows us to continuously improve our technology platform and maintain flexibility in clinical development. We control the critical steps of manufacturing in-house, which allows us to drive innovation and to maintain flexibility, which allows us to pivot quickly in clinical development and potential commercialization. For other non-critical manufacturing steps, such as starting material, formulation and fill and finish, we rely on contract manufacturing organizations, or CMOs. We currently operate three GMP-certified suites, with the capacity to supply our clinical programs and potential early commercialization activities. We are in the process of building a fourth GMP facility that will support our future commercial launches. Based on the doses and response seen in our CV7202 study, we believe our fourth GMP facility, which is being designed to cover all manufacturing steps from starting material to formulation, could potentially supply materials for billions

of doses of our vaccine product candidates. In addition to our GMP manufacturing facilities, we are developing a novel downsized and automated process for producing our mRNA, which we refer to as the RNA Printer.

Our approach seeks to mitigate clinical and developmental risk across multiple levels to advance and expand our broad product portfolio through rational disease selection. We consider a number of factors in our disease selection process including unmet medical need, immune response, duration of expression, dosing requirements, delivery, and targeted tissue types, among other factors. Our programs target the underlying modes of action of the disease that play a critical role in the pathology of the disease. We are initially targeting diseases that require an active immune response (such as prophylactic vaccines and oncology) and require transient expression of mRNA in tissue types that are more easily accessible. We believe these initial indications are amenable to localized delivery using a lipid nanoparticle, or LNP, delivery system. Following the encouraging results from our initial prophylactic vaccines program in clinical studies and based on our advanced understanding of mRNA biology and immune stimulation control, we have expanded our product portfolio to target indications that require an immune silent approach (such as protein delivery), given the need for higher doses, repeated dosing and longer expression of the protein. These initial indications are using LNP delivery systems, or our proprietary polymer based delivery system, which we refer to as the CureVac Carrier Molecule, or CVCM. Our access to a broad range of delivery systems allows us to target multiple tissue types.

We are exploring a range of potential approaches in oncology including intratumoral therapy and novel cancer vaccines targeting neoepitopes and tumor associated antigens. Our lead oncology candidate, CV8102, is a complex of single-stranded non-coding RNA which has been optimized to maximize activation of cellular receptors that normally detect viral pathogens entering the cells (such as toll-like receptor 7, or TLR7, TLR8, and retinoic acid inducible gene I, or RIG-I pathways), mimicking a viral infection of the tumor. CV8102 is designed to recruit and activate antigen-presenting cells at the site of injection to present tumor antigens released from tumor cells to T cells in the draining lymph node. This potentially leads to activation of tumor specific T cells, which can kill tumor cells at the injected site, but also at distant non-injected tumor lesions or metastases. CV8102 is currently being evaluated in a Phase 1 clinical trial for the treatment of four types of solid tumors — cutaneous melanoma, or cMEL, adenoidcystic carcinoma, or ACC, squamous cell carcinoma of skin, or SCC, and squamous cell carcinoma of head and neck, or HNSCC. As of April 2020, we have enrolled 40 patients (24 in the single agent cohort and 16 in the combination cohort with anti-PD-1) in the Phase 1 dose-escalation portion of the study. As of April 2020, we have observed preliminary evidence of single agent activity with objective tumor responses observed in two melanoma patients, and two additional patients have shown a stabilization of their disease, including shrinkage of non-injected lesions. Overall, eight out of 24 patients treated with single agent CV8102 remained free of progression for at least 24 weeks. Based on the results from the Phase 1 clinical trial, we plan to determine the recommended dose for Phase 2.

Our mRNA technology platform has shown potential in the development and production of prophylactic vaccines against infectious diseases. Our lead vaccine program, CV7202, is being developed for prophylactic vaccination against rabies. CV7202 is an mRNA that encodes the rabies virus glycoprotein, RABV-G, formulated with LNPs. We are currently investigating CV7202 in Phase 1 clinical trial, evaluating safety, including reactogenicity, and immunogenicity. In January 2020, we reported preliminary data from our Phase 1 trial of CV7202 in rabies. CV7202 induced adaptive immune response as shown by rabies-specific virus-neutralizing antibody titers, or VNTs, above the World Health Organization, or WHO, thresholds considered to be protective, 28 days after the second dose in all subjects, at the lowest 1µg and 2µg dose levels. We also showed that the lowest dose levels (1µg and 2µg mRNA) were generally well tolerated. We plan to report follow up data from our Phase 1 clinical trial in and initiate a Phase 2 clinical trial in .

In response to the global pandemic due to novel coronavirus 2019 disease, or COVID-19, we have rapidly advanced our mRNA vaccine program against SARS-CoV-2. Upon publication of the sequence of the novel coronavirus disease (SARS-CoV-2), at the end of January 2020, we designed and optimized a variety of potential antigenic constructs based on the spike (S) protein to elicit high immunogenicity. Early exploratory data on these constructs indicated high immunogenicity and titers of S specific binding and neutralizing antibodies in mice after a single vaccination. The results of our preclinical studies suggested that

our vaccine candidate against SARS-CoV-2 was active at low dose (2µg) and triggered fast induction of a balanced immune response with high levels of VNTs and T-cell responses. Based on the preclinical results, we initiated a Phase 1 clinical trial in healthy volunteers in June 2020, with results expected in the fourth quarter of 2020. We are working closely with many organizations, including the Coalition for Epidemic Preparedness Innovations, or CEPI, on the development of this vaccine candidate. We have also produced material for our vaccine candidate in our GMP III facility in anticipation of clinical trials.

Our development efforts for protein therapy are based on delivering optimized mRNAs to trigger production of antibodies or therapeutic proteins. Based on this "healthy" information delivered by mRNA, our cells can produce proteins, which are required to treat the disease caused by missing or inactive proteins. Protein therapy has the potential to be used as a treatment against infectious diseases and toxins and to be applied in many disease indications including cancer, cardiovascular diseases and autoimmune diseases. In preclinical studies in non-human primates, we have demonstrated that antibodies encoded by mRNA can be produced in hepatocytes very rapidly and can reach therapeutic levels in the blood stream. We are also currently advancing multiple undisclosed programs in preclinical studies across liver and rare diseases, eye disorders, lung diseases as well as delivering therapeutic antibodies.

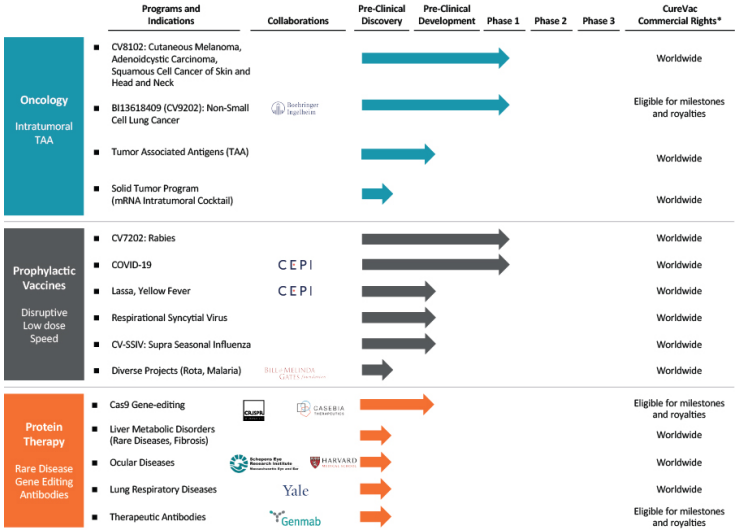
We have built an intellectual property portfolio in the United States, Europe and other major geographies. Our patent portfolio includes claims relating to our RNA technology platform, our CVCM delivery system and our CV8102, CV7202, CV-SSIV and SARS-CoV-2 product candidates. We retain the worldwide development and commercialization rights for our lead product candidates.

We have a history of partnering with leading biopharmaceutical companies such as Boehringer Ingelheim GmbH, or Boehringer Ingelheim, CRISPR Therapeutics AG, or CRISPR Therapeutics, and Genmab B.V., or Genmab. We also have received research grants from the Bill & Melinda Gates Foundation and CEPI for the development of several prophylactic vaccines. In addition, we have collaborations with the Schepens Eye Research Institute, Harvard Medical School and the Massachusetts Eye and Ear Infirmary, collectively SERI, as well as Yale University. Our approach of partnering with a number of biopharmaceutical companies allows us to execute on a broad range of programs simultaneously, while mitigating our drug development risk.

We are led by a team of veterans with extensive experience in the biopharmaceutical industry, including experience in nucleic acid therapy, oncology, rare and infectious diseases, and antibodies. Our management team as well as our supervisory board members have broad expertise in the clinical, regulatory, and commercialization aspects of oncology, prophylactic vaccines and protein therapy as well as in drug development, process development, and manufacturing for mRNA therapies. We currently have over 450 employees, including over 116 employees with advanced scientific degrees. Since our founding in 2000, we have raised €451 million in gross proceeds from a combination of equity and convertible debt financings with an additional €44 million of external committed financing outstanding.

Our Product Portfolio

Our differentiated mRNA technology platform is designed to address a broad range of diseases across multiple therapeutic areas. Given the strengths of our platform, the broad potential of mRNA-based medicines, and our rational approach to disease selection, we have chosen to leverage our platform to initially focus on advancing our product candidates in the areas of oncology, infectious diseases and protein therapy.



* For further details on our collaboration agreements, see "Business — Collaborations" and "Management's Discussion and Analysis of Financial Condition and Results of Operations — Our Collaborations and Related License Agreements"

Our Strengths

We are developing a broad portfolio of product candidates currently in preclinical or Phase 1 development stages that we believe position us at the forefront of targeted immune active and immune silent mRNA medicines. Our key strengths include:

- We have a differentiated mRNA technology platform that has the potential to address a wide range of diseases.
- We have a broad portfolio of mRNA-based medicines in preclinical or Phase 1 development stages being designed for efficacy, safety and protein expression at relatively low doses.
- We have the ability to target different tissue types based on our delivery systems.
- We have invested in building our in-house manufacturing infrastructure, capabilities and expertise to rapidly, efficiently and cost-effectively produce mRNA-based medicines at commercial scale.
- We have entered into strategic partnerships with leading biopharmaceutical companies and research and non-profit institutions to expand the applications of our technology platform.
- We have built an intellectual property portfolio in a variety of markets for our platform and product candidates.
- We have a long history of mRNA research and development and are led by an experienced management team.

Our Strategy

Our goal is to continue to build a leading, fully integrated mRNA-based medicines company that can transform the lives of people. The key components of our strategy include:

- Continue to invest in our proprietary technology platform to be the leading mRNA platform company.

- Utilize a rational disease selection approach to minimize clinical and commercial risk for our programs and broader platform.
- Rapidly advance our lead product candidates through clinical development and regulatory approval.
- Continue to invest in our manufacturing capabilities across all manufacturing steps from starting material to formulation to further add scale and flexibility for potential commercialization.
- Selectively seek strategic partners to develop and commercialize product candidates in certain therapeutic areas and geographies.
- Seek strategic acquisitions or in-licenses of technology or assets that are complementary to our programs and technology platform.
- Strengthen and expand our intellectual property portfolio to protect our scientific and technical know-how.

Risks Associated with Our Business

All of our product candidates are currently in preclinical or Phase 1 development stages. We have not yet demonstrated an ability to successfully conduct late-stage clinical trials, obtain marketing approvals, manufacture a commercial-scale product, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Accordingly, you should consider our prospects in light of the costs, uncertainties, delays and difficulties frequently encountered by companies in the early stages of development, especially clinical-stage biopharmaceutical companies such as ours. Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the “Risk Factors” section of this prospectus immediately following this prospectus summary. These risks include the following:

- the adequacy of our capital resources to successfully complete the development and commercialization of our product candidates, and a failure to obtain additional capital;
- our history of operating losses and our need for additional funding before we can expect to become profitable from the sales of our products;
- we rely on existing strategic partnerships for the funding, research, development and commercialization of our platform and certain of our product candidates, including with Genmab, Arcturus Therapeutics, Inc., or Arcturus, Acuitas Therapeutics Inc., or Acuitas, CRISPR Therapeutics, Boehringer Ingelheim, the Bill & Melinda Gates Foundation, CEPI, and Tesla Grohmann Automation GmbH, or Tesla Grohmann, among others; if our partners are unsuccessful in their efforts or chose to terminate their agreements with us, our business will be materially harmed;
- our approach to the discovery and development of product candidates based on mRNA technology is unproven, and we do not know whether we will be able to successfully develop any products;
- clinical drug development is a lengthy and expensive process with uncertain timelines and uncertain outcomes;
- all of our proprietary product candidates are still in preclinical or early clinical development and we cannot give any assurance that any of our product candidates will receive regulatory approval;
- if we are unable to obtain regulatory approval and ultimately commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed;
- to date, no product that utilizes mRNA as a therapeutic or prophylactic vaccine has been approved in the United States or Europe and mRNA drug development has substantial clinical development and regulatory risks due to the novel and unprecedented nature of this new category of medicines;

- the regulatory approval processes of the U.S. Food and Drug Administration, or FDA, the European Medicines Agency, or EMA, and comparable foreign authorities are lengthy, time-consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed;
- some of our product candidates are classified as gene therapies by the FDA and the EMA. Even though our mRNA product candidates are designed to have a different mechanism of action from gene therapies, the association of our product candidates with gene therapies could result in increased regulatory burdens, impair the reputation of our product candidates or negatively impact our platform or our business;
- we are developing product candidates for the treatment or prevention of diseases in which there is little clinical experience using new technologies, which means there is increased risk that the FDA, EMA or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results;
- the manufacture of mRNA-based medicines is complex and manufacturers often encounter difficulties in production;
- the timing, receipt, and amount of sales of, or royalties or milestones on, our future products, if any;
- our ability to obtain, maintain, protect and defend our intellectual property, which is difficult and costly;
- concentration of ownership by our principal shareholder may conflict with your interest and may prevent you from influencing significant corporate decisions;
- our ability to develop and commercialize our product candidates without infringing, misappropriating or otherwise violating the intellectual property of third parties;
- we are currently devoting significant resources to the development of a vaccine against COVID-19 and such development may impair our ability to timely progress other product candidates in clinical trials; and
- the recent outbreak of the COVID-19, which may cause business disruptions and could have a material adverse effect on our business plan or clinical trials.

A change in the outcome of any of these variables with respect to the development of any product candidate that we may develop could mean a significant change in the costs and timing associated with the development of such product candidate.

Upon the outbreak of the COVID-19 pandemic, we determined to make the development of a vaccine candidate against COVID-19 a priority and to use our large scale GMP III facility to provide required material for a potential vaccine product candidate. While there is currently no larger production batch required for our other product candidates, this prioritization could impact clinical development of our other product candidates if such a production need arises. Our research personnel dedicated to infectious diseases focused its efforts on optimizing vaccine constructs in preparation of a Phase 1 clinical trial, and this focus may delay development of other potential infectious disease product candidates. We also postponed initially planned preclinical work on an influenza vaccine to later in 2020. We can provide no assurances that our focus on clinical development of a vaccine candidate against COVID-19 will not adversely impact clinical development of our other product candidates.

Furthermore, the biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. We face and will continue to face competition from third parties that use mRNA, gene editing or gene therapy development platforms and from third parties focused on other therapeutic modalities, such as small molecules, antibodies, biologics and nucleic acid-based therapies. The competition is likely to come from multiple sources, including large and specialty pharmaceutical and biotechnology companies, academic research institutions, government agencies and public and private research institutions. Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and other

resources, such as larger research and development, clinical, marketing and manufacturing organizations. Our commercial opportunity could be reduced or eliminated if competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approvals for their products faster or earlier than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

Kreditanstalt für Wiederaufbau Investment

On June 16, 2020, we entered into a binding term sheet with Kreditanstalt für Wiederaufbau, or KfW, pursuant to which we agreed to issue new Series B shares in CureVac AG in exchange for an aggregate investment of €300 million by KfW. We refer to the investment of KfW as the KfW Investment. KfW will become a party to the Investment and Shareholders Agreement, and has entered into a separate shareholders' agreement with dievini and Mr. Hopp, as further described under the caption "Related Party Transactions".

Corporate Reorganization

We were incorporated pursuant to the laws of the Netherlands as CureVac B.V. on April 7, 2020 to become a holding company for CureVac AG. Pursuant to the terms of a corporate reorganization that will be completed prior to the closing of this offering, all of the outstanding shares in CureVac AG will be contributed and transferred to CureVac B.V. in a capital increase in exchange for newly issued common shares of CureVac B.V. and, as a result, CureVac AG will become a wholly owned subsidiary of CureVac B.V. and the current shareholders of CureVac AG will become the shareholders of CureVac B.V. Prior to the closing of this offering, we intend to convert from CureVac B.V. into CureVac N.V. See "Corporate Reorganization."

Corporate Information

Our principal executive offices are located at Friedrich-Miescher-Strasse 15, 72076 Tübingen, Germany. Our telephone number at this address is +49 7071 9883 0. Investors should contact us for any inquiries through the address and telephone number of our principal executive office. Our principal website is www.curevac.com. The information contained on our website is not part of this prospectus.

Implications of Being an Emerging Growth Company

As a company with less than $1.07 billion in revenue during our last fiscal year, we qualify as an "emerging growth company" as defined in the Jumpstart our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. These provisions include:

- a requirement to have only two years of audited financial statements and only two years of related Management's Discussion and Analysis of Financial Condition and Results of Operations disclosure;
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002; and
- to the extent that we no longer qualify as a foreign private issuer, (i) reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and (ii) exemptions from the requirements of holding a nonbinding advisory vote on executive compensation, including golden parachute compensation.

We may take advantage of these provisions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company upon the earliest to occur of (i) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer" with at least $700 million of equity securities; (iii) the issuance, in any three-year period, by our company of more than $1.0 billion in non-convertible debt securities held by non-affiliates; and (iv) the last day of the fiscal year ending after the fifth anniversary of our initial public offering. We may choose to take advantage of some but not all of these reduced burdens. We cannot

predict if investors will find our common shares less attractive because we will rely on these exemptions. If some investors find our common shares less attractive as a result, there may be a less active trading market for our common shares and our share price may be more volatile.

In addition, Section 107 of the JOBS Act provides that an emerging growth company can use the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Given that we currently report and expect to continue to report under IFRS as issued by the IASB, we have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required by the IASB. Since IFRS makes no distinction between public and private companies for purposes of compliance with new or revised accounting standards, the requirements for our compliance as a private company and as a public company are the same.

Implications of Being a Foreign Private Issuer

We are also considered a "foreign private issuer." In our capacity as a foreign private issuer, we are exempt from certain rules under the Exchange Act that impose certain disclosure obligations and procedural requirements for proxy solicitations under Section 14 of the Exchange Act. In addition, our managing directors, supervisory directors and our principal shareholders are exempt from the reporting and "short-swing" profit recovery provisions of Section 16 of the Exchange Act and the rules under the Exchange Act with respect to their purchases and sales of our common shares. Moreover, we are not required to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act. In addition, we are not required to comply with Regulation FD, which restricts the selective disclosure of material information.

We may take advantage of these exemptions until such time as we are no longer a foreign private issuer. We will remain a foreign private issuer until such time that more than 50% of our outstanding voting securities are held by U.S. residents and any of the following three circumstances applies: (i) the majority of the managing directors or supervisory directors are U.S. citizens or residents; (ii) more than 50% of our assets are located in the United States; or (iii) our business is administered principally in the United States.

We have taken advantage of certain reduced reporting and other requirements in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies.

THE OFFERING

Issuer	CureVac B.V., to be converted into and renamed CureVac N.V. prior to the closing of this offering.
Common shares offered	We are offering common shares.
Underwriters' option to purchase additional common shares	We have granted the underwriters the right to purchase up to an additional common shares from us within 30 days of the date of this prospectus.
Common shares to be outstanding after this offering	common shares (common shares if the underwriters' option to purchase additional common shares is exercised in full).
Voting rights	Our common shares have one vote per share.
Listing	We have applied to list our common shares on The Nasdaq Global Market, or Nasdaq, under the symbol "CVAC."
Use of proceeds	We estimate that the net proceeds to us from the offering will be approximately $ ($ if the underwriters' option to purchase additional common shares is exercised in full), assuming an initial public offering price of $ per common share, which is the midpoint of the price range set forth on the cover page of this prospectus. We currently intend to use the net proceeds from the offering, together with cash and cash equivalents on hand as follows: (i) to advance our lead oncology program, CV8102, through the completion of the Phase 2 clinical trial; (ii) to advance our lead vaccine program, CV7202, through the completion of the Phase 2 clinical trial; (iii) to fund clinical development of our mRNA vaccine program against SARS-CoV-2 through the completion of the Phase 2 clinical trial; (iv) to advance the development of our other preclinical and clinical programs; (v) to invest in further development of our mRNA technology platform; (vi) to fund the expansion of our manufacturing capabilities; and (vii) the remainder for working capital and general corporate purposes. See "Use of Proceeds."
Dividend policy	We have never paid or declared any cash dividends on our common shares and we do not anticipate paying any cash dividends on our common shares in the foreseeable future. We intend to retain all available funds and any future earnings to fund the development and expansion of our business. As of the completion of our corporate reorganization, under Dutch law, we may only pay dividends to the extent our shareholders' equity (*eigen vermogen*) exceeds the sum of the paid-in and called-up share capital plus the reserves required to be maintained by Dutch law or by our articles of association and (if it concerns a distribution of profits) after adoption of the annual accounts by the general meeting from which it appears that such dividend distribution is allowed. Subject to such restrictions, any future determination to pay dividends will be at the discretion of our management

	board with the approval of our supervisory board and will depend upon a number of factors, including our results of operations, financial condition, future prospects, contractual restrictions, restrictions imposed by applicable law and other factors our management board and supervisory board deem relevant.
Lock-up agreements	We have agreed with the underwriters, subject to certain exceptions, not to offer, sell or dispose of any shares of our share capital or securities convertible into or exchangeable or exercisable for any shares of our share capital during the 180-day period following the date of this prospectus. Our managing directors and our supervisory directors, as well as substantially all of our existing shareholders, have agreed to substantially similar lock-up provisions, subject to certain exceptions.
Risk factors	See “Risk Factors” and the other information included in this prospectus for a discussion of factors you should consider before deciding to invest in our common shares.

The number of common shares to be outstanding after this offering is based on common shares outstanding as of , 2020.

Unless otherwise indicated, all information contained in this prospectus assumes:

- the consummation of the KfW Investment;
- the completion, prior to the closing of this offering, of our corporate reorganization, as further described under the section titled “Corporate Reorganization”;
- an initial public offering price of $ per common share, which is the midpoint of the price range set forth on the cover page of this prospectus; and
- no exercise of the option granted to the underwriters to purchase up to additional common shares in connection with the offering.

SUMMARY CONSOLIDATED FINANCIAL INFORMATION

The following summary consolidated statement of financial position as of December 31, 2019 and the consolidated statement of operations and comprehensive income (loss) for the years ended December 31, 2018 and 2019 of CureVac AG are derived from the consolidated financial statements included elsewhere in this prospectus, which have been audited by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, or Ernst & Young.

We maintain our books and records in euros, and we prepare our financial statements under IFRS as issued by the IASB.

CureVac B.V. is a newly formed holding company formed for the purpose of effecting the offering and has not engaged in any activities except those incidental to its formation, the corporate reorganization and the initial public offering of our common shares. CureVac B.V. has no assets, liabilities or contingent liabilities and will have no assets, liabilities or contingent liabilities until the completion of our corporate reorganization. Accordingly, summary financial information for CureVac B.V. is not presented. CureVac AG's financial statements, including the notes thereto, are included elsewhere in this prospectus. See "Corporate Reorganization."

This financial information should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements, including the notes thereto, included elsewhere in this prospectus.

	For the Years Ended December 31,	
	2018	2019
	(in thousands of euros, except per share amounts)	
Statement of Operations and Comprehensive Income (Loss) Data:		
Revenue	12,871	17,416
Cost of sales	(17,744)	(27,983)
Selling and distribution expenses	(1,085)	(1,755)
Research and development expenses	(41,722)	(43,242)
General and administrative expenses	(25,289)	(48,969)
Other operating income	808	5,587
Other operating expenses	(663)	(552)
Operating loss	**(72,824)**	**(99,498)**
Finance income	1,968	833
Finance expenses	(275)	(1,460)
Loss before income tax	**(71,131)**	**(100,125)**
Income tax benefit (expense)	(110)	252
Net loss for the year	**(71,241)**	**(99,873)**
Other comprehensive income/loss:		
Items that may be subsequently reclassified to profit or loss		
Foreign currency adjustments	66	32
Total comprehensive loss for the year	**(71,175)**	**(99,841)**

	As of December 31, 2019		
	Actual	Pro Forma[1]	Pro Forma As Adjusted[2][3]
	(in thousands of euros)		
Statement of Financial Position Data:			
Cash and cash equivalents	30,684		
Total assets	130,620		
Total liabilities	173,422		
Total equity	(42,802)		

(1) Pro forma to give effect to (i) the consummation of the KfW Investment and (ii) our corporate reorganization.

(2) Pro forma as adjusted to give further effect to the issuance and sale of common shares in this offering at the assumed initial public offering price of $ per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, assuming no exercise of the underwriters' option to purchase additional common shares. The as adjusted information presented above is illustrative only and will vary based on the actual public offering price, the actual number of common shares offered by us and the other terms of the offering determined at pricing.

(3) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) each of cash and cash equivalents, total assets and total equity by $ million, assuming the number of common shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of common shares we are offering. Each increase (decrease) of 1.0 million in the number of common shares offered by us would increase (decrease) each of cash and cash equivalents, total assets, share capital and total equity by approximately $ million, assuming no change in the assumed initial public offering price and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

RISK FACTORS

You should carefully consider the risks and uncertainties described below and the other information in this prospectus before making an investment in our common shares. Our business, financial condition or results of operations could be materially and adversely affected if any of these risks occurs, and as a result, the market price of our common shares could decline and you could lose all or part of your investment.

This prospectus also contains forward-looking statements that involve risks and uncertainties. See "Cautionary Statement Regarding Forward-Looking Statements." Our actual results could differ materially and adversely from those anticipated in these forward-looking statements as a result of certain factors, including the risks facing our company.

Risks Related to Our Financial Position and Need for Additional Capital

We cannot assure you of the adequacy of our capital resources, including the proceeds from this offering, to successfully complete the development and commercialization of our product candidates, and a failure to obtain additional capital, if needed, could force us to delay, limit, reduce or terminate one or more of our product development programs or commercialization efforts.

As of December 31, 2019, we had cash and cash equivalents amounting to €30.7 million. We believe that we will continue to expend substantial resources for the foreseeable future developing our proprietary product candidates. These expenditures will include costs associated with research and development, conducting preclinical studies and clinical trials, seeking regulatory approvals, as well as launching and commercializing products approved for sale, if any, costs associated with manufacturing products and maintaining manufacturing facilities. In addition, other unanticipated costs may arise. Because the outcomes of our anticipated clinical trials are highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of our proprietary product candidates.

Our future funding requirements will depend on many factors, including but not limited to:

- our ability to successfully complete this offering;
- the numerous risks and uncertainties associated with developing product candidates and maintaining our mRNA technology platform;
- the number and characteristics of product candidates that we pursue;
- the rate of enrollment, progress, cost and outcomes of our clinical trials, which may or may not meet their primary end-points;
- the timing of, and cost involved in, conducting non-clinical studies that are regulatory prerequisites to conducting clinical trials of sufficient duration for successful product registration;
- the cost of manufacturing clinical supply and establishing commercial supply of our product candidates;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the timing of, and the costs involved in, obtaining regulatory approvals for our product candidates if clinical trials are successful;
- the timing of, and costs involved in, conducting post-approval studies that may be required by regulatory authorities;
- the cost of commercialization activities for our product candidates, if any of our product candidates are approved for sale, including product manufacturing, marketing and distribution of product candidates generated from our mRNA technology platform and any other product opportunity for which we receive marketing approval in the future;
- the terms and timing of any collaborative, licensing and other arrangements that we are currently party to or may establish, including any required milestone and royalty payments thereunder and any non-dilutive funding that we may receive;

- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims, including litigation costs, if any, and the outcome of any such litigation;
- the timing, receipt, and amount of sales of, or royalties or milestones on, our future products, if any;
- the costs to recruit and build the organization including key executives needed to transform to a commercial organization; and
- the costs of operating as a public company, including hiring additional personnel.

In addition, our operating plan may change as a result of many factors currently unknown to us. As a result of these factors, we may need additional funds sooner than planned. We expect to finance future cash needs primarily through a combination of public or private equity offerings, strategic collaborations and debt financing. If sufficient funds on acceptable terms are not available when needed, or at all, we could be forced to significantly reduce operating expenses and delay, limit, reduce or terminate one or more of our product development programs or commercialization efforts, which would have a negative impact on our business, prospects, operating results and financial condition.

We have incurred significant losses since our inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability.

We have incurred significant losses since our inception. Our consolidated net loss for the year ended December 31, 2019 was €99.9 million. As of December 31, 2019, our accumulated deficit was €515.9 million. We expect to continue to incur losses in the future as we continue our research and development of, and seek regulatory approvals for, our product candidates and maintain and develop new technology platforms, prepare for and begin to commercialize any approved product candidates and add infrastructure and personnel to support our product development efforts and operations as a public company in the United States. We have devoted substantially all of our financial resources and efforts to research and development, including preclinical studies and clinical trials and development of our manufacturing technology and we anticipate that our expenses will continue to increase over the next several years as we continue these activities. The net losses and negative cash flows incurred to date, together with expected future losses, have had, and likely will continue to have, an adverse effect on our shareholders' deficit and working capital. The amount of future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue.

Because of the numerous risks and uncertainties associated with biopharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. For example, our expenses could increase if we are required by the U.S. Food and Drug Administration, or FDA, the European Medicines Agency, or EMA, or other regulatory agencies to perform trials in addition to those that we currently expect to perform, or if there are any delays in completing our currently planned clinical trials, the partnering process for our proprietary product candidates or in the development of any of our proprietary product candidates.

Our revenue to date has been primarily revenue from the license of our proprietary technology platform and from milestone payments for the development of product candidates against targets provided by our collaborators. Our ability to generate revenue and achieve profitability in the future depends in large part on our ability, alone or with our collaborators, to achieve milestones and to successfully complete the development of, obtain the necessary regulatory approvals for, and commercialize, our product candidates and technology platform. This will require us to be successful in a range of challenging activities, including developing product candidates, obtaining regulatory approval for such product candidates, and manufacturing, marketing and selling those product candidates for which we may obtain regulatory approval. We may never succeed in these activities and may never generate revenue from product sales that is significant enough to achieve profitability. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. Our failure to become or remain profitable could depress our market value and could impair our ability to raise capital, expand our business, develop other product candidates or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

Even if we consummate this offering, we will require substantial additional financing, which may not be available on acceptable terms, or at all. Raising additional capital may cause dilution to our shareholders, including purchasers of common shares in this offering, restrict our operations or require us to relinquish rights to our technology or product candidates.

We expect our expenses to increase in connection with our planned operations and as we become and operate as a public company. To the extent that we raise additional capital through the sale of common shares, convertible securities or other equity securities, your ownership interest may be diluted, and the terms of these securities could include liquidation or other preferences and anti-dilution protections that could adversely affect your rights as a common shareholder. In addition, debt financing, if available, may result in fixed payment obligations and may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures, creating liens, redeeming shares or declaring dividends, that could adversely impact our ability to conduct our business. In addition, securing financing could require a substantial amount of time and attention from our management and may divert a disproportionate amount of their attention away from day-to-day activities, which may adversely affect our management's ability to oversee the development of our product candidates.

If we raise additional funds through collaborations or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

We cannot be certain that additional funding will be available on acceptable terms, or at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of our product candidates or other research and development initiatives. Our current or future license agreements may also be terminated if we are unable to meet the payment or other obligations under the agreements.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

We have limited financial and managerial resources, and therefore we intend to focus on developing product candidates for specific indications that we believe are most likely to succeed, in terms of both their potential for marketing approval and potential for successful commercialization, if approved. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that may prove to have greater commercial potential.

Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs and product candidates for specific indications may not yield any commercially viable product candidates. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to the product candidate.

We depend on strategic partnerships with other companies to assist in the research, development and commercialization of our platform and product candidates. If our existing or future partners do not perform as expected, if we fail to maintain any of these collaborations or if these collaborations are not successful, our ability to commercialize our product candidates successfully and to generate revenues through technology licensing or otherwise may be materially adversely affected.

We have established strategic partnerships and intend to continue to establish strategic partnerships with third parties to research, develop and commercialize our platform and existing and future product candidates. We have entered into strategic partnerships with Genmab, Arcturus, Acuitas, CRISPR Therapeutics, Boehringer Ingelheim, the Bill & Melinda Gates Foundation, CEPI and Tesla Grohmann,

among others. For certain of these programs, including our collaborations with Genmab, CRISPR Therapeutics and Boehringer Ingelheim, we will depend on our partners to design and conduct their clinical studies. As a result, we may not be able to conduct these programs in the manner or on the time schedule we currently contemplate, which may negatively impact our business operations. While we have certain contractual rights to information about pre-clinical and clinical developments and results under certain of our collaboration agreements, including our agreements with Genmab, Boehringer Ingelheim and CRISPR Therapeutics, we cannot be certain that clinical trials conducted in connection with such collaboration programs will be conducted in a manner consistent with the best interests of our business. In addition, if any of these partners withdraw support for these programs or proposed products or otherwise impair their development, our business could be negatively affected. Also, our inability to find a partner for any of our product candidates, may result in our termination of that specific product candidate program or evaluation of a product candidate in a particular indication. Even if we found a partner for one or more of our product candidates, there is no assurance that upon the approval of one or more of such product candidates we will be able to successfully co-commercialize such products.

In addition, our existing licenses and collaboration agreements, including our agreements with Genmab, Arcturus, Acuitas, Boehringer Ingelheim, the Bill & Melinda Gates Foundation, CRISPR Therapeutics and CEPI, impose, and any future licenses, collaborations or other intellectual property agreements we enter into are likely to impose, various development, commercialization, funding, milestone, royalty, diligence, sublicensing, insurance, patent prosecution and enforcement or other obligations on us. Furthermore, our licenses and collaboration agreements impose, and any future agreement we enter into may also impose, restrictions on our ability to license certain of our intellectual property to third parties or to develop or commercialize certain product candidates or technologies. In spite of our best efforts, our collaborators may conclude that we have breached our obligations under our agreements, in which case, we may be required to pay damages and the collaborator may have the right to terminate the agreement. Any of the foregoing could result in us being unable to develop, manufacture and sell products that are covered by the licensed technology, enable a competitor to gain access to the licensed technology or disrupt our right to receive funding or milestone or royalty payments. See “Business — Collaborations.”

In the future, we may enter into additional collaborations to fund our development programs or to gain access to sales, marketing or distribution capabilities. Under certain of our collaboration agreements, including our collaborations with Genmab, CRISPR Therapeutics and Boehringer Ingelheim, we grant our partners an exclusive license to develop and commercialize certain classes of products containing our mRNA technology for specific targets and receive license fees, research and development funding, milestone payments and/or, if a product is approved for marketing, sales royalties in return. Following the discovery and preclinical testing phase, in certain cases, our partners are solely responsible for the further development of the product candidate and therefore exercise full control over its further development and potential commercialization. In certain cases, including under our collaboration with Genmab, we have a limited right to co-commercialize collaboration products. While certain of our existing licenses and collaboration agreements, including our agreements with Genmab, Boehringer Ingelheim and CRISPR Therapeutics, impose development or commercialization obligations on our collaborators, we cannot be certain that our collaboration partners will allocate sufficient resources or attention to our collaboration programs or that they will progress our collaboration programs consistent with the best interests of our business. Our existing collaborations, and any future collaborations we enter into, therefore may pose a number of risks, including the following:

- collaborators may have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected by us or by health authorities, such as the FDA, the EMA or comparable foreign regulatory authorities;
- collaborators may dissolve, merge, be bought or may otherwise become unwilling to fulfill the initial terms of the collaboration with us;
- collaborators may fail to perform their obligations under the collaboration agreements or may be slow in performing their obligations;

- collaborations may be terminated for the convenience of the collaborator and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates;
- collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities or the actual or perceived competitive situation in a specific indication;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or may require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our products or product candidates if the collaborators believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- a collaborator with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product or products;
- disagreements with collaborators, licensors or licensees, including disagreements over proprietary rights, contract interpretation and breach of contract claims, payment obligations or the preferred course of development, might cause delays or termination of the research, development or commercialization of products or product candidates, might lead to additional responsibilities, including financial obligations for us with respect to products or product candidates, or delays or withholding of any payments due or might result in litigation or arbitration, any of which would be time consuming and expensive, and could limit our ability to execute on our strategies;
- collaborators may not properly obtain, maintain, enforce or defend our intellectual property or may use our proprietary information in such a way that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation; and
- collaborators may infringe, misappropriate or otherwise violate the intellectual property of third parties, which may expose us to litigation and potential liability.

If our collaborations on research and development candidates do not result in the successful development and commercialization of products or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development of our product candidates could be delayed and we may need additional resources to develop our proprietary product candidates. Moreover, our relationships with our partners may divert significant time and effort of our scientific staff and management team and require effective allocation of our resources to multiple internal and collaborative projects. All of the risks relating to product development, regulatory approval and commercialization described in this prospectus also apply to the activities of our program collaborators.

Additionally, subject to its contractual obligations to us, if one of our collaborators is involved in a business combination, the collaborator might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us. If one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators in a timely manner. For more information on our current collaboration agreements, see "Business — Collaborations."

Risks Related to the Development, Clinical Testing and Commercialization of Our Product Candidates

Our approach to the discovery and development of product candidates based on mRNA is unproven, and we do not know whether we will be able to successfully develop any products.

We focus on delivering mRNA encoding functional versions of proteins into cells without altering the underlying DNA. Our future success depends on the successful development of this novel therapeutic or vaccine approach. Relatively few mRNA-based product candidates have been tested in animals or humans, and the data underlying the feasibility of developing mRNA-based products are both preliminary and limited. As of the date of this prospectus, we are not aware of any product that utilizes mRNA as a therapeutic or prophylactic vaccine being approved in the United States or Europe. We have not yet succeeded and may not succeed in demonstrating the efficacy and safety of any of our product candidates in clinical trials or in obtaining marketing approval thereafter. We have completed an interim analysis of safety and immunogenicity in an ongoing Phase 1 clinical trial for our CV7202 (Rabies vaccine) product candidate and have ongoing Phase 1 clinical trials for our CV8102 (cMEL, ACC, SCC and HNSCC) and Phase 1/2 clinical trials for BI 1361849 (former CV9202) (Non-Small-Cell Lung Cancer, or NSCLC) product candidates. We have not yet completed any late-stage clinical studies. As such, there may be adverse effects from treatment with any of our current or future product candidates that we cannot predict at this time.

As a result of these factors, it is more difficult for us to predict the time and cost of product candidate development, and we cannot predict whether the application of our technology platform, or any similar or competitive mRNA platforms, will result in the development and regulatory approval of any products. There can be no assurance that any development problems we experience in the future related to our technology platform or any of our research programs will not cause significant delays or unanticipated costs, or that such development problems can be solved. Any of these factors may prevent us from completing our preclinical studies or any clinical trials that we may initiate or commercializing any product candidates we may develop on a timely or profitable basis, if at all.

Clinical drug development involves a lengthy and expensive process with uncertain timelines and uncertain outcomes, and results of earlier studies and trials may not be predictive of future trial results. If clinical trials of our product candidates or production of our product candidates are prolonged or delayed, we may be unable to obtain required regulatory approvals, and therefore be unable to commercialize our product candidates on a timely basis or at all.

Our business is dependent on the successful development, regulatory approval and commercialization of product candidates based on our technology platform. If we and our collaborators are unable to obtain approval for and effectively commercialize our product candidates, our business would be significantly harmed. Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain, and we may not be able to obtain approvals for the commercialization of any product candidates we may develop.

To obtain the requisite regulatory approvals to market and sell any of our product candidates, we must demonstrate through extensive preclinical studies and clinical trials that our products are safe and effective in humans. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies and early clinical trials of our product candidates may not be predictive of the results of later-stage clinical trials. For example, our Phase 2b clinical trial with CV9104, one of our first generation vaccines based on protamine formulation, that was designed to evaluate the investigational mRNA-based cancer vaccine in patients with asymptomatic or minimally symptomatic metastatic castrate resistant prostate cancer, failed to meet the primary endpoint of improving overall survival despite proceeding through preclinical and Phase 1 studies. Progression-free survival was similar in both arms of the clinical trial. In addition, our past programs with protamine based vaccines (CV9201, CV9103, CV9104 and CV7201) were discontinued because the level of immunogenicity achieved in clinical trials was considered insufficient. BI 1361849 (former CV9202) is the only protamine based vaccine formulation in current clinical trials. While we have assessed the results of past trials and these have informed our approach going forward, we can provide no assurance that future clinical trials will not be discontinued or fail to meet their specified endpoints. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite

having progressed through preclinical studies and initial clinical trials. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. Our future clinical trial results may not be successful.

Clinical trials must be conducted in accordance with the FDA, EMA and comparable foreign regulatory authorities' legal requirements, regulations or guidelines and are subject to oversight by these governmental agencies and Institutional Review Boards, or IRBs, at the medical institutions where the clinical trials are conducted. In addition, clinical trials must be conducted with supplies of our product candidates produced in accordance with current good manufacturing practices, or cGMP, and other requirements. We depend on medical institutions and clinical research organizations, or CROs, to conduct our clinical trials in compliance with good clinical practice, or GCP, standards. While we control the critical steps of manufacturing in-house, we rely on contract manufacturing organizations, or CMOs, to perform non-critical steps of the manufacture and supply of our product candidates, such as starting material, formulation and fill and finish. Failure to follow and document adherence to such regulations or other regulatory requirements may lead to significant delays in the availability of product for our clinical trials, result in the termination of or a clinical hold being placed on one or more of our clinical trials, or delay or prevent submission or approval of marketing applications for our product candidates.

To the extent our CROs fail to enroll participants for our clinical trials, fail to conduct the trial in accordance with GCP requirements or are delayed for a significant time in the execution of trials, including achieving full enrollment, we may be affected by increased costs, program delays or both, which may harm our business. To date, we have not completed clinical trials sufficient for obtaining marketing approvals for any of our product candidates. Our CV7202 (Rabies), BI 1361849 (former CV9202) (NSCLC) and CV8102 (Melanoma, Adenoidcystic Carcinoma, Squamous Cell Cancer of Skin and Head and Neck) product candidates are in clinical development and all other of our product candidates are in the preclinical development stage.

The completion of clinical trials for our clinical product candidates may be delayed, suspended or terminated as a result of many factors, including but not limited to:

- the delay or refusal of regulators or IRBs to authorize us to commence a clinical trial at a prospective trial site and changes in regulatory requirements, policies and guidelines;
- delays or failure to reach agreement on acceptable terms with prospective CROs and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- delays in patient enrollment and variability in the number and types of patients available for clinical trials, including as a result of COVID-19;
- the inability to enroll a sufficient number of patients in trials to ensure adequate statistical power to detect statistically significant treatment effects;
- negative or inconclusive results, which may require us to conduct additional preclinical or clinical trials or to abandon projects that we expect to be promising;
- shortage of materials required for the production of our product candidates including due to events surrounding COVID-19;
- safety or tolerability concerns causing us to suspend or terminate a trial if it is determined that the participants are being exposed to unacceptable health risks;
- regulators or IRBs requiring that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or safety concerns, among others;
- lower than anticipated retention rates of patients and volunteers in clinical trials;
- our CROs or clinical trial sites failing to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all, deviating from the protocol or dropping out of a trial;

- delays relating to adding new clinical trial sites;
- difficulty in maintaining contact with patients after treatment, resulting in incomplete data;
- delays in establishing the appropriate dosage levels;
- the quality or stability of the product candidate falling below acceptable standards;
- the inability to produce or obtain sufficient quantities of the product candidate to complete clinical trials on time, or delays in sufficiently developing, characterizing or controlling a manufacturing process suitable for clinical trials;
- exceeding budgeted costs due to difficulty in accurately predicting costs associated with clinical trials;
- lack of adequate funding to continue the clinical trial;
- developments observed in trials conducted by competitors for related technology that raises general FDA or foreign regulatory authority concerns about risk to patients of gene therapy technology;
- determination that the product will not be producible at the manufacturing stage; and
- transfer of manufacturing processes to larger-scale facilities operated by a CMO or by us, and delays or failure by our CMOs or us to make any necessary changes to such manufacturing process.

Disruptions caused by the COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in initiating, enrolling, conducting or completing our planned and ongoing clinical trials. We could also encounter delays if a clinical trial is suspended or terminated by us, by the IRBs of the institutions in which such trials are being conducted, by a Data Safety Monitoring Board for such trial or by the FDA or comparable foreign regulatory authorities. Such authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or comparable foreign regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. In addition, changes in regulatory requirements and policies may occur, and we may need to amend clinical trial protocols to comply with these changes. Amendments may require us to resubmit our clinical trial protocols to IRBs for reexamination, which may impact the costs, timing or successful completion of a clinical trial.

In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses. Many companies that believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval for the product candidates. The FDA, the EMA and comparable foreign regulatory authorities have substantial discretion in the approval process and in determining when or whether regulatory approval will be obtained for any of our product candidates. Even if we believe the data collected from clinical trials of our product candidates are promising, such data may not be sufficient to support approval by the FDA, the EMA or any other regulatory authority.

In some instances, there can be significant variability in safety and/or efficacy results between different trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, adherence to the dosing regimen and other trial protocols and the rate of dropout among clinical trial participants.

If we are required to conduct additional clinical trials or other testing of our product candidates that we develop beyond the trials and testing that we contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are unfavorable or are only modestly favorable, or if there are safety concerns associated with our other product candidates, we may:

- be delayed in obtaining marketing approval for our product candidates;
- not obtain marketing approval at all;

- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or significant safety warnings, including boxed warnings;
- be subject to additional post-marketing testing or other requirements; or
- remove the product from the market after obtaining marketing approval.

Our product development costs will also increase if we experience delays in testing or receiving marketing approvals and we may be required to obtain additional funds to complete clinical trials. We cannot assure you that our clinical trials will begin as planned or be completed on schedule, if at all, or that we will not need to restructure our trials after they have begun. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before we do, which may harm our business and results of operations. In addition, some of the factors that cause, or lead to, clinical trial delays may ultimately lead to the denial of regulatory approval of our product candidates.

Interim, "top-line," and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data becomes available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose preliminary or top-line data from our preclinical studies and clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the top-line or preliminary results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Top-line data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, top-line data should be viewed with caution until the final data are available.

From time to time, we may also disclose interim data from our preclinical studies and clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data becomes available or as patients from our clinical trials continue other treatments for their disease. Adverse differences between preliminary or interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our common stock after this offering.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed and result in increased costs and longer development periods or otherwise adversely affected.

We will be required to identify and enroll a sufficient number of patients for our planned clinical trials. Trial participant enrollment could be limited in future trials given that many potential participants may be ineligible because of pre-existing conditions, medical treatments or other reasons. We may not be able to initiate or continue clinical trials required by the FDA, EMA or other foreign regulatory agencies or any of our other product candidates that we pursue if we are unable to locate and enroll a sufficient number of eligible patients or volunteers to participate in these clinical trials.

Patient enrollment is affected by other factors, including:

- severity of the disease under investigation;
- design of the clinical trial protocol;
- size and nature of the patient population;
- eligibility criteria for the trial in question;
- perceived risks and benefits of the product candidate under trial;
- perceived safety and tolerability of the product candidate;
- proximity and availability of clinical trial sites for prospective patients;
- availability of competing therapies and clinical trials;
- clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies, including standard-of-care and any new drugs that may be approved for the indications we are investigating;
- efforts to facilitate timely enrollment in clinical trials;
- effects of the COVID-19 pandemic on our clinical trial sites;
- patient referral practices of physicians; and
- our ability to monitor patients adequately during and after treatment.

We also may encounter difficulties in identifying and enrolling such patients with a stage of disease appropriate for our ongoing or future clinical trials. In addition, the process of finding and diagnosing patients may prove costly. Our inability to enroll a sufficient number of patients for any of our clinical trials would result in significant delays or may require us to abandon one or more clinical trials.

We may face business disruption and related risks resulting from of the COVID-19 pandemic, which could have a material adverse effect on our business plan or clinical trials.

The development of our product candidates could be disrupted and materially adversely affected by the COVID-19 global pandemic. The extent to which the COVID-19 pandemic impacts our business will depend on future developments that are highly uncertain and cannot be accurately predicted, including new information that may emerge concerning COVID-19 and the evolving actions to contain COVID-19 or treat its impact, among others. Site initiation, participant recruitment and enrollment, participant dosing, distribution of clinical trial materials, study monitoring and data analysis may be paused or delayed (or continue to be paused or delayed) due to changes in hospital or university policies, federal, state or local regulations or restrictions, prioritization of hospital resources toward pandemic efforts, travel restrictions, concerns for patient safety in a pandemic environment, or other reasons related to the pandemic. While we have not faced significant delays, patient recruitment for our product candidates may be adversely impacted. For example, our ongoing trials for CV8102 may be delayed as a result of new oncology sites being inaccessible in Europe and the resulting increase in the competition for new patients. In addition, while we have not had any participants withdraw from our clinical trials due to the COVID-19 pandemic, we can provide no assurance that patients will not withdraw from our trials in the future, which could delay our clinical development efforts for the relevant product candidates. Over the period from February to May 2020, sites in France, Italy and Spain were not available for trials. While these sites have resumed screening participants in June 2020, we can provide no assurance that sites will not be inaccessible again. In addition, participants enrolled in our CV7202 clinical trial could not access clinical sites for 3 months for blood draw samples, resulting in the need for us to adapt our clinical protocol to address the timing of site visits.

We are currently devoting significant resources to the development of a vaccine against COVID-19. Although there is no assurance that we will be able to complete development of the vaccine successfully or in a timely manner, such development may impair our ability to timely progress other product candidates in clinical trials and increases our costs. Upon the outbreak of the COVID-19 pandemic, we determined to make the development of a vaccine candidate against COVID-19 a priority and to use our large scale GMP

III facility to provide required material for a potential vaccine product candidate. While there is currently no larger production batch required for our other product candidates, this prioritization could impact clinical development of our other product candidates if such a production need arises. Our research personnel dedicated to infectious diseases focused its efforts on optimizing vaccine constructs in preparation of a Phase 1 clinical trial, and this focus may delay development of other potential infectious disease product candidates. We also postponed initially planned preclinical work on an influenza vaccine to later in 2020. We can provide no assurances that our focus on clinical development of a vaccine candidate against COVID-19 will not adversely impact clinical development of our other product candidates.

Some of our clinical trial sites are located in countries, such as Spain and Italy, which have experienced a shortage of medical staff due to the COVID-19 pandemic. In the event that clinical trial sites are adversely impacted or closed to enrollment in our trials, such impacts or closures could have a material adverse effect on our clinical trial plans and timelines. We may face difficulties enrolling or retaining patients in our ongoing and planned clinical trials if patients are affected by the virus or are fearful of visiting or traveling to our clinical trial sites because of the pandemic. In addition, due to the disruption of the pandemic to the global business outlook, we may face a shortage in the supply of materials that are necessary for the production of our product candidates. We cannot predict whether we will be able to continue to enroll new patients in our clinical trials, whether the clinical sites will continue to operate in a reduced capacity for the long term and whether strict restrictions on social distancing and mobility will resume due to a second wave of COVID-19. For example, some countries that recently lifted restrictions imposed due to COVID-19 have reported increasing number of COVID-19 cases and as a result may re-impose restrictions that could delay our clinical trials. Due to the evolving situation with respect to COVID-19, we are unable to predict the long-term consequences of COVID-19 on our business and ability to progress clinical development of our product candidates.

Moreover, if COVID-19 continues to spread, we may experience ongoing disruptions that could severely impact our business, preclinical studies and clinical trials, including:

- delays in receiving authorization from local regulatory authorities to initiate our planned clinical trials;
- changes in local regulations as part of a response to the COVID-19 pandemic which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs, or to discontinue the clinical trials altogether;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption of key clinical trial activities, such as clinical trial site monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others, or interruption of clinical trial subject visits and study procedures, the occurrence of which could affect the integrity of clinical trial data;
- risk that participants enrolled in our clinical trials will acquire COVID-19 while the clinical trial is ongoing, which could impact the results of the clinical trial, including by increasing the number of observed adverse events;
- interruptions in preclinical studies due to restricted or limited operations at our research and development laboratory facility;
- delays in necessary interactions with local regulators, ethics committees and other important agencies and contractors due to limitations in employee resources or forced furlough of government employees;
- limitations in employee resources that would otherwise be focused on the conduct of our clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people;
- refusal of the FDA to accept data from clinical trials in affected geographies; and
- interruption or delays to our sourced discovery and clinical activities.

These and other disruptions in our operations and the global economy could negatively impact our business, operating results and financial condition.

In addition, quarantines, travel restrictions, shelter-in-place and similar government orders, or the perception that such orders, shutdowns or other restrictions on the conduct of business operations could occur, related to COVID-19 or other infectious diseases could impact personnel at third-party manufacturing facilities upon which we rely, or the availability or cost of materials, which could disrupt the supply chain for our product candidates. We have taken a series of actions aimed at safeguarding our employees and business associates, including implementing a work-from-home policy for employees except for those related to our production and laboratory operations, and these arrangements may cause reduced productivity of our employees and/or delays or disruptions of our business operations.

Our suppliers, licensors or collaborators could also be disrupted by conditions related to COVID-19, possibly resulting in disruption to our supply chain, clinical trials, partnerships or operations. If our suppliers, licensors, CMOs, CROs or collaborators are unable or fail to fulfill their obligations to us for any reason, our ability to continue meeting clinical supply demand for our product candidates or otherwise advancing development of our product candidates may become impaired.

The spread of COVID-19 and actions taken to reduce its spread may also materially affect us economically. While the potential economic impact brought by, and during the duration of, COVID-19 may be difficult to assess or predict, there could be a significant disruption of global financial markets, reducing our ability to access capital, which could in the future negatively affect our liquidity and financial position. COVID-19 and actions taken to reduce its spread continue to rapidly evolve. We continue to assess the impact COVID-19 may have on our clinical trial timelines, our ability to enroll candidates for clinical trials and obtain the materials that are required for the production of our product candidates, but there can be no assurance that this assessment will enable us to avoid part or all of any impact from the spread of COVID-19 or its consequences. The extent to which COVID-19 and global efforts to contain its spread may impede the development of our product candidates, reduce the productivity of our employees, disrupt our supply chains, delay our clinical trials, reduce our access to capital or limit our business development activities, will depend on future developments, which are highly uncertain and cannot be predicted with confidence.

To the extent the COVID-19 pandemic adversely affects our business and financial results, it may also have the effect of heightening many of the other risks described in this “Risk Factors” section, such as those relating to the timing and results of our clinical trials, our ability to obtain materials that are required for the production of our product candidates, and our financing needs.

All of our proprietary product candidates are still in preclinical or clinical development. We cannot give any assurance that any of our product candidates will receive regulatory approval, and if we are unable to obtain regulatory approval and ultimately commercialize our product candidates or experience significant delays in doing so, our business will be materially harmed.

All of our proprietary product candidates are still in preclinical or early clinical development. Although we may receive certain payments from our collaboration partners, including upfront payments, payments for achieving certain development, regulatory or commercial milestones and royalties, our ability to generate revenue from our product candidates’ sales is dependent on receipt of regulatory approval for, and successful commercialization of, such product candidates, which may never occur. Our business and future success is in particular dependent on our ability to develop, either alone or in partnership, successfully, receive regulatory approval for and then successfully commercialize our proprietary product candidates. Each of our product candidates will require additional preclinical and/or clinical development, regulatory approval in multiple jurisdictions, manufacturing supply, substantial investment and significant marketing efforts before we generate any revenue from product sales or royalties. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from applicable regulatory authorities. The success of our product candidates will depend on several factors, including the following:

- successful completion of preclinical and/or clinical studies;
- negative or inconclusive results from our clinical trials, the clinical trials of our collaborators or the clinical trials of others for product candidates similar to ours, leading to a decision or requirement to conduct additional preclinical testing or clinical trials or abandon a program;

- successful enrollment of patients in, and completion of, clinical trials;
- strategic commitment to particular product candidates and indications by us and our collaborators;
- receipt of regulatory authorizations from applicable regulatory authorities for future clinical trials;
- receipt of product approvals, including marketing approvals, from applicable regulatory authorities;
- successful completion of all safety studies required to obtain regulatory approval in the United States, the European Union and other jurisdictions for our product candidates;
- obtaining and maintaining patent and trade secret protection or regulatory exclusivity for our product candidates;
- launching commercial sales of our product candidates, if and when approved, whether alone or in collaboration with others;
- acceptance of the product candidates, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies;
- obtaining and maintaining coverage and adequate reimbursement from third-party payors;
- obtaining, maintaining, enforcing and defending intellectual property and intellectual property-related claims;
- maintaining a continued acceptable safety and quality profile of the product candidates following approval; and
- maintaining a continued, sufficient supply of drug substance in acceptable quality.

If we do not achieve one or more of these factors in a complete and timely manner or at all, we could experience significant delays or an inability to successfully commercialize our product candidates, which would materially adversely affect our business, financial condition, results of operations and prospects and, in case of product candidates, technologies and licenses we have acquired, may result in a significant impairment of assets.

Although we expect to submit biologics license applications, or BLAs, for our mRNA-based product candidates in the United States, and in the European Union, mRNA-based medicines have been classified as gene therapy medicinal products, other jurisdictions may consider our mRNA-based product candidates to be new drugs, not biologics or gene therapy medicinal products, and require different marketing applications. In addition, we have not previously submitted a BLA, to the FDA or similar regulatory approval filings to comparable foreign authorities, for any product candidate, and we cannot be certain that any of our product candidates will be successful in clinical trials or receive regulatory approval. Further, our product candidates may not receive regulatory approval even if they are successful in clinical trials. If we do not receive regulatory approvals for our product candidates, we may not be able to continue our operations. Even if we successfully obtain regulatory approvals to market one or more of our product candidates, our revenues will be dependent, in part, upon the size of the markets in the territories for which we gain regulatory approval and have commercial rights. If the markets for patient subsets that we are targeting are not as significant as we estimate, we may not generate significant revenues from sales of such products, if approved.

We plan to seek regulatory approval to commercialize our product candidates both in the United States and the EU, and potentially in additional foreign countries. While the scope of regulatory approval is similar in other countries, to obtain separate regulatory approval in many other countries, we must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy and governing, among other things, clinical trials and commercial sales, pricing and distribution of our product candidates, and we cannot predict success in these jurisdictions.

We have no history of commercializing pharmaceutical products, which may make it difficult to evaluate the prospects for our future viability.

We commenced operations in 2000. Our operations to date have been limited to establishing our company, raising capital, developing our proprietary mRNA technology platform, identifying and testing potential product candidates and conducting clinical trials. We have not yet demonstrated an ability to successfully conduct late-stage clinical trials, obtain marketing approvals, manufacture a commercial-scale product, or arrange for a third-party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Accordingly, you should consider our prospects in light of the costs, uncertainties, delays and difficulties frequently encountered by companies in the early stages of development, especially clinical-stage biopharmaceutical companies such as ours. Any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing pharmaceutical products.

We may encounter unforeseen expenses, difficulties, complications, delays and other known or unknown factors in achieving our business objectives. We will eventually need to transition from a company with a development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

We expect our financial condition and operating results to continue to fluctuate significantly from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, you should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

Our product candidates may cause undesirable side effects that could delay or prevent their regulatory approval, limit the commercial profile of an approved label or result in significant negative consequences following regulatory approval, if any.

Undesirable side effects that may be caused by our product candidates could cause us, our collaboration partners or the regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA, EMA or comparable foreign regulatory authorities. Results of our trials could reveal a high and unacceptable severity and prevalence of side effects. In such an event, our trials could be suspended or terminated and the FDA, EMA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of our product candidates for any or all targeted indications. The product-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

Clinical trials assess a sample of the potential patient population. With a limited number of patients and duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the product candidate. If our product candidates receive regulatory approval and we or others identify undesirable side effects caused by such product candidates (or any other similar products) after such approval, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw or limit their approval of such product candidates and require us to take our approved product(s) off the market;
- regulatory authorities may require the addition of labeling statements, such as a “boxed” warning or a contraindication, or submission of field alerts to physicians and pharmacies;
- we may be required to create a medication guide outlining the risks of such side effects for distribution to patients;
- we may be required to change the way such product candidates are distributed or administered, conduct additional clinical trials or change the labeling of the product candidates;
- actual or potential drug-related side effects could negatively affect patient recruitment or the ability of enrolled patients to complete a trial for our products or product candidates;

- market acceptance of our products by patients and physicians may be reduced and sales of the product may decrease significantly;
- regulatory authorities may require a Risk Evaluation and Mitigation Strategy, or REMS, plan to mitigate risks, which could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools;
- we may be subject to regulatory investigations and government enforcement actions;
- we may decide or be required to remove such product candidates from the marketplace;
- we could be sued and potentially held liable for injury caused to individuals exposed to or taking our product candidates;
- sales of the product(s) may decrease substantially; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidates and could substantially increase the costs of commercializing our product candidates, if approved, and therefore could have a material adverse effect on our business, financial condition, results of operations and prospects.

No mRNA product has been approved, and none may ever be approved. mRNA drug development has substantial clinical development and regulatory risks due to the novel and unprecedented nature of this new category of medicines.

As a potential new category of therapeutics, to our knowledge, no mRNA immunotherapies have been approved by the FDA, EMA or other regulatory agency. Successful discovery and development of mRNA-based (and other) products by either us or our collaborators is highly uncertain and depends on numerous factors, many of which are beyond our or their control. Our product candidates that appear promising in the early phases of development may fail to advance, experience delays in the clinic or clinical holds, or fail to reach the market for many reasons, including:

- discovery efforts aimed at identifying potential immunotherapies may not be successful;
- nonclinical or preclinical study results may show product candidates to be less effective than desired or have harmful or problematic side effects;
- clinical trial results may show the product candidates to be less effective than expected, including a failure to meet one or more endpoints or have unacceptable side effects or toxicities;
- manufacturing failures or insufficient supply of GMP materials for clinical trials, or higher than expected cost could delay or set back clinical trials, or make our product candidates commercially unattractive;
- our improvements in the manufacturing processes may not be sufficient to satisfy the clinical or commercial demand of our product candidates or regulatory requirements for clinical trials;
- changes that we make to optimize our manufacturing, testing or formulating of GMP materials could impact the safety, tolerability and efficacy of our product candidates;
- pricing or reimbursement issues or other factors could delay clinical trials or make any immunotherapy uneconomical or noncompetitive with other therapies;
- the failure to timely advance our programs or receive the necessary regulatory approvals, or a delay in receiving such approvals, due to, among other reasons, slow or failure to complete enrollment in clinical trials, withdrawal by trial participants from trials, failure to achieve trial endpoints, additional time requirements for data analysis, data integrity issues, BLA, MAA or the equivalent application, discussions with the FDA or the EMA, a regulatory request for additional nonclinical or clinical data, or safety formulation or manufacturing issues may lead to our inability to obtain sufficient funding; and

- the proprietary rights, products and technologies of our competitors may prevent our immunotherapies from being commercialized.

Although we expect to submit biologics license applications, or BLAs, for our mRNA-based product candidates in the United States and in the European Union, mRNA-based medicines have been classified as gene therapy medicinal products. Unlike certain gene therapies that irreversibly alter cell DNA and may cause certain side effects, mRNA-based medicines are designed not to irreversibly change cell DNA. Side effects observed in other gene therapies, however, could negatively impact the perception of immunotherapies despite the differences in mechanism. In addition, because no mRNA-based product has been approved, the regulatory pathway in the United States and other jurisdictions for approval is uncertain. The length of time necessary to complete clinical trials and submit an application for marketing approval by a regulatory authority varies significantly from one pharmaceutical product to the next and may be difficult to predict.

The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming and inherently unpredictable and if we fail to obtain regulatory approval in any jurisdiction, we will not be able to commercialize our products in that jurisdiction and our business, results of operations, financial condition and prospects, may be materially adversely affected.

The time required to obtain approval by the FDA, EMA and comparable foreign authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval laws, regulations, policies or the type and amount of clinical data or other information necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate, and it is possible that none of our existing product candidates or any product candidates we may seek to develop in the future will ever obtain regulatory approval.

Our product candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA, EMA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA, EMA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication;
- the designs or our execution of clinical trials might not be considered adequate, or the results of clinical trials may not meet the level of statistical significance required, by the FDA, EMA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA, EMA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected may not be sufficient to support the submission of a BLA or other submission, or to obtain regulatory approval in the United States, the European Union or elsewhere;
- the FDA, EMA or comparable foreign regulatory authorities may fail to approve our manufacturing processes or facilities or those of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the laws, regulations or policies of the FDA, EMA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data or other regulatory submissions insufficient for approval.

This lengthy approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market any of our product candidates, which would significantly harm our business, results of operations and prospects. The FDA, the EMA and other regulatory

authorities have substantial discretion in the approval process and determining when or whether regulatory approval will be obtained for any of our product candidates. Even if we believe the data collected from clinical trials of our product candidates are promising, such data may not be sufficient to support approval by the FDA, the EMA or any other regulatory authority.

In order to commercialize our products in more than one jurisdiction, we will be required to obtain separate regulatory approvals in each market and to comply with numerous and varying regulatory requirements. The approval procedures vary from country to country and may require additional testing, administrative review periods, agreements with pricing authorities or other steps. Satisfying these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. In addition, in many countries outside the United States and in particular in many of the member states of the European Union, a product must undergo health economic assessments to agree on pricing and/or be approved for reimbursement before it can be approved for sale in that country, or before it becomes commercially viable. The FDA and the EMA may come to different conclusions regarding approval of a marketing application. Approval by the FDA or EMA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA or EMA. In addition, our failure to obtain regulatory approval in any country may delay or have negative effects on the process for regulatory approval in other countries. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. We may not obtain regulatory approvals on a timely basis, if at all. We may not be able to submit applications for regulatory approvals and may not receive necessary approvals to commercialize our products in any market. We may be required to conduct additional preclinical studies or clinical trials, which would be costly and time consuming. If we or any future partner are unable to obtain regulatory approval for our product candidates in one or more significant jurisdictions, then the commercial opportunity for our product candidates, and our business, results of operations, financial condition and prospects, may be materially adversely affected.

The regulatory landscape that will govern our product candidates is uncertain. Regulations relating to more established gene therapy and cell therapy products are still developing, and changes in regulatory requirements could result in delays or discontinuation of development of our product candidates or unexpected costs in obtaining regulatory approval.

The regulatory requirements to which our product candidates will be subject are not entirely clear. Even with respect to more established products that fit into the categories of gene therapies or cell therapies, the regulatory landscape is still developing. For example, regulatory requirements governing gene therapy products and cell therapy products have changed frequently and may continue to change in the future. Moreover, there is substantial, and sometimes uncoordinated, overlap in those responsible for regulation of existing gene therapy products and cell therapy products. Although the FDA decides whether individual gene therapy protocols may proceed, the review process and determinations of other reviewing bodies can impede or delay the initiation of a clinical study, even if the FDA has reviewed the study and authorizes its initiation. Conversely, the FDA can place an Investigational New Drug Application, or IND, on clinical hold even if such other entities have provided a favorable review. Furthermore, gene therapy clinical trials may also require evaluation and assessment by an institutional biosafety committee, or IBC, a local institutional committee that reviews and oversees basic and clinical research conducted at the institution participating in the clinical trial. The IBC assesses the safety of the research and identifies any potential risk to the public health or the environment, and such assessment may result in some delay before initiation of a clinical trial. In addition, adverse developments in clinical trials of gene therapy products conducted by others may cause the FDA or other regulatory bodies to change the requirements for approval of any of our product candidates.

Complex regulatory environments exist in other jurisdictions in which we might consider seeking regulatory approvals for our product candidates, further complicating the regulatory landscape. For example, in the European Union a special committee called the Committee for Advanced Therapies, or CAT, was established within the EMA in accordance with Regulation (EC) No 1394/2007 on advanced-therapy medicinal products, or ATMPs, to assess the quality, safety and efficacy of ATMPs, and to follow scientific developments in the field. ATMPs include gene therapy products as well as somatic cell therapy products and tissue engineered products.

These various regulatory review committees and advisory groups and new or revised guidelines that they promulgate from time to time may lengthen the regulatory review process, require us to perform additional studies, increase our development costs, lead to changes in regulatory positions and interpretations, delay or prevent approval and commercialization of our product candidates or lead to significant post-approval limitations or restrictions. As the regulatory landscape for our product candidates is new, we may face even more cumbersome and complex regulations than those emerging for gene therapy products and cell therapy products. Furthermore, even if our product candidates obtain required regulatory approvals, such approvals may later be withdrawn as a result of changes in regulations or the interpretation of regulations by applicable regulatory agencies.

Delay or failure to obtain, or unexpected costs in obtaining, the regulatory approval necessary to bring a potential product to market could decrease our ability to generate sufficient product sales revenue to maintain our business.

Even if we receive regulatory approval for any of our product candidates, we will be subject to ongoing obligations and continued regulatory review, which may materially adversely affect our business, prospects, financial condition and results of operations. We have not previously submitted a BLA, to the FDA, or similar regulatory approval filings to comparable foreign authorities, for any product candidate and never received regulatory approval for any of our product candidates. Even if the FDA, EMA or a comparable foreign regulatory authority approves any of our product candidates, the manufacturing processes, labeling, packaging, distribution, product sampling, adverse event reporting, storage, advertising, marketing, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval, all of which may result in significant expense and limit our ability to commercialize such products. There also are continuing, annual program user fees for any marketed products. Biologic manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP, which impose certain procedural and documentation requirements upon us and our third-party manufacturers. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements upon us and any third-party manufacturers that we may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

Any regulatory approvals that we receive for our product candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing and surveillance to monitor the safety and efficacy of the product. For example, the FDA has the authority to require a REMS as part of a BLA or after approval, which may impose further requirements or restrictions on the distribution or use of an approved product, such as limiting prescribing to certain physicians or medical centers that have undergone specialized training, limiting treatment to patients who meet certain safe-use criteria and requiring treated patients to enroll in a registry. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements may result in, among other things:

- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market, or voluntary or mandatory;
- product recalls;
- fines, warning letters, untitled letters or holds on clinical trials;
- refusal by the FDA, EMA or a comparable foreign regulatory authority to approve pending applications or supplements to approved applications, or suspension or revocation of product approvals;

- requirements to conduct additional clinical trials, change our product labeling or submit additional applications or application supplements;
- product seizure or detention, or refusal to permit the import or export of products;
- mandated modification of promotional materials and labeling and the issuance of corrective information;
- consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;
- the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or
- injunctions or the imposition of civil or criminal penalties.

In addition, regulatory policies may change or additional government regulations or legislation may be enacted that could prevent, limit or delay regulatory approval of our product candidates. If we fail to comply with existing requirements, are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any regulatory approval that we may have obtained or face regulatory or enforcement actions, which may materially adversely affect our business, prospects, financial condition and results of operations.

In addition, if any of our product candidates is approved, our product labeling, advertising and promotion will be subject to regulatory requirements and continuing regulatory review. The FDA strictly regulates the promotional claims that may be made about prescription products. In particular, a product may not be promoted for uses that are not approved by the FDA as reflected in the product's approved labeling. If we receive marketing approval for a product candidate, physicians may nevertheless prescribe it to their patients in a manner that is inconsistent with the approved label. If we are found to have promoted such off-label uses, we may become subject to significant liability. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant sanctions. The federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. The FDA has also requested that companies enter into consent decrees or permanent injunctions under which specified promotional conduct is changed or curtailed.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize our product candidates.

Further, the policies of FDA, EMA and other comparable regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. If we are slow or unable to adapt to changes in existing requirements or to adopt new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

We also cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. It is difficult to predict how these Executive Orders will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

A breakthrough therapy designation by the FDA for a product candidate may not lead to a faster development or regulatory review or approval process, and it would not increase the likelihood that the product candidate will receive marketing approval.

We may in the future seek a breakthrough therapy designation for one or more product candidates. A breakthrough therapy is defined as a product candidate that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the product candidate may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For product candidates that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Product candidates designated as breakthrough therapies by the FDA are also eligible for priority review if supported by clinical data at the time of the submission of the BLA.

Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe that one of our product candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a breakthrough therapy designation for a product candidate may not result in a faster development process, review or approval compared to product candidates considered for approval under conventional FDA procedures and it would not assure ultimate approval by the FDA. In addition, even if one or more of our product candidates qualify as breakthrough therapies, the FDA may later decide that the product candidate no longer meets the conditions for qualification or it may decide that the time period for FDA review or approval will not be shortened.

Because we are developing product candidates for the treatment or prevention of diseases in which there is little clinical experience using new technologies, there is increased risk that the FDA, the EMA or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results and that these results may be difficult to analyze.

As we are developing novel treatments and preventative measures for diseases in which we believe there is limited clinical experience with new endpoints and methodologies, there is heightened risk that the FDA, EMA or comparable foreign regulatory bodies may not consider the clinical trial endpoints to provide clinically meaningful results, and the resulting clinical data and results may be more difficult to analyze. It is difficult to determine how long it will take or how much it will cost to obtain regulatory approvals for our product candidates in the United States, the European Union or other jurisdictions, if ever. Further, approvals by one regulatory agency may not be indicative of what other regulatory agencies may require for approval.

During the regulatory review process, we will need to identify success criteria and endpoints such that the FDA, the EMA or other regulatory authorities will be able to determine the clinical efficacy and safety profile of any product candidates we may develop. Because our initial focus is to identify and develop product candidates to treat or prevent diseases in which there is little clinical experience using new technologies, there is heightened risk that the FDA, the EMA or other regulatory authorities may not consider the clinical trial endpoints that we propose to provide clinically meaningful results. In addition, the resulting clinical data and results may be difficult to analyze. Even if the FDA determines that our success criteria is sufficiently validated and clinically meaningful, we may not achieve the pre-specified endpoints to a sufficient degree of statistical significance.

This may be a particularly significant risk for many of the genetically defined diseases for which we plan to develop product candidates because many of these diseases have small patient populations, and designing and executing a rigorous clinical trial with appropriate statistical power is more difficult than with diseases that have larger patient populations. Further, even if we do achieve the pre-specified criteria, the results may be unpredictable or inconsistent with the results of the non-primary endpoints or other relevant data. The FDA also weighs the benefits of a product against its risks, and the FDA may view the efficacy results in the context of safety as not being supportive of regulatory approval. The EMA and other regulatory authorities may make similar comments with respect to these endpoints and data. Any product candidate

we may develop will be based on a novel technology that makes it difficult to predict the time and cost of development and of subsequently obtaining regulatory approval.

We and our collaboration partners have conducted and intend to conduct additional clinical trials for selected product candidates at sites outside the United States, and the FDA may not accept data from trials conducted in such locations or may require additional U.S.-based trials.

We and our collaboration partners have conducted, currently are conducting and intend in the future to conduct, clinical trials outside the United States, particularly in the European Union where we are headquartered.

Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. For example, the clinical trial must be conducted by qualified investigators in accordance with GCPs, and the FDA must be able to validate the trial data through an on-site inspection, if necessary. Generally, the patient population for any clinical trial conducted outside of the United States must be representative of the population for which we intend to seek approval in the United States. There can be no assurance that the FDA will accept data from trials conducted outside of the United States. If the FDA does not accept the data from any clinical trials that we or our collaboration partners conduct outside the United States, it would likely result in the need for additional clinical trials, which would be costly and time-consuming and delay or permanently halt our ability to develop and market these or other product candidates in the United States. In other jurisdictions, for instance, in Japan, there is a similar risk regarding the acceptability of clinical trial data conducted outside of that jurisdiction.

In addition, there are risks inherent in conducting clinical trials in multiple jurisdictions, inside and outside of the United States, such as:

- regulatory and administrative requirements of the jurisdiction where the trial is conducted that could burden or limit our ability to conduct our clinical trials;
- foreign exchange fluctuations;
- manufacturing, customs, shipment and storage requirements;
- cultural differences in medical practice and clinical research; and
- the risk that the patient populations in such trials are not considered representative as compared to the patient population in the target markets where approval is being sought.

If any of our product candidates receive regulatory approval, the approved products may not achieve broad market acceptance among physicians, patients, the medical community and third-party payors, in which case revenue generated from their sales would be limited.

The commercial success of our product candidates will depend upon their acceptance among physicians, patients and the medical community. The degree of market acceptance of our product candidates will depend on a number of factors, including:

- limitations or warnings contained in the approved labeling for a product candidate;
- changes in the standard of care for the targeted indications for any of our product candidates;
- limitations in the approved clinical indications for our product candidates;
- demonstrated clinical safety and efficacy compared to other products;
- lack of significant adverse side effects;
- sales, marketing and distribution support;
- availability of coverage and extent of reimbursement from managed care plans and other third-party payors;
- timing of market introduction and perceived effectiveness of competitive products;

- the degree of cost-effectiveness of our product candidates;
- availability of alternative therapies at similar or lower cost, including generic and over-the-counter products;
- whether the product is designated under physician treatment guidelines as a first-line therapy or as a second or third-line therapy for particular diseases;
- whether the product can be used effectively with other therapies to achieve higher response rates;
- adverse publicity about our product candidates or favorable publicity about competitive products;
- convenience and ease of administration of our products; and
- potential product liability claims.

If any of our product candidates are approved, but do not achieve an adequate level of acceptance by physicians, patients and the medical community, we may not generate sufficient revenue from these products, and we may not become or remain profitable. In addition, efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may never be successful.

The United Kingdom's withdrawal from the European Union, or Brexit, could result in increased regulatory and legal complexity, and impose additional challenges in securing regulatory approval of our product candidates in the European Union and the rest of Europe.

The United Kingdom withdrew from the European Union effective as of January 31, 2020, and is now in a period of transition until the end of 2020. The transition period maintains all existing trading arrangements. During the transition period, the United Kingdom and the European Union will negotiate future trading arrangements. Until a final agreement has been reached, an exit without a trade agreement in place, which would result in the United Kingdom losing access to free trade agreements for goods and services with the European Union and other countries, continues to be a risk. An exit by the United Kingdom from the European Union without an agreement in place would likely lead to legal uncertainty and potentially divergent laws and regulations between the United Kingdom and the European Union. We cannot predict whether or not the United Kingdom will significantly alter its current laws and regulations in respect of the pharmaceutical industry and, if so, what impact any such alteration would have on us or our business. Moreover, we cannot predict the impact that Brexit will have on (i) the marketing of pharmaceutical products, (ii) the process to obtain regulatory approval in the United Kingdom for product candidates or (iii) the award of exclusivities that are normally part of the European Union legal framework.

Brexit may also result in a reduction of funding to the EMA if the United Kingdom no longer makes financial contributions to European institutions, such as the EMA. If the United Kingdom funding is so reduced, it could create delays in the EMA issuing regulatory approvals for our products and product candidates and, accordingly, have a material adverse effect on our business, financial position, results of operations and future growth prospects.

As a result of Brexit, other European countries may seek to conduct referenda with respect to their continuing membership with the European Union. Given these possibilities and others we may not anticipate, as well as the absence of comparable precedent, it is unclear what financial, regulatory and legal implications the withdrawal of the United Kingdom from the European Union would have and how such withdrawal would affect us, and the full extent to which our business could be adversely affected.

In addition, following the Brexit vote, the European Union decided to move the headquarters of the EMA from the United Kingdom to the Netherlands. The EMA is currently finishing its relocation process to the Netherlands. However, as a result of the move, the EMA has lost a significant percentage of its employees and was not able to hire at least the same amount of employees that left the EMA upon the movement of its headquarters from the United Kingdom to the Netherlands. This raises the possibility that new drug approvals in the European Union could be delayed as a result of such employee shortage.

Our product candidates for which we may seek approval as biologic products may face competition sooner than anticipated.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively, the Affordable Care Act, signed into law on March 23, 2010, includes a subtitle called the Biologics Price Competition and Innovation Act of 2009, or BPCIA, which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product.

To the extent any of our product candidates approved as a biological product under a BLA qualifies for a 12-year period of exclusivity, for which we make no assurances, there is a risk that such exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

If any approved products are subject to biosimilar competition sooner than we expect, we will face significant pricing pressure and our commercial opportunity will be limited.

Disruptions at the FDA and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire, retain or deploy key leadership and other personnel, or otherwise prevent new or modified products from being developed, or approved or commercialized in a timely manner or at all, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the FDA have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for our product candidates to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities.

Separately, in response to the global COVID-19 pandemic, on March 10, 2020 the FDA announced its intention to postpone most foreign inspections of manufacturing facilities and products and subsequently, on March 18, 2020, the FDA announced its intention to temporarily postpone routine surveillance inspections of domestic manufacturing facilities. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Risks Related to the Manufacturing of Our Product Candidates

The manufacture of mRNA-based medicines is complex and manufacturers often encounter difficulties in production, especially in the field of biologics. If we or any of our third-party manufacturers encounter difficulties, our ability to provide product candidates for clinical trials or products, if approved, to patients or future customers could be delayed or halted.

The manufacture of mRNA-based medicines is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and analytics. We and our third-party manufacturers must comply with cGMP, regulations and guidelines for the manufacturing of our product candidates used in preclinical studies and clinical trials and, if approved, marketed products. Manufacturers of biotechnology products often encounter difficulties in production, particularly in scaling up and validating initial production. Furthermore, if microbial, viral or other contaminations are discovered in our product candidates or in the manufacturing facilities where our product candidates are made, such manufacturing facilities may be closed for an extended period of time to investigate and remedy the contamination. Shortages of raw materials may also extend the period of time required to develop our product candidates.

Manufacturing these products requires facilities specifically designed for and validated for this purpose and sophisticated quality assurance and quality control procedures are necessary. Slight deviations anywhere in the manufacturing process, including filling, labeling, packaging, storage and shipping and quality control and testing, may result in lot failures, product recalls or spoilage. When changes are made to the manufacturing process, we may be required to provide preclinical and clinical data showing the comparable identity, strength, quality, purity or potency of the products before and after such changes. The use of biologically derived ingredients can also lead to allegations of harm, including infections or allergic reactions, or closure of product facilities due to possible contamination.

In addition, there are risks associated with large scale manufacturing for clinical trials or commercial scale including, among others, cost overruns, potential problems with process scale-up, process reproducibility, stability issues, compliance with good manufacturing practices, lot consistency and timely availability of raw materials. Even if we obtain marketing approval for any of our product candidates, there is no assurance that we or our manufacturers will be able to manufacture the approved product to specifications acceptable to the FDA or other comparable foreign regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential commercial launch of the product or to meet potential future demand. If we or our manufacturers are unable to produce sufficient quantities for clinical trials or for commercialization, our development and commercialization efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and growth prospects.

We cannot assure you that any disruptions or other issues relating to the manufacture of any of our product candidates will not occur in the future. Any delay or interruption in the supply of clinical trial supplies could delay the completion of planned clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to commence new clinical trials at additional expense or terminate clinical trials completely. Any adverse developments affecting clinical or commercial manufacturing of our product candidates or products may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls or other interruptions in the supply of our product candidates or products. We may also have to take inventory write-offs and incur other charges and expenses for product candidates or products that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives. Accordingly, failures or difficulties faced at any level of our supply chain could delay or impede the development and commercialization of any of our product candidates or products and could have an adverse effect on our business, prospects, financial condition and results of operations.

We and our third-party manufacturers and suppliers could be subject to liabilities, fines, penalties or other sanctions under federal, state, local and foreign environmental, health and safety laws and regulations if we or they fail to comply with such laws or regulations or otherwise incur costs that could have a material adverse effect on our business.

We manufacture and produce mRNA-based active ingredients for our product pipeline. We also currently rely on and expect to continue to rely on third parties for the manufacturing and supply of active

pharmaceutical ingredients, or API, and drug products of our product candidates. We and these third parties are subject to various federal, state, local and foreign environmental, health and safety laws and regulations, including those governing laboratory procedures and the generation, handling, labeling, transportation, use, manufacture, storage, treatment and disposal of hazardous materials and wastes and worker health and safety. We do not have control over a manufacturer's or supplier's compliance with environmental, health and safety laws and regulations. Liabilities they incur pursuant to these laws and regulations could result in significant costs or in certain circumstances, an interruption in operations, any of which could adversely affect our business and financial condition.

With respect to any hazardous materials or waste which we are currently, or in the future will be, generating, handling, transporting, using, manufacturing, storing, treating or disposing of, we cannot eliminate the risk of contamination or injury from these materials or waste, including at third-party disposal sites. In the event of such contamination or injury, we could be held liable for any resulting damages and liability. We also could be subject to significant civil or criminal fines and penalties, cessation of operations, investigation or remedial costs or other sanctions for failure to comply with applicable environmental, health and safety laws. In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts or otherwise have a material adverse effect on our business.

Undetected errors or defects in our production could harm our reputation or expose us to product liability claims.

Defects in the cGMP materials we produce may damage the third parties' businesses we work with and could harm their and our reputation. If that occurs, we may incur significant costs, the attention of our key personnel could be diverted, or other significant problems may arise. We may also be subject to warranty and liability claims for damages related to errors or defects in products made with our cGMP materials. In addition, if we do not meet industry or quality standards, if applicable, such products may be subject to recall. A material liability claim, recall or other occurrence that harms our reputation or decreases market acceptance of such products could harm our business and operating results.

Risks Related to Our Reliance on Collaborators and Other Third Parties

We rely on third parties to conduct our nonclinical and clinical trials and perform other tasks for us. If these third parties do not successfully carry out their contractual duties, meet expected deadlines, or comply with regulatory requirements, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We have relied upon and plan to continue to rely upon third-party CROs to monitor and manage data for our ongoing nonclinical and clinical programs. We rely on these parties for execution of our nonclinical and clinical studies and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on the CROs does not relieve us of our regulatory responsibilities. We and our CROs and other vendors are required to comply with cGMP, GCP, Good Laboratory Practice, or GLP, and other regulations and guidelines enforced by the FDA, the Competent Authorities of the Member States of the European Union and comparable foreign regulatory authorities for all of our product candidates in nonclinical and clinical development. Regulatory authorities enforce these regulations through periodic inspections of study sponsors, principal investigators, trial sites and other contractors. If we or any of our CROs or vendors fail to comply with applicable regulations, the data generated in our nonclinical and clinical trials may be deemed unreliable and the EMA, FDA, or other regulatory authorities may require us to perform additional nonclinical and clinical trials before approving our marketing applications. In addition, even if, for example, the EMA finds our data generated in our nonclinical and clinical trials reliable for approving a marketing application, there is no assurance that other regulatory authorities like the FDA will find such data reliable and sufficient for approving a similar market application. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that all of our clinical trials comply with cGCP regulations. In addition,

our clinical trials must be conducted with product produced under cGMP regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

If any of our relationships with these third-party CROs terminates, we may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. In addition, our CROs are not our employees, and except for remedies available to us under our agreements with such CROs, we cannot control whether or not they devote sufficient time and resources to our on-going nonclinical and clinical programs. If CROs do not successfully carry out their contractual duties or obligations, meet expected deadlines, conduct our studies in accordance with regulatory requirements or our stated study plans and protocols, if they need to be replaced or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our protocols, regulatory requirements, or for other reasons, our clinical trials may be extended, delayed, or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. CROs may also generate higher costs than anticipated. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase, and our ability to generate revenue could be delayed.

Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition, and prospects.

If we or any third-party manufacturer of our product candidates is unable to increase the scale of production of our product candidates, and/or increase the product yield of manufacturing, then our costs to manufacture the product may increase and commercialization may be delayed.

In order to produce sufficient quantities to meet the demand for clinical trials and, if approved, subsequent commercialization of our product candidates in our pipeline or that we may develop, our third-party manufacturers will be required to increase their production and optimize their manufacturing processes while maintaining the quality of the product. The transition to larger scale and more robust production could prove difficult or costly. Further, any claims in our manufacturing process as a result of scaling up or optimization of the manufacturing, supply and fill and finish process may result in the need to obtain regulatory approvals. If we or our third-party manufacturers are not able to optimize manufacturing process to increase the product yield for our product candidates or cGMP production requirement for clinical studies, or are unable to produce increased amounts of our product candidates while maintaining the quality of the product or generally unable to produce the right quality, then we may not be able to meet the demands of clinical trials or market demands, which could decrease our ability to generate profits. Difficulty in achieving commercial scale-up production or production optimization or the need for additional regulatory approvals as a result could have a material adverse impact on our business and results of operations.

Risks Related to Our Intellectual Property Rights

If we are unable to obtain, maintain and enforce intellectual property protection for our products or product candidates, or if the scope of our intellectual property protection is not sufficiently broad, our ability to commercialize our product candidates successfully and to compete effectively may be materially adversely affected.

Our success depends on our ability to obtain and maintain patent and other intellectual property protection in the United States and other countries with respect to our current and future proprietary product candidates. We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our technology, manufacturing processes, products and product candidates. We and our collaborators have primarily sought to protect our proprietary positions by filing patent applications in the United States and abroad related to our proprietary technology,

manufacturing processes, and product candidates that are important to our business. Despite our efforts to protect our proprietary rights, unauthorized parties may be able to obtain and use information that we regard as proprietary.

The patent prosecution process is expensive and time consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner or in all jurisdictions where protection may be commercially advantageous. It is also possible that we may fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. In addition, we or our collaborators, may only pursue, obtain or maintain patent protection in a limited number of countries. There is no assurance that all potentially relevant prior art relating to our patents and patent applications has been found. We may be unaware of prior art that could be used to invalidate or narrow the scope of an issued patent or prevent our pending patent applications from issuing as patents. Because patent applications in the United States, Europe and many other non-U.S. jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in scientific literature lag behind actual discoveries, we cannot be certain that we or our licensors were the first to make the inventions claimed in any of our owned or any in-licensed issued patents or pending patent applications, or that we or our licensors were the first to file for protection of the inventions set forth in our patents or patent applications. As a result, we may not be able to obtain or maintain protection for certain inventions. Even if patents do successfully issue, our owned or in-licensed patents may not adequately protect our intellectual property, provide exclusivity for our products or product candidates, prevent others from designing around our claims or otherwise provide us with a competitive advantage. We cannot offer any assurances about which, if any, patents will issue, the breadth of any such patents or whether any issued patents will be found invalid or unenforceable or will be threatened by third parties. In addition, third parties may challenge the validity, enforceability, ownership, inventorship or scope of any of our patents. Any successful challenge to any of our patents could deprive us of rights necessary for the successful commercialization of any product candidate that we may develop and could impair or eliminate our ability to collect future revenues and royalties with respect to such products or product candidates. If any of our patent applications with respect to our product candidates fail to issue as patents, if their breadth or strength of protection is narrowed or threatened, or if they fail to provide meaningful exclusivity or competitive position, it could dissuade companies from collaborating with us or otherwise adversely affect our competitive position.

The patent position of pharmaceutical companies is generally uncertain because it involves complex legal, scientific and factual considerations for which legal principles remain unsolved. The standards applied by the United States Patent and Trademark Office, or USPTO, and foreign patent offices in granting patents are not always applied uniformly or predictably, and can change. Additionally, the laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property rights, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement, misappropriation, or other violation of our patents or other intellectual property, including the unauthorized reproduction of our manufacturing or other know-how or the marketing of competing products in violation of our intellectual property rights generally. Any of these outcomes could impair our ability to prevent competition from third parties, which may have a material adverse effect on our business, financial condition, results of operations, and prospects.

Further, the existence of issued patents does not guarantee our right to practice the patented technology or commercialize the patented product candidate. Third parties may have or obtain rights to patents which they may use to prevent or attempt to prevent us from practicing our patented technology or commercializing any of our patented product candidates. If any of these other parties are successful in obtaining valid and enforceable patents, and establishing our infringement of those patents, we could be prevented from selling our products unless we were able to obtain a license under such third-party patents, which may not be available on commercially reasonable terms or at all. In addition, third parties may seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend or assert our patents, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or agency of competent jurisdiction may find

our patents invalid or unenforceable. Our competitors and other third parties may also be able to circumvent our patents by developing similar or alternative product candidates in a non-infringing manner. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, competitors may use our technologies in jurisdictions where we have not obtained or are unable to adequately enforce patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States and Europe. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing with us. Proceedings to enforce our patent rights, whether or not successful, could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or held unenforceable, or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop, acquire or license.

Our owned and in-licensed patents may be subject to a reservation of rights by one or more third parties. For example, the research resulting in certain of our patents and technology, including patents and technology relating to our yellow fever product candidate, was funded in part by the U.S. government. As a result, the U.S. government has certain rights to such patent rights and technology, which include march-in rights. When new technologies are developed with government funding, in order to secure ownership of such patent rights, the recipient of such funding is required to comply with certain government regulations, including timely disclosing the inventions claimed in such patent rights to the U.S. government and timely electing title to such inventions. Additionally, the U.S. government generally obtains certain rights in any resulting patents, including a nonexclusive license authorizing the government to use the invention or to have others use the invention on its behalf. Accordingly, we have granted the U.S. government a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States, the inventions described in the patents and patent applications relating to our technology or one or more of our product candidates. If the U.S. government decides to exercise these rights, it is not required to engage us as its contractor in connection with doing so. The government's rights may also permit it to disclose our confidential information to third parties and to exercise march-in rights to use or allow third parties to use such government-funded technology. The government can exercise its march-in rights if it determines that action is necessary because we fail to achieve practical application of the government-funded technology, or because action is necessary to alleviate health or safety needs, to meet requirements of federal regulations, or to give preference to U.S. industry. In addition, our rights in such inventions may be subject to certain requirements to manufacture products embodying such inventions in the United States. If we fail to comply with those requirements, we could lose our ownership of or other rights to any patents subject to such regulations. Any exercise by the government of any of the foregoing rights or by any third party of its reserved rights could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

In Germany, the German federal government, and the Federal Ministry of Health and downstream authorities in the event of a national epidemic, have the right to order the use of our owned and in-licensed patents in the interest of the public welfare or the security of the Federal Republic. The German government may issue such an order with respect to our owned or in-licensed patents and we may lose exclusivity with respect to the technologies and product candidates covered by such patents. For example, if the German government determines that we are unable to develop our SARS-CoV-2 vaccine on a timeline or at a scale that is necessary to respond to the COVID-19 pandemic, it may issue a use order for the patents covering our development of the SARS-CoV-2 vaccine. We would be entitled to compensation in the event a use order is issued with respect to our owned or in-licensed patents; however, such compensation may be less than what we could otherwise receive and any such use order could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

Additionally, the research resulting in certain of our patents and technology, including patents and technology relating to our CV8102 and RSV product candidates, was funded in part by the German

Ministry of Education and Research, or the BMBF. Results of such government funded research projects must, subject to certain conditions, be made available free of charge for academic research and teaching in Germany and must be published in half-yearly interim reports and a final report following completion of the funded work. Information relating to intellectual property generated, commercial expectations, scientific chances of success and next steps and certain additional information must be disclosed to the German government and must be disclosed to third parties for academic research and teaching upon request under a written confidentiality agreement. The BMBF additionally has, in the case of a special public interest, a nonexclusive and transferable right to use intellectual property generated as part of the funded work. Contracts with third parties relating the exploitation of the results of the funded work must be disclosed to the BMBF and any such contracts with parties outside of the European Union require the prior consent of the BMBF to the extent they deviate from an exploitation plan previously approved by the BMBF. Additionally, if we fail to use or commercialize the results of the funded work we may be required to grant third parties licenses to use such results. In certain scenarios, including if we come under the decisive influence of foreign investors, the funded results are exclusively or predominantly used outside of Germany without the prior consent of the BMBF or if we are in breach of our obligations under the grant, the grant funding, including funding already received, can be revoked.

Furthermore, certain of our patents and technology, including patents and technology relating to our rotavirus, malaria, Lassa virus and SARS-CoV-2 product candidates, were funded in part by grants from nonprofit third parties, including the Bill & Melinda Gates Foundation and CEPI. We are required to fulfill certain contractual obligations with respect to products created using such grant funding, including making certain products available at an affordable price in a list of clearly defined low and lower-middle income countries and ensuring that certain products are available in geographic regions where there has been an outbreak of an infectious disease at certain reduced economic rates. See “Business — Collaborations.”

Furthermore, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after its effective filing date. Various extensions may be available, however, the life of a patent and the protection it affords is limited. Given the amount of time required for the development, testing, regulatory review and approval of new product candidates, our patents protecting such candidates might expire before or shortly after such candidates are commercialized. If we encounter delays in obtaining regulatory approvals, the period of time during which we could market a product under patent protection could be further reduced. Even if patents covering our product candidates are obtained, once such patents expire, we may be vulnerable to competition from similar or biosimilar products. The launch of a similar or biosimilar version of one of our products would likely result in an immediate and substantial reduction in the demand for our product, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we fail to comply with our obligations under any license, collaboration or other intellectual property agreements, disagree over contract interpretation, or otherwise experience disruptions to our business relationships with our collaborators or licensors, we could lose intellectual property rights that are necessary to our business.

We rely, in part, on license, collaboration and other intellectual property agreements. These may not provide exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our product candidates in the future.

In addition, our existing licenses and collaboration agreements, including our agreements with Genmab, Arcturus, Acuitas, Boehringer Ingelheim, the Bill & Melinda Gates Foundation, CRISPR Therapeutics and CEPI, impose, and any future licenses, collaborations or other intellectual property agreements we enter into are likely to impose, various development, commercialization, funding, milestone, royalty, diligence, sublicensing, insurance, patent prosecution and enforcement or other obligations on us. Our licenses and collaboration agreements, including our agreement with Genmab, impose, and any future agreement we enter into may also impose, restrictions on our ability to license certain of our intellectual property to third parties or to develop or commercialize certain product candidates or technologies. In spite of our best efforts, our licensors, licensees and collaborators may conclude that we have breached our obligations under our agreements, or that we have used the intellectual property licensed to us in an unauthorized manner, in which case, we may be required to pay damages and the licensor, licensee or

collaborator may have the right to terminate the agreement. Any of the foregoing could result in us being unable to develop, manufacture and sell products that are covered by the licensed technology, enable a competitor to gain access to the licensed technology or disrupt our right to milestone or royalty payments. We might not have the necessary rights or the financial resources to develop, manufacture or market our current or future product candidates without the rights granted under our licenses, and the loss of sales or potential sales in such product candidates could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Disputes may arise regarding intellectual property subject to licensing, collaboration or other intellectual property agreements, including:

- the scope of rights granted under the license agreement and other interpretation related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the license agreement;
- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- our financial obligations under the license agreement;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, the agreements under which we currently license intellectual property or technology to or from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

In some circumstances, we may not have the right to control the preparation, filing, prosecution, maintenance, enforcement, and defense of patents and patent applications covering the technology that we license from third parties. We cannot be certain that these patents and applications will be prepared, filed, prosecuted, maintained, enforced, and defended in a manner consistent with the best interests of our business. If our licensors fail to prosecute, maintain, enforce, and defend such intellectual property, or lose rights to such intellectual property, the rights we have licensed and our exclusivity may be reduced or eliminated and our right to develop and commercialize any of our products that are subject to such licensed rights could be adversely affected.

Moreover, our rights to our in-licensed patents and patent applications may depend, in part, on inter-institutional or other operating agreements between the joint owners of such in-licensed patents and patent applications. If one or more of such joint owners breaches such inter-institutional or operating agreements, our rights to such in-licensed patents and patent applications may be adversely affected. In addition, while we cannot currently determine the amount of the royalty obligations we would be required to pay on sales of future products, if any, the amounts may be significant. The amount of our future royalty obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability. In addition, the development of certain of our product candidates is funded by grants that impose certain pricing limitations on such product candidates and limit our ability to commercialize such product candidates and to achieve or maintain profitability. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

If we are unable to successfully obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have on reasonable terms or at all, we may have to abandon development of the relevant program or product candidate and our business, financial condition, results of operations, and prospects could suffer.

We may become involved in lawsuits to protect or enforce our patents, which could be expensive, time-consuming and unsuccessful and could result in a court or administrative body finding our patents to be invalid or unenforceable.

Even if the patent applications we own or license are issued, third parties may infringe our patents. To counter infringement, we may be required to file infringement claims, which can be expensive and time-consuming. If we initiate legal proceedings against a third party to enforce a patent covering any of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including novelty, non-obviousness (or inventive step), written description or enablement. In addition, patent validity challenges may, under certain circumstances, be based upon non-statutory obviousness-type double patenting, which, if successful, could result in a finding that the claims are invalid for obviousness-type double patenting or the loss of patent term if a terminal disclaimer is filed to obviate a finding of obviousness-type double patenting. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld information material to patentability from the USPTO, or made a misleading statement, during prosecution. In an infringement proceeding, a court may decide that one or more of our patents is not valid, is unenforceable or is not infringed, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. Third parties also may raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, *inter partes* review, interference proceedings, derivation proceedings, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in the revocation or cancellation of or amendment to our patents in such a way that they no longer cover our product candidates or provide any competitive advantage. For example, one of our manufacturing related U.S. patents was invalidated in an *inter partes* review proceeding and certain of our European patents relating to RNA-based adjuvants/immunostimulants and RNA-coded antibodies have been revoked in European opposition proceedings. Some of these decisions are currently on appeal and continuation or divisional applications of certain of the revoked patents have been filed and are currently under examination, although there can be no assurance that any such appeal will be successful or that any such patent applications will issue as patents that provide us with any competitive advantage. Additionally, several of our European patents relating to RNA-based adjuvants/immunostimulants, mRNA formulation, mRNA-based vaccination of specific patient populations, combination of mRNA-based vaccination and inhibition of the PD-1 pathway, combination of mRNA-based vaccination and agonistic OX40 antibodies, methods for RNA analysis and intratumoral (m)RNA treatment are currently subject to opposition proceedings. The outcome following legal assertions of invalidity and unenforceability is unpredictable. If a third party were to prevail on a legal assertion of invalidity or unenforceability, we could lose part or all of the patent protection on one or more of our product candidates, which could result in our competitors and other third parties using our technology to compete with us. Such a loss of patent protection could have a material adverse impact on our business.

Interference proceedings, or other similar enforcement and revocation proceedings, provoked by third parties or brought by us may be necessary to determine the priority of inventions with respect to our patents or patent applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. We may not be able to prevent, alone or with our licensors, infringement, misappropriation or other violation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States.

An adverse outcome in a litigation or proceeding involving our patents could limit our ability to assert our patents against competitors, affect our ability to receive royalties or other licensing consideration from our licensees, and may curtail or preclude our ability to exclude third parties from making, using and selling similar or competitive products. Any of these occurrences could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we are sued for infringing, misappropriating, or otherwise violating intellectual property rights of third parties, such litigation could be costly and time consuming and could prevent or delay us from developing or commercializing our product candidates.

Our commercial success depends, in part, on our ability to develop, manufacture, market and sell our product candidates without infringing, misappropriating, or otherwise violating the intellectual property and other proprietary rights of third parties.

There is a substantial amount of intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, litigation or other adversarial proceedings regarding intellectual property rights of third parties with respect to our product candidates, including interference and post-grant proceedings before the USPTO. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the composition, formulation, use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that we may or may not be aware of which may later result in issued patents that our product candidates may be accused of infringing. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates or the use of our product candidates. After issuance, the scope of patent claims remains subject to construction based on interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Accordingly, third parties may assert infringement claims against us based on intellectual property rights that exist now or arise in the future. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. The pharmaceutical and biotechnology industries have produced a significant number of patents, and it may not always be clear to industry participants, including us, which patents cover various types of products or methods of use or manufacture. The scope of protection afforded by a patent is subject to interpretation by the courts, and the interpretation is not always uniform. If we are sued for patent infringement, we would need to demonstrate that our product candidates, products or methods either do not infringe the patent claims of the relevant patent or that the patent claims at issue are invalid or unenforceable, and we may not be able to do this. Proving invalidity is difficult. For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings, which could significantly harm our business and operating results. In addition, we may not have sufficient resources to bring these actions to a successful conclusion. Some claimants may have substantially greater resources than we do and may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us, especially as we gain greater visibility and market exposure as a public company.

Third parties have, and may in the future have, U.S. and non-U.S. issued patents and pending patent applications relating to compounds, methods of manufacturing compounds or methods of use for the treatment of the disease indications for which we are developing our product candidates that may cover our product candidates. For example, we are aware of certain third-party U.S. and non-U.S. issued patents and patent applications, including those of our competitors, that relate to RNA-encoded antigens in LNPs and LNP-formulated RNA that may be construed to cover the LNP-formulated RNA technology used in our vaccines and protein therapies. In the event that any of these patent rights were asserted against us, we believe that we have defenses against any such action, including that such patents would not be infringed by our product candidates and/or that such patents are not valid. However, if any such patent rights were to

be asserted against us and our defenses to such assertion were unsuccessful, unless we obtain a license to such patents, we could be liable for damages, which could be significant and include treble damages and attorneys' fees if we are found to willfully infringe such patents, and we could be precluded from commercializing any product candidates that were ultimately held to infringe such patents, any of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we are required to obtain a license from any third party in order to use the infringing technology and continue developing, manufacturing or marketing the infringing product candidate, we may not be able to obtain such required license on commercially reasonable terms or at all. In particular, any of our competitors that control intellectual property that we are found to infringe may be unwilling to provide us a license under any terms. Even if we were able to obtain a license, it could be nonexclusive, thereby giving our competitors access to the same technologies licensed to us; alternatively or additionally it could include terms that impede or destroy our ability to compete successfully in the commercial marketplace. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. Further, if a patent infringement suit is brought against us or our third-party service providers and if we are unable to successfully obtain rights to required third-party intellectual property, we may be required to expend significant time and resources to redesign our product candidates, or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis, and may delay or require us to abandon our development, manufacturing or sales activities relating to our product candidates. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Intellectual property litigation and other proceedings could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Even if resolved in our favor, intellectual property litigation or other legal proceedings relating to our, our licensor's or other third parties' intellectual property claims may cause us to incur significant expenses and could distract our personnel from their normal responsibilities. Patent litigation and other proceedings may also absorb significant management time. If not resolved in our favor, litigation may require us to pay any portion of our opponents' legal fees. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Our competitors or other third parties may be able to sustain the cost of such litigation and proceedings more effectively than we can because of their substantially greater resources. Uncertainties resulting from our participation in patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Furthermore, because of the substantial amount of discovery required in certain jurisdictions in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, the perceived value of our product candidates or intellectual property could be diminished. Accordingly, the market price of our common shares may decline. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our business, financial condition, results of operations and prospects.

Changes to the patent law in the United States and other jurisdictions could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, thereby impairing our ability to protect our technologies and product candidates.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involves both technological and legal complexity and is therefore costly, time consuming and inherently uncertain. Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs surrounding the prosecution of patent applications and the

enforcement or defense of issued patents. For example, the Leahy-Smith America Invents Act, or the America Invents Act, was signed into law on September 16, 2011, and many of the substantive changes became effective on March 16, 2013. The America Invents Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Specifically, the America Invents Act reforms United States patent law in part by changing the U.S. patent system from a "first to invent" system to a "first inventor to file" system. Under a "first inventor to file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to the patent on an invention regardless of whether another inventor was the first to invent the invention. This will require us to be cognizant going forward of the time from invention to filing of a patent application and be diligent in filing patent applications. Circumstances may arise that could prevent us from promptly filing patent applications on our inventions and allow third parties to file patents claiming our inventions before we are able to do so. The America Invents Act also includes a number of significant changes that affect the way patent applications will be prosecuted and may also affect patent litigation. These include allowing third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by the USPTO administered post grant proceedings, including reexamination proceedings, *inter partes* review, post grant review and derivation proceedings. These adversarial proceedings at the USPTO review patent claims without the presumption of validity afforded to U.S. patents in lawsuits in U.S. federal courts, and use a lower burden of proof than used in litigation in U.S. federal courts. Therefore, it is generally considered easier for a competitor or third party to have a U.S. patent invalidated in a USPTO post-grant review or *inter partes* review proceeding than in a litigation in a U.S. federal court. One of our manufacturing related patents has been invalidated in an *inter partes* proceeding and if any of our other patents are challenged by a third party in a USPTO proceeding, there is no guarantee that we or our licensors or collaborators will be successful in defending the patent, which would result in a loss or narrowing of the challenged patent right to us.

In addition, the patent positions of companies in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents, once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways. In addition, the complexity and uncertainty of European patent laws have also increased in recent years. Complying with these laws and regulations could have a material adverse effect on our existing patent portfolio and our ability to protect and enforce our intellectual property in the future.

We may be subject to claims by third parties asserting that our employees, consultants, independent contractors or we have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property and proprietary technology.

Many of our current and former employees, consultants, and independent contractors including our senior management, were previously employed at universities or at other biotechnology or pharmaceutical companies, including some which may be competitors or potential competitors. Although we try to ensure that our employees, consultants and independent contractors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees, consultants or independent contractors have used or disclosed intellectual property, including trade secrets or other proprietary information, of such individual's current or former employers, or that patents and applications we have filed to protect inventions of these individuals, even those related to one or more of our product candidates, are rightfully owned by their former or concurrent employer. Litigation may be necessary to defend against such claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel or sustain damages. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products. Such a license may not be available on an exclusive basis or on commercially reasonable terms or at all. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

In addition, while we typically require our employees, consultants and independent contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own, or such agreements may be breached or alleged to be ineffective, and the assignment may not be self-executing, which may result in claims by or against us related to the ownership of such intellectual property or may results in such intellectual property becoming assigned to third parties. If we fail in enforcing or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our senior management and scientific personnel. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Obtaining and maintaining our patent protection, including patents licensed from third parties, depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for noncompliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and patent applications will be due to be paid to the USPTO and various government patent agencies outside the United States over the lifetime of our patents and patent applications and any patent rights we may own or license in the future. Additionally, the USPTO and various government patent agencies outside the United States require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In certain cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with rules applicable to the particular jurisdiction. However, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If we or our licensors fail to maintain the patents and patent applications covering or otherwise protecting our product candidates, it could have a material adverse effect on our business. In addition, to the extent that we have responsibility for taking any action related to the prosecution or maintenance of patents or patent applications in-licensed from a third party, any failure on our part to maintain the in-licensed intellectual property could jeopardize our rights under the relevant license and may have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we do not obtain patent term extensions and data exclusivity for each of our product candidates, our business may be materially harmed.

Depending upon the timing, duration and specifics of any FDA marketing approval of any product candidates we may develop, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Action of 1984, or Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. In the European Union, a maximum of five and a half years of supplementary protection can be achieved for an active ingredient or combinations of active ingredients of a medicinal product protected by a basic patent, if a valid marketing authorization exists (which must be the first authorization to place the product on the market as a medicinal product) and if the product has not already been the subject of supplementary protection. However, we may not receive an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents, or otherwise failing to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. If we are unable to obtain patent term extension or if the term of any such extension is less than we request, our competitors may obtain approval of competing products following our patent expiration, and our business, financial condition, results of operations, and prospects could be materially harmed.

Certain of our employees and patents are subject to German law

A significant number of our personnel, work in Germany and are subject to German employment law. Inventions which may be the subject of a patent or of protection as a utility model as well as technical

improvement proposals for other technical innovations that may not be the subject of a patent or of protection as a utility model made by such employees are subject to the provisions of the German Act on Employees' Inventions (*Gesetz über Arbeitnehmererfindungen*), which regulates the ownership of, and compensation for, inventions made by employees. We face the risk that disputes may occur between us and our current or former employees pertaining to the sufficiency of compensation paid by us, allocation of rights to inventions under this act, or alleged non-adherence to the provisions of this act, any of which may be costly to resolve and take up our management's time and efforts whether we prevail or fail in such dispute. In addition, under the German Act on Employees' Inventions, certain employees retain rights to patents they invented or co-invented and disclosed to us prior to October 1, 2009 if the employee inventions were not actively claimed by us after notification by the employee inventors. While we believe that all of our current and past German employee inventors have assigned to us their interest in inventions and patents they invented or co-invented, there can be no assurance that all such assignments are fully effective. Therefore, there can be no assurance that present or former employees do not hold rights to intellectual property used by us or that such employees will not demand the registration of intellectual property rights in their name or demand damages pursuant to the German Act on Employees' Inventions or other applicable laws. Even if we lawfully own all inventions of our employee inventors who are subject to the German Act on Employees' Inventions, we are required under German law to reasonably compensate such employees for the use of the inventions. If we are required to pay increased compensation or face other disputes under the German Act on Employees' Inventions, our business, financial condition, results of operations, and prospects could be adversely affected.

The German Act on Employees' Inventions does not generally apply to managing directors, supervisory directors, freelancers or agents who are not employees under German labor law. Unless the German Act on Employees' Inventions has been referred to in the respective services agreements, inventions and intellectual property rights created by such inventors must be assigned to us by contract. While we believe that all of our managing directors, supervisory directors, freelancers or agents which are not employees have assigned to us their interest in inventions and patents required for our course of business, there can be no assurance that all such assignments are fully effective. If any of our current or past employees, managing directors, supervisory directors, freelancers or agents obtain or retain ownership of any inventions or related intellectual property rights that we believe we own, we may lose valuable intellectual property rights and be required to obtain and maintain licenses from such persons to such inventions or intellectual property rights, which may not be available on commercially reasonable terms or at all, or may be nonexclusive. If we are unable to obtain and maintain a license to any such person's interest in such inventions or intellectual property rights, we may need to cease the development, manufacture, and commercialization of one or more of our product candidates or the product candidates we may develop. In addition, any loss of exclusivity of our intellectual property rights could limit our ability to stop others from using or commercializing similar or identical technologies and products. Any of the foregoing events could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we are unable to protect the confidentiality of our proprietary information, the value of our technology and products could be materially adversely affected.

In addition to patent protection, we also rely on trade secrets and confidentiality agreements to protect other proprietary information that is not patentable or that we elect not to patent. To maintain the confidentiality of trade secrets and proprietary information, we enter into confidentiality agreements with our employees, consultants, independent contractors, collaborators, CMOs, CROs and others upon the commencement of their relationships with us. These agreements require that all confidential information developed by the individual or entity or made known to the individual or entity by us during the course of the individual's or entity's relationship with us be kept confidential and not disclosed to third parties. Our agreements with employees as well as our personnel policies also generally provide that any inventions conceived by the individual in the course of rendering services to us shall be our exclusive property (to the extent not covered by the German Act on Employees' Inventions) or that we may obtain full rights to such inventions at our election. However, we cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary technology and processes and cannot guarantee that individuals with whom we have these agreements will comply with their terms. We also face the risk that present or former employees could continue to hold rights to intellectual property used by us, may demand the registration of intellectual property rights in their name, and demand damages

pursuant to the Patent Act. In addition, present or former employees may demand damages due to violation of obligations under the German Act on Employees' Invention. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets.

We may not have adequate remedies in the event of unauthorized use or disclosure of our proprietary information in the case of a breach of any such agreements and our trade secrets and other proprietary information could be disclosed to third parties, including our competitors. Many of our partners also collaborate with our competitors and other third parties. The disclosure of our trade secrets to our competitors, or more broadly, would impair our competitive position and may materially harm our business, financial condition, results of operations, and prospects. Costly and time consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to maintain trade secret protection could adversely affect our competitive business position. The enforceability of confidentiality agreements may vary from jurisdiction to jurisdiction. Courts outside the United States are sometimes less willing to protect proprietary information, technology and know-how. In addition, others may independently discover or develop substantially equivalent or superior proprietary information and techniques, and the existence of our own trade secrets affords no protection against such independent discovery.

We may not be successful in obtaining necessary intellectual property rights to product candidates for our development pipeline through acquisitions and in-licenses.

Although we intend to develop product candidates through our own internal research, we may need to obtain additional licenses from others to advance our research or allow commercialization of our product candidates and it is possible that we may be unable to obtain additional licenses at a reasonable cost or on reasonable terms, if at all. However, we may be unable to acquire or in-license intellectual property rights relating to, or necessary for, any product candidates from third parties on an exclusive basis or commercially reasonable terms or at all. In that event, we may be unable to develop or commercialize such product candidates. We may also be unable to identify product candidates that we believe are an appropriate strategic fit for our company and intellectual property relating to, or necessary for, such product candidates.

The in-licensing and acquisition of third-party intellectual property is a competitive area, and a number of more established companies are also pursuing strategies to in-license or acquire third-party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities. Furthermore, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. In addition, we expect that competition for the in-licensing or acquisition of third-party intellectual property rights for product candidates that are attractive to us may increase in the future, which may mean fewer suitable opportunities for us as well as higher acquisition or licensing costs. We may be unable to in-license or acquire the third-party intellectual property rights for product candidates on terms that would allow us to make an appropriate return on our investment. If we are unable to successfully obtain rights to suitable product candidates, our business, financial condition, results of operations, and prospects for growth could suffer.

We may not be able to protect our intellectual property and proprietary rights throughout the world.

Filing, prosecuting, and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Third parties may use our technologies in jurisdictions where we have not obtained or are unable to adequately enforce patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection but enforcement is not as strong as that in the United States. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing

countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our intellectual property and proprietary rights generally. Proceedings to enforce our intellectual property and proprietary rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our licensors is forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations, and prospects may be adversely affected.

If our trademarks and trade names are not adequately protected, we may not be able to build name recognition in our markets of interest and our business, financial condition, results of operations, and prospects may be adversely affected.

Our trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names or marks which we need for name recognition by potential partners or customers in our markets of interest. During trademark registration proceedings, we may receive rejections. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business, financial condition, results of operations, and prospects may be adversely affected.

Intellectual property rights do not necessarily address all potential threats.

The degree of future protection afforded by our proprietary and intellectual property rights is uncertain because such rights offer only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to develop products that are similar to, or better than, our product candidates in a way that is not covered by the claims of the patents we license or may own currently or in the future;
- we, or our licensing partners or current or future collaborators, might not have been the first to make the inventions covered by issued patents or pending patent applications that we license or may own currently or in the future;
- we, or our licensing partners or current or future collaborators, might not have been the first to file patent applications for certain of our or their inventions;
- our pending owned or in-licensed patent applications may not lead to issued patents;
- we may choose not to file a patent for certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property;
- our competitors or other third parties might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;

- it is possible that there are prior public disclosures that could invalidate our or our licensors' patents;
- the patents of third parties or pending or future applications of third parties, if issued, may have an adverse effect on our business;
- any patents that we obtain may not provide us with any competitive advantages or may ultimately be found not to be owned by us, invalid or unenforceable; or
- we may not develop additional proprietary technologies that are patentable.

Should any of these events occur, they could significantly harm our business, financial conditions, results of operations, and prospects.

Risks Related to Our Business and Industry

Our current and future relationships with third-party payors, health care professionals and customers in the United States and elsewhere may be subject, directly or indirectly, to applicable anti-kickback, fraud and abuse, false claims, physician payment transparency and other healthcare laws and regulations, which could expose us to significant penalties.

Healthcare providers, physicians and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with health care professionals, third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal civil False Claims Act, that may constrain the business or financial arrangements and relationships through which we conduct clinical research, sell, market and distribute any products for which we obtain marketing approval. In addition, we may be subject to physician payment transparency laws and patient privacy regulation by the federal government and by the U.S. states and foreign jurisdictions in which we conduct our business. The applicable federal, state and foreign healthcare laws and regulations that may affect our ability to operate include the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs, such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation. Further, several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the Anti-Kickback Statute has been violated;
- federal civil and criminal false claims laws, including, without limitation, the federal civil False Claims Act (that can be enforced through civil whistleblower or qui tam actions), and the civil monetary penalties law, which impose criminal and civil penalties against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, including the Medicare and Medicaid programs, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government. Moreover, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for, among other things, executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;

- the U.S. Federal Food, Drug, and Cosmetic Act, which prohibits, among other things, the adulteration or misbranding of drugs, biologics and medical devices;
- the U.S. Public Health Service Act, or PHSA, which prohibits, among other things, the introduction into interstate commerce of a biological product unless a biologics license is in effect for that product;
- the Physician Payments Sunshine Act, created under Section 6002 of the Affordable Care Act, and its implementing regulations, which requires specified manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services, or CMS, information related to payments or other "transfers of value" made to physicians, which is defined to include doctors, dentists, optometrists, podiatrists and chiropractors, certain other health care providers beginning in 2022, and teaching hospitals and applicable manufacturers to report annually to CMS ownership and investment interests held by physicians and their immediate family members by the 90th day of each calendar year. All such reported information is publicly available; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers; state and foreign laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government or otherwise restrict payments that may be made to healthcare providers; and state and foreign laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations may involve substantial costs. It is possible that governmental authorities will conclude that our business practices, including our relationships with physicians and other healthcare providers, some of whom may recommend, purchase or prescribe our product candidate, if approved, may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations.

If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, including, without limitation, damages, fines, disgorgement, individual imprisonment, exclusion from participation in government healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of noncompliance with these laws and the curtailment or restructuring of our operations, which could have a material adverse effect on our business. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from participation in government healthcare programs, which could also materially affect our business.

Even if we, or any future collaborators, are able to commercialize any product candidate that we, or they, develop, the successful commercialization of our product candidates will depend in part on the extent to which governmental authorities, private health insurers and other third-party payors provide coverage and adequate reimbursement levels and implement pricing policies favorable for our product candidates. Failure to obtain or maintain coverage and adequate reimbursement for our product candidates, if approved, could limit our ability to market those products and decrease our ability to generate revenue.

The healthcare industry is acutely focused on cost containment, both in the United States and elsewhere. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement. The insurance coverage and reimbursement status of newly approved products for orphan diseases is particularly uncertain and failure to obtain or maintain adequate coverage and reimbursement for our product candidates could limit our ability to generate revenue. Third-party payors may not view our product candidates, if approved, as cost-effective, and coverage and

reimbursement may not be available to our customers or may not be sufficient to allow our products, if any, to be marketed on a competitive basis. If coverage and reimbursement are not available, or reimbursement is available only to limited levels, we, or any future collaborators, may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us, or any future collaborators, to establish or maintain pricing sufficient to realize a sufficient return on our or their investments. Cost-control initiatives could also cause us to decrease any price we might establish for our product candidates, which could result in lower than anticipated product revenues. Moreover, eligibility for reimbursement does not imply that any product will be paid for in all cases or at a rate that covers our costs, including our costs related to research, development, manufacture, sale and distribution. Reimbursement rates may vary, by way of example, according to the use of the product and the clinical setting in which it is used. For products administered under the supervision of a physician, obtaining coverage and adequate reimbursement may be particularly difficult because of the higher prices often associated with such drugs. If the prices for our product candidates, if approved, decrease or if governmental and other third-party payors do not provide adequate coverage or reimbursement, our business, prospects, operating results and financial condition will suffer, perhaps materially.

There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products, including genetic treatments. In the United States, the Centers for Medicare & Medicaid Services, or CMS, the federal agency responsible for administering the Medicare program, make the principal decisions about coverage and reimbursement for new treatments under Medicare. Private payors tend to follow CMS to a substantial degree. It is difficult to predict what CMS will decide with respect to reimbursement for novel products such as ours. In addition, certain Affordable Care Act marketplace and other private payor plans are required to include coverage for certain preventative services, including vaccinations recommended by the U.S. Centers for Disease Control's, or CDC's, Advisory Committee on Immunization Practices, or ACIP, without cost share obligations (i.e., co-payments, deductibles or co-insurance) for plan members. For Medicare beneficiaries, vaccines may be covered for reimbursement under either the Part B program or Part D depending on several criteria, including the type of vaccine and the beneficiary's coverage eligibility. If our vaccine candidates, once approved, are reimbursed only under the Part D program, physicians may be less willing to use our products because of the claims adjudication costs and time related to the claims adjudication process and collection of co-payment associated with the Part D program.

Outside the United States, certain countries, including a number of member states of the European Union, set prices and reimbursement for pharmaceutical products, with limited participation from the marketing authorization holders. We cannot be sure that such prices and reimbursement will be acceptable to us or our collaborators. If the regulatory authorities in these jurisdictions set prices or reimbursement levels that are not commercially attractive for us or our collaborators, our revenues from sales by us or our collaborators, and the potential profitability of our product candidates, in those countries would be negatively affected. Additionally, some countries require approval of the sale price of a product before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then may experience delays in the reimbursement approval of our product or be subject to price regulations that would delay our commercial launch of the product, possibly for lengthy time periods, which could negatively impact the revenues we are able to generate from the sale of the product in that particular country.

Moreover, an increasing number of countries are taking initiatives to attempt to reduce large budget deficits by focusing cost-cutting efforts on pharmaceuticals for their state-run health care systems. These international price control efforts have impacted all regions of the world, but have been most drastic in the European Union. In some countries, in particular in many member states of the European Union, we may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of our product candidates to other available therapies in order to obtain or maintain reimbursement or pricing approval. In addition, publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries.

If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business, financial condition, results of operations or prospects could be

materially adversely affected. Cost-control initiatives could cause us, or any future collaborators, to decrease the price we, or they, might establish for products, which could result in lower than anticipated product revenues. An inability to promptly obtain coverage and adequate payment rates from both government-funded and private payors for any of our product candidates for which we, or any future collaborator, obtain marketing approval could significantly harm our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

Price controls may be imposed in certain markets, which may adversely affect our future profitability.

In some countries, particularly member states of the European Union, the pricing of prescription drugs is subject to governmental control or control by associations of health insurers. In these countries, pricing negotiations with governmental authorities can take considerable time after receipt of marketing approval for a product. In addition, there can be considerable pressure by governments and other stakeholders on prices and reimbursement levels, including as part of cost containment measures. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various countries and parallel distribution, or arbitrage between low-priced and high-priced countries, can further reduce prices. In some countries, in particular in many member states of the European Union, we may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of our product candidates to other available therapies in order to obtain or maintain reimbursement or pricing approval. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business, financial condition, results of operations or prospects could be materially adversely affected.

Exchange rate fluctuations or abandonment of the euro currency may materially affect our results of operations and financial condition.

Potential future expense and revenue may be incurred or derived from outside the European Union, particularly the United States. As a result, our business and share price may be affected by fluctuations in foreign exchange rates between the euro and other currencies, particularly the U.S. dollar, which may also have a significant impact on our reported results of operations and cash flows from period to period. In addition, the abandonment of the euro by one or more members of the European Union could lead to the re-introduction of individual currencies in one or more European Union member states, or in more extreme circumstances, the dissolution of the European Union. The effects on our business of the abandonment of the euro as a currency, the exit of one or more European Union member states from the European Union (such as Brexit) or a potential dissolution of the European Union, are impossible to predict with certainty, and any such events could have a material adverse effect on our business, financial condition and results of operations.

We could be subject to strict restrictions on the movement of cash and the exchange of foreign currencies.

In some countries, we could be subject to strict restrictions on the movement of cash and the exchange of foreign currencies, which would limit our ability to use this cash across our global operations. This risk could increase as we continue our geographic expansion, and in particular if we seek to expand into emerging markets, which are more likely to impose these restrictions than more established markets.

Current and future legislation may increase the difficulty and cost for us and any collaborators to obtain marketing approval of and commercialize our product candidates and affect the prices we, or they, may obtain.

In the United States and foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval. We expect that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in additional

reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and in additional downward pressure on the price that we, or any collaborators, may receive for any approved products.

In March 2010, President Obama signed the Affordable Care Act into law. Among the provisions of the Affordable Care Act of potential importance to our business and our product candidates are the following:

- an annual, non-deductible fee on any entity that manufactures or imports specified branded prescription products and biologic products;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for products that are inhaled, infused, instilled, implanted or injected;
- extension of manufacturers' Medicaid rebate liability to individuals enrolled in Medicaid managed care organizations;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- a requirement that certain Affordable Care Act marketplace and other private payor plans include coverage for preventative services, including vaccinations recommended by the ACIP without cost share obligations (i.e., co-payments, deductibles or co-insurance) for plan members;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research;
- a new Independent Payment Advisory Board, or IPAB, which has authority to recommend certain changes to the Medicare program to reduce expenditures by the program that could result in reduced payments for prescription products; and
- established the Center for Medicare and Medicaid Innovation within CMS to test innovative payment and service delivery models.

Since its enactment, there have been judicial and congressional challenges to numerous aspects of the Affordable Care Act. By way of example, the 2017 Tax Reform Act included a provision repealing the individual mandate, effective January 1, 2019. On December 14, 2018, a U.S. District Court judge in the Northern District of Texas ruled that the individual mandate portion of the Affordable Care Act is an essential and inseverable feature of the Affordable Care Act, and therefore because the mandate was repealed, the remaining provisions of the Affordable Care Act are invalid as well. On December 18, 2019, the U.S. Court of Appeals for the Fifth Circuit upheld the District Court ruling that the individual mandate was unconstitutional, but remanded the case back to the District Court to determine whether the remaining provisions of the Affordable Care Act are invalid as well. On March 2, 2020, the U.S. Supreme Court granted the petitions for writs of certiorari to review the case, although it is unclear when a decision will be made or how the Supreme Court will rule. In addition, there may be other efforts to challenge, repeal or replace the Affordable Care Act. We are continuing to monitor any changes to the Affordable Care Act that, in turn, may potentially impact our business in the future.

Other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. These changes include aggregate reductions to Medicare payments to providers of 2% per fiscal year pursuant to the Budget Control Act of 2011 and subsequent laws, which began in 2013 and will remain in effect through 2029, unless additional congressional action is taken. These reductions were suspended from May 1, 2020 through December 31, 2020 under the Coronavirus Aid, Relief and Economic Security Act, or CARES Act, which was signed into law in March 2020. The CARES Act also extended the sequester by one year, through 2030. In addition, in January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. New laws may result

in additional reductions in Medicare and other healthcare funding, which may materially adversely affect customer demand and affordability for our product candidates, if approved, and, accordingly, the results of our financial operations.

Also, there has been heightened governmental scrutiny recently over the manner in which pharmaceutical companies set prices for their marketed products, which have resulted in several congressional inquiries and proposed federal legislation, as well as state efforts, designed to, among other things, bring more transparency to product pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. At the federal level, the Trump administration's budget proposal for fiscal year 2021 includes a $135 billion allowance to support legislative proposals seeking to reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and increase patient access to lower-cost generic and biosimilar drugs. On March 10, 2020, the Trump administration sent "principles" for drug pricing to Congress, calling for legislation that would, among other things, cap Medicare Part D beneficiary out-of-pocket pharmacy expenses, provide an option to cap Medicare Part D beneficiary monthly out-of-pocket expenses, and place limits on pharmaceutical price increases. Further, the Trump administration previously released a "blueprint" to lower prescription drug prices and out-of-pocket costs that contained proposals to increase drug manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products, and reduce the out-of-pocket costs of drug products paid by consumers. The Department of Health and Human Services, or HHS, has solicited feedback on some of these measures and has implemented others under its existing authority. For example, in May 2019, CMS issued a final rule to allow Medicare Advantage plans the option to use step therapy for Part B drugs beginning January 1, 2020. This final rule codified CMS's policy change that was effective January 1, 2019. While some of these and other measures may require additional authorization to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, individual states in the United States have become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures and, in some cases, designed to encourage importation from other countries and bulk purchasing. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing.

The policies of the FDA or similar regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. For example, in December 2016, the 21st Century Cures Act, or Cures Act, was signed into law. The Cures Act, among other things, is intended to modernize the regulation of drugs and biologics and spur innovation, but it has not yet been implemented and its ultimate implementation is unclear. If we or our collaborators are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or our collaborators are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability, which would adversely affect our business.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of a number of executive orders, that could impose significant burdens on, or otherwise materially delay, FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

We cannot predict whether future healthcare legislative or policy changes will be implemented at the federal or state level or in countries outside of the United States in which we may do business, or the effect any future legislation or regulation will have on us, but we expect there will continue to be legislative and regulatory proposals at the federal and state levels directed at containing or lowering the cost of health care.

Cyber-attacks or other failures in our or our third-party vendors', contractors' or consultants' telecommunications or information technology systems could result in information theft, data corruption and significant disruption of our business operations.

We utilize information technology, or IT, systems and networks and cloud computing services to process, transmit and store electronic information in connection with our business activities. We manage and maintain our applications and data utilizing a combination of on-site systems, managed data centers and cloud-based data centers. We utilize external security and infrastructure vendors to manage our information technology systems and data centers. These applications and data encompass a wide variety of business-critical information, including research and development information, commercial information, and business and financial information. We face a number of risks relative to protecting this critical information, including loss of access risk, inappropriate use or disclosure, inappropriate modification, and the risk of our being unable to adequately monitor, audit and modify our controls over our critical information. This risk extends to the third-party vendors and subcontractors we use to manage this sensitive data. Despite the implementation of security measures, given the size and complexity of our internal IT systems and those of our third-party vendors, contractors and consultants, and the increasing amounts of confidential information that they maintain, such IT systems are potentially vulnerable to breakdown or other damage or interruption from service interruptions, system malfunction, natural disasters, terrorism, war, and telecommunication and electrical failures. Such IT systems are additionally vulnerable to security breaches from inadvertent or intentional actions by our employees, third-party vendors, contractors, consultants, business partners, and/or other third parties, or from cyber-attacks by malicious third parties (including the deployment of harmful malware, ransomware, denial-of-service attacks, social engineering, and other means to affect service reliability and threaten the confidentiality, integrity, and availability of information). These threats pose a risk to the security of our systems and networks, the confidentiality and the availability and integrity of our data and these risks apply both to us, and to third parties on whose systems we rely for the conduct of our business.

Cyber threats are persistent and constantly evolving. Such threats have increased in frequency, scope and potential impact in recent years, which increase the difficulty of detecting and successfully defending against them. We may not be able to anticipate all types of security threats, and we may not be able to implement preventive measures effective against all such security threats. The techniques used by cyber criminals change frequently, may not be recognized until launched, and can originate from a wide variety of sources, including outside groups such as external service providers, organized crime affiliates, terrorist organizations, or hostile foreign governments or agencies. There can be no assurance that we or our third-party service providers, contractors or consultants will be successful in preventing cyber-attacks or successfully mitigating their effects. Similarly, there can be no assurance that such third-party service providers, contractors or consultants will be successful in protecting our clinical and other data that is stored on their systems. If the IT systems of our third-party vendors and other contractors and consultants become subject to disruptions or security breaches, we may have insufficient recourse against such third parties and we may have to expend significant resources to mitigate the impact of such an event, and to develop and implement protections to prevent future events of this nature from occurring. Any cyber-attack or destruction or loss of data could have a material adverse effect on our business, financial condition, results of operations, and prospects. For example, if such an event were to occur and cause interruptions in our operations, or those of our third-party vendors and other contractors and consultants, it could result in a material disruption or delay of the development of our product candidates. In addition, we may suffer reputational harm or face litigation or adverse regulatory action as a result of cyber-attacks or other data security breaches and may incur significant additional expense to implement further data protection measures. As cyber threats continue to evolve, we may be required to incur material additional expenses in order to enhance our protective measures or to remediate any information security vulnerability.

We expect to expand our organization, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations. We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of clinical development and regulatory affairs, as well as to support our public company operations. We are currently constructing a new facility, designed for the development of a cGMP production process on a large industrial scale for market supply. To manage these growth activities, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel.

Our management may need to devote a significant amount of its attention to managing these growth activities. Moreover, our expected growth could require us to relocate to a different geographic area of the country. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion or relocation of our operations, retain key employees, or identify, recruit and train additional qualified personnel. Our inability to manage the expansion or relocation of our operations effectively may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could also require significant capital expenditures and may divert financial resources from other projects, such as the development of additional product candidates. If we are unable to effectively manage our expected growth, our expenses may increase more than expected, our ability to generate revenues could be reduced and we may not be able to implement our business strategy, including the successful development and commercialization of our product candidates. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We are subject to stringent privacy laws, information security laws, regulations, policies and contractual obligations related to data privacy and security and changes in such laws, regulations, policies and contractual obligations could adversely affect our business, financial condition, results of operations, and prospects.

We are subject to data privacy and protection laws and regulations that apply to the collection, transmission, storage and use of personally-identifying information, which among other things, impose certain requirements relating to the privacy, security and transmission of personal information. The legislative and regulatory landscape for privacy and data protection continues to evolve in jurisdictions worldwide, and there has been an increasing focus on privacy and data protection issues with the potential to affect our business. Failure to comply with any of these laws and regulations could result in enforcement action against us, including fines, imprisonment of company officials and public censure, claims for damages by affected individuals, damage to our reputation and loss of goodwill, any of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Additionally, if we are unable to properly protect the privacy and security of personal information, including protected health information, we could be found to have breached our contracts.

There are numerous U.S. federal and state laws and regulations related to the privacy and security of personal information. In particular, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, establish privacy and security standards that limit the use and disclosure of individually identifiable health information, or protected health information, and require the implementation of administrative, physical and technological safeguards to protect the privacy of protected health information and ensure the confidentiality, integrity and availability of electronic protected health information. Determining whether protected health information has been handled in compliance with applicable privacy standards and our contractual obligations can be complex and may be subject to changing interpretation. If we fail to comply with applicable privacy laws, including applicable HIPAA privacy and security standards, we could face civil and criminal penalties. The HHS has the discretion to impose penalties without attempting to first resolve violations. HHS enforcement activity can result in financial liability and reputational harm, and responses to such enforcement activity can consume significant internal resources. Even when HIPAA does not apply, failing to take appropriate steps to keep consumers' personal information secure can constitute unfair acts or practices in or affecting commerce and be construed as a violation of Section 5(a) of the Federal Trade Commission Act, or the FTCA, 15 U.S.C § 45(a). The Federal Trade Commission, or the FTC, expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Individually identifiable health information is considered sensitive data that merits stronger safeguards and the FTC's guidance for appropriately securing consumers' personal information is similar to what is required by the HIPAA Security Rule. In addition, state attorneys general are authorized to bring civil actions seeking either injunctions or damages in response to violations that threaten the privacy of state residents. We cannot be sure how these regulations will be interpreted, enforced or applied to our operations. In addition to the risks associated with enforcement activities and potential contractual liabilities, our ongoing efforts to comply with evolving laws and regulations at the federal and state level may be costly and require ongoing modifications to our policies, procedures and systems.

In addition, many states in which we operate have laws that protect the privacy and security of personal information. For example, the California Consumer Privacy Act of 2018, or CCPA, which increases privacy rights for California residents and imposes obligations on companies that process their personal information, came into effect on January 1, 2020. Among other things, the CCPA requires covered companies to provide new disclosures to California consumers and provide such consumers new data protection and privacy rights, including the ability to opt-out of certain sales of personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for certain data breaches that result in the loss of personal information. State laws are changing rapidly and there is discussion in Congress of a new federal data protection and privacy law to which we would become subject if it is enacted.

Internationally, laws, regulations and standards in many jurisdictions apply broadly to the collection, use, retention, security, disclosure, transfer and other processing of personal information. For example, in the European Union and the United Kingdom, the collection and use of personal data is governed by the provisions of the General Data Protection Regulation, or the GDPR, in addition to other applicable laws and regulations. The GDPR came into effect in May 2018, repealing and replacing the European Union Data Protection Directive, and imposing revised data privacy and security requirements on companies in relation to the processing of personal data of European Union and United Kingdom data subjects. The GDPR, together with national legislation, regulations and guidelines of the European Union member states and the United Kingdom governing the processing of personal data, impose strict obligations with respect to, and restrictions on, the collection, use, retention, protection, disclosure, transfer and processing of personal data. The GDPR authorizes fines for certain violations of up to 4% of the total global annual turnover of the preceding financial year or €20 million, whichever is greater. Such fines are in addition to any civil litigation claims by data subjects. Separately, Brexit could also lead to further legislative and regulatory changes and increase our compliance costs. In particular, the United Kingdom has transposed the GDPR into domestic law with a United Kingdom version of the GDPR taking effect in January 2021 (after the end of the transitional period) which could expose us to two parallel regimes each of which potentially authorizes fines for certain violations up to the greater of either 4% of the total global annual turnover of the preceding financial year or €20 million.Other jurisdictions outside the European Union are similarly introducing or enhancing privacy and data security laws, rules and regulations, which could increase our compliance costs and the risks associated with noncompliance. We cannot guarantee that we are, or will be, in compliance with all applicable international regulations as they are enforced now or as they evolve.

It is possible that these laws may be interpreted and applied in a manner that is inconsistent with our practices and our efforts to comply with the evolving data protection rules may be unsuccessful. We must devote significant resources to understanding and complying with this changing landscape. Failure to comply with federal, state and international laws regarding privacy and security of personal information could expose us to penalties under such laws, orders requiring that we change our practices, claims for damages or other liabilities, regulatory investigations and enforcement action, litigation and significant costs for remediation, any of which could adversely affect our business. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which have a material adverse effect on our business, financial condition, results of operations, and prospects.

We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. We face and will continue to face competition from third parties that use mRNA, gene editing or gene therapy development platforms and from third parties focused on other therapeutic modalities, such as small molecules, antibodies, biologics and nucleic acid-based therapies. The competition is likely to come from multiple sources, including large and specialty pharmaceutical and biotechnology companies, academic research institutions, government agencies and public and private research institutions.

Many of our potential competitors, alone or with their strategic partners, have substantially greater financial, technical and other resources, such as larger research and development, clinical, marketing and manufacturing organizations. Mergers and acquisitions in the biotechnology and pharmaceutical industries

may result in even greater concentration of resources among a smaller number of competitors. Our commercial opportunity could be reduced or eliminated if competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approvals for their products faster or earlier than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, technologies developed by our competitors may render our product candidates uneconomical or obsolete, and we may not be successful in marketing our product candidates against competitors' products. In addition, the availability of our competitors' products could limit the demand and the prices we are able to charge for any products that we may develop and commercialize.

We depend heavily on our executive officers and managing directors, and the loss of their services would materially harm our business.

Our success depends, and will likely continue to depend, upon our ability to retain the services of our current executive officers, managing directors, principal consultants and other service providers, and our ability to hire new highly qualified personnel. We are highly dependent on the management, development, clinical, financial and business development expertise of our executive officers, managing directors, principal consultants and other service providers. In addition, we have established relationships with universities and research institutions which have historically provided, and continue to provide, us with access to research laboratories, clinical trials, facilities and patients. Our ability to compete in the biotechnology and pharmaceuticals industries depends upon our ability to attract and retain highly qualified managerial, scientific and medical personnel.

In most cases, our personnel may only terminate their employment upon first providing notice. A limited number of agreements provide for at-will termination. If we lose one or more of our executive officers or other key employees, our ability to implement our business strategy successfully could be seriously harmed. Furthermore, replacing executive officers or other key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to develop, gain marketing approval of and commercialize products successfully.

We may be unable to hire, train, retain or motivate these additional key employees on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions.

Our employees, independent contractors, consultants, collaborators and contract research organizations may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could cause significant liability for us and harm our reputation.

We are exposed to the risk that our employees, independent contractors, consultants, collaborators and contract research organizations may engage in fraudulent conduct or other illegal activity. Misconduct by those parties could include intentional, reckless or negligent conduct or disclosure of unauthorized activities to us that violates: (i) FDA regulations or similar regulations of comparable non-U.S. regulatory authorities, including those laws requiring the reporting of true, complete and accurate information to such authorities, (ii) manufacturing and clinical trial conduct standards, (iii) federal and state healthcare fraud and abuse laws and regulations and similar laws and regulations established and enforced by comparable non-U.S. regulatory authorities and (iv) laws that require the reporting of financial information or data accurately. Activities subject to these laws also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws, standards or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of civil, criminal and administrative penalties, damages,

monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings and curtailment of our operations, any of which could have a material adverse effect on our ability to operate our business and our results of operations.

As a result of our geographically diverse operations, we are more susceptible to certain risks.

We have offices and operations in three cities and in two countries. If we are unable to manage the risks of our global operations, including fluctuations in foreign exchange and inflation rates, international hostilities, natural disasters, security breaches, failure to maintain compliance with our clients' control requirements and multiple legal and regulatory systems, our results of operations and ability to grow could be materially adversely affected.

Changes in our level of taxes, and audits, investigations and tax proceedings, could have a material adverse effect on our results of operations and financial condition.

Although limited in terms of magnitude due to ongoing losses incurred so far, we are subject to income taxes in Germany and the United States. We calculate and provide for income taxes in each tax jurisdiction in which we operate. Tax accounting often involves complex matters and judgment is required in determining our worldwide provision for income taxes and other tax liabilities. We are subject to ongoing tax audits in Germany. In the future, tax authorities may disagree with our judgments or may take increasingly aggressive positions with respect to the judgments we make. We regularly assess the likely outcomes of these audits in order to determine the appropriateness of our tax liabilities. However, our judgments might not be sustained as a result of these audits, and the amounts ultimately paid could be different from the amounts previously recorded. In addition, our effective tax rate in the future could be adversely affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities and changes in tax laws. Tax rates in the jurisdictions in which we operate may change as a result of macroeconomic or other factors outside of our control. Increases in the tax rate in any of the jurisdictions in which we operate could have a negative impact on our profitability. In addition, changes in tax laws, treaties or regulations, or their interpretation or enforcement, may be unpredictable, particularly in less developed markets, and could become more stringent, which could materially adversely affect our tax position. Any of these occurrences could have a material adverse effect on our results of operations and financial condition.

Changes in U.S. Tax Law Could Adversely Affect Our Business and Financial Condition.

On December 22, 2017, President Trump signed into law the "Tax Cuts and Jobs Act," or the TCJA, which significantly amends the Internal Revenue Code of 1986. Subject to the discussion of the Families First Coronavirus Response Act, or FFCR Act, and the CARES Act below, the TCJA, among other things, reduces the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limits the tax deduction for interest expense to 30% of adjusted taxable income, eliminates net operating loss carrybacks, imposes a one-time tax on offshore earnings at reduced rates regardless of whether they are repatriated, allows immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifies or repeals many business deductions and credits, including a reduction of the business tax credit for certain clinical testing expenses incurred in the testing of certain drugs for rare diseases or conditions generally referred to as "orphan drugs." We continue to examine the impact these changes may have on our business. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the TCJA is uncertain and our business and financial condition could be adversely affected.

As part of Congress's response to the COVID-19 pandemic, the FFCR Act was enacted on March 18, 2020, and the CARES Act was enacted on March 27, 2020. Both contain numerous tax provisions. In particular, the CARES Act retroactively and temporarily (for taxable years beginning before January 1, 2021) suspends application of the 80%-of-income limitation on the use of NOLs, which was enacted as part of the TCJA. It also provides that NOLs arising in any taxable year beginning after December 31, 2017, and before January 1, 2021 are generally eligible to be carried back up to five years. The CARES Act also temporarily (for taxable years beginning in 2019 or 2020) relaxes the limitation of the tax deductibility for net interest expense by increasing the tax deduction cap from 30% to a 50% cap of adjusted taxable income.

Regulatory guidance under the TCJA, the FFCR Act and the CARES Act is and continues to be forthcoming, and such guidance could ultimately increase or lessen impact of these laws on our business and financial condition. In addition, it is uncertain if and to what extent various states will conform to the TCJA, the FFCR Act or the CARES Act. Moreover, it is possible that Congress will enact additional legislation in connection with the COVID-19 pandemic, which could have an impact on our company.

We urge our shareholders, including purchasers of common shares in this offering, to consult with their legal and tax advisers with respect to the TCJA, the FFCR Act and the CARES Act and the potential tax consequences of investing in our common shares.

Uninsured losses arising from third-party claims brought against us could result in payment of substantial damages, which would decrease our cash reserves and could harm our profit and cash flow.

Our products are used in applications where the failure to use our products properly or their malfunction could result in serious bodily injury or death. We may not have adequate insurance to cover the payment of any potential claim related to such injuries or deaths. Insurance coverage may not continue to be available to us or, if available, may be at a significantly higher cost.

We are exposed to potential product liability and professional indemnity risks that are inherent in the research, development, manufacturing, marketing and use of pharmaceutical products.

The use of our investigational medicinal products in clinical trials and the sale of any approved products in the future may expose us to liability claims. These claims might be made by patients who use the product, health care providers, pharmaceutical companies or others selling such products. Any claims against us, regardless of their merit, could be difficult and costly to defend and could materially adversely affect the market for our product candidates or any prospects for commercialization of our product candidates.

Although the clinical trial process is designed to identify and assess potential side effects, it is always possible that a product, even after regulatory approval, may exhibit unforeseen side effects. If any of our product candidates were to cause adverse side effects during clinical trials or after approval of the product candidate, we may be exposed to substantial liabilities. Physicians and patients may not comply with any warnings that identify known potential adverse effects and patients who should not use our product candidates.

To cover such liability claims, we purchase clinical trial insurances in the conduct of each of our clinical trials. It is possible that our liabilities could exceed our insurance coverage or that our insurance will not cover all situations in which a claim against us could be made. We also intend to expand our insurance coverage to include the sale of commercial products if we receive marketing approval for any of our proprietary products. However, we may not be able to maintain insurance coverage at a reasonable cost or obtain insurance coverage that will be adequate to satisfy any liability that may arise. If a successful product liability claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover such claims and our business operations could be impaired. Should any of the events described above occur, this could have a material adverse effect on our business, financial condition and results of operations, including, but not limited to:

- decreased demand for our future product candidates;
- adverse publicity and injury to our reputation;
- withdrawal of clinical trial participants;
- initiation of investigations by regulators;
- costs to defend the related litigation;
- a diversion of management’s time and our resources;
- compensation in response to a liability claim;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;

- exhaustion of any available insurance and our capital resources; and
- the inability to commercialize our products or product candidates.

We could be adversely affected if we are subject to negative publicity. We could also be adversely affected if any of our products or any similar products distributed by other companies prove to be, or are asserted to be, harmful to patients. Any adverse publicity associated with illness or other adverse effects resulting from patients' use or misuse of our products or any similar products distributed by other companies could have a material adverse impact on our business, financial condition, results of operations or prospects.

Some of our product candidates are classified as gene therapies by the FDA and the EMA, and the FDA has indicated that products similar to our product candidates will be reviewed within its Center for Biologics Evaluation and Research, or CBER. Even though our mRNA product candidates are designed to have a different mechanism of action from gene therapies, the association of our product candidates with gene therapies could result in increased regulatory burdens, impair the reputation of our product candidates, or negatively impact our platform or our business.

There have been few approvals of gene therapy products in the United States and other jurisdictions, and there have been well-reported significant adverse events associated with their testing and use. Gene therapy products have the effect of introducing new DNA and potentially irreversibly changing the DNA in a cell. In contrast, mRNA is highly unlikely to localize to the nucleus, integrate into cell DNA, or otherwise make any permanent changes to cell DNA. Consequently, we expect that our product candidates will have a different potential side effect profile from gene therapies because they lack risks associated with altering cell DNA irreversibly. Further, we may avail ourselves of ways of mitigating side effects in developing our product candidates to address safety concerns that are not available to all gene therapies, such as lowering the dose of our product candidates during repeat dosing or stopping treatment to potentially ameliorate undesirable side effects.

Regulatory requirements governing gene and cell therapy products have evolved and may continue to change in the future, and the implications for mRNA-based medicines is unknown. For example, the FDA has established the Office of Tissues and Advanced Therapies within CBER to consolidate the review of gene therapy and related products, and convenes the Cellular, Tissue and Gene Therapies Advisory Committee to advise CBER on its review. In the European Union, mRNA has been characterized as a Gene Therapy Medicinal Product. In certain countries, mRNA therapies have not yet been classified or any such classification is not known to us. Specifically, in Japan, the Pharmaceuticals and Medical Devices Agency has not taken a position on the regulatory classification. Notwithstanding the differences between our mRNA product candidates and gene therapies, the classification of some of our mRNA product candidates as gene therapies in the United States, the European Union and potentially other counties could adversely impact our ability to develop our product candidates, and could negatively impact our platform and our business. For instance, a clinical hold on gene therapy products across the field due to risks associated with altering cell DNA irreversibly may apply to our mRNA product candidates irrespective of the mechanistic differences between gene therapies and mRNA.

Adverse events reported with respect to gene therapies or genome editing therapies could adversely impact one or more of our programs. Although our mRNA product candidates are designed not to make any permanent changes to cell DNA, regulatory agencies or others could believe that adverse effects of gene therapy products caused by introducing new DNA and irreversibly changing the DNA in a cell could also be a risk for our mRNA investigational therapies, and as a result may delay one or more of our trials or impose additional testing for long-term side effects. Any new requirements and guidelines promulgated by regulatory review agencies may have a negative effect on our business by lengthening the regulatory review process, requiring us to perform additional or larger studies, or increasing our development costs, any of which could lead to changes in regulatory positions and interpretations, delay or prevent advancement or approval and commercialization of our product candidates or lead to significant post-approval studies, limitations or restrictions. As we advance our product candidates, we will be required to consult with these regulatory agencies and advisory committees and comply with applicable requirements and guidelines. If we fail to do so, we may be required to delay or discontinue development of some or all of our product candidates.

Risks Related to Our Common Shares and the Offering

There is no existing market for our common shares, and we do not know whether one will develop to provide you with adequate liquidity. If our share price fluctuates after this offering, you could lose a significant part of your investment, and you may not be able to sell your common shares at or above the initial public offering price.

Prior to this offering, there has not been a public market for our common shares. If an active trading market does not develop, you may have difficulty selling any of our common shares that you buy. We cannot predict the extent to which investor interest in our company will lead to the development of an active trading market on The Nasdaq Global Market, or otherwise, or how liquid that market might become. The initial public offering price for the common shares will be determined by negotiations between us and the underwriters and may not be indicative of prices that will prevail in the open market following this offering. Consequently, you may not be able to sell our common shares at prices equal to or greater than the price paid by you in this offering. In addition to the risks described above, the market price of our common shares may be influenced by many factors, some of which are beyond our control, including:

- the failure of financial analysts to cover our common shares after this offering or changes in financial estimates by analysts;
- actual or anticipated variations in our operating results;
- changes in financial estimates by financial analysts, or any failure by us to meet or exceed any of these estimates, or changes in the recommendations of any financial analysts that elect to follow our common shares or the shares of our competitors;
- announcements by us or our competitors of significant contracts or acquisitions;
- future sales of our shares; and
- investor perceptions of us and the industries in which we operate.

These and other factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, the stock market in general has from time to time experienced extreme price and volume fluctuations, including in recent months, that have often been unrelated or disproportionate to the operating performance of particular companies affected. These broad market and industry factors may materially harm the market price of our common shares, regardless of our operating performance. In the past, following periods of volatility in the market price of certain companies' securities, securities class action litigation has been instituted against these companies. This litigation, if instituted against us, could adversely affect our financial condition or results of operations.

Sales of substantial amounts of our common shares in the public market, or the perception that these sales may occur, could cause the market price of our common shares to decline.

Sales of substantial amounts of our common shares in the public market, or the perception that these sales may occur, could cause the market price of our common shares to decline. This could also impair our ability to raise additional capital through the sale of our equity securities. Under our articles of association as they will read upon the closing of this offering, we will be authorized to issue up to common shares, of which common shares will be outstanding following this offering. We have agreed with the underwriters, subject to certain exceptions, not to offer, sell, or dispose of any shares of our share capital or securities convertible into or exchangeable or exercisable for any shares of our share capital during the 180-day period following the date of this prospectus. Our managing directors and our supervisory directors, as well as certain of our existing shareholders, have agreed to substantially similar lock-up provisions, subject to certain exceptions. Following the expiration of the lock-up period, our existing shareholders may determine to sell their common shares, subject to certain restrictions. See "Description of Share Capital and Articles of Association." We cannot predict the size of future issuances of our shares or the effect, if any, that future sales and issuances of shares would have on the market price of our common shares.

The trading price of our common shares may in the future be highly volatile, which could result in substantial losses for purchasers of our common shares in this offering, and a decline in our share price and invite securities litigation against our company or our management.

Our share price is likely to be highly volatile. The stock market in general and the market for smaller pharmaceutical and biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common shares at or above the public offering price and you may lose some or all of your investment. The market price for our common shares may be influenced by many factors, including:

- the results of our ongoing, planned or any future preclinical studies, clinical trials or clinical development programs;
- the timing, enrollment and results of clinical trials of our product candidates or any future clinical trials we may conduct, or changes in the development status of our product candidates;
- adverse results or delays in preclinical studies and clinical trials;
- regulatory actions with respect to our product candidates or our competitors' products and product candidates;
- the success of existing or new competitive products or technologies;
- any delay in our development or regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings, including without limitation the FDA's issuance of a "refusal to file" letter or a request for additional information;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;
- commencement or termination of collaborations for our development programs;
- failure or discontinuation of any of our development programs;
- unanticipated serious safety concerns related to the use of our product candidates;
- our failure to commercialize our product candidates;
- results of clinical trials of product candidates of our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key scientific or management personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- successful manufacturing of our products;
- the results of our efforts to develop additional product candidates or products;
- actual or anticipated changes in estimates as to financial results or development timelines;
- our cash position;
- trading volume of our common shares;
- announcement or expectation of additional financing efforts;
- sales of our common shares by us, our insiders or other shareholders;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in accounting practices or the ineffectiveness of our internal controls;

- changes in estimates or recommendations by securities analysts, if any, that cover our shares, or the withdrawal of research coverage by securities analysts;
- significant lawsuits, including patent or shareholder litigation;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors specifically;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

In the past, securities class action litigation has often been brought against a company and its management following a decline in the market price of its securities. This risk is especially relevant for biopharmaceutical companies, which have experienced significant share price volatility in recent years. Such litigation, if instituted against us, could cause us or members of our management to incur substantial costs and divert management's attention and resources from our business.

In addition, the trading prices for common stock of other biopharmaceutical companies have been highly volatile as a result of the COVID-19 pandemic. The COVID-19 outbreak continues to rapidly evolve. The extent to which the outbreak may impact our business, preclinical studies and clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence.

We have broad discretion in the use of the net proceeds received by us from this offering and may invest or spend the proceeds in ways with which you do not agree and in ways that may not yield a return on your investment.

Although we currently intend to use the net proceeds received by us from this offering in the manner described in the section titled "Use of Proceeds" in this prospectus, our management has broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common shares. For example, we intend to use the net proceeds received by us from this offering, together with cash and cash equivalents on hand, to pursue the approval of our product candidates for a number of indications, some of which may never reach approval, as well as for general corporate purposes. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering. The failure by our management to apply these funds effectively could result in financial losses that could harm our business, cause the price of our common shares to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

Concentration of ownership by our principal shareholders may conflict with your interest and may prevent you from influencing significant corporate decisions.

Upon the completion of this offering, and after giving effect to (i) the consummation of the KfW Investment and (ii) our corporate reorganization, our principal shareholders dievini Hopp BioTech holding GmbH & Co. KG, Walldorf, or dievini, will beneficially own approximately % of our common shares, and KfW will beneficially own approximately % of our common shares, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same (or % and %, respectively, if the underwriters exercise in full their option to purchase additional shares).

In addition, dievini (or its legal successor) will have the right under our articles of association to make a binding nomination for the following number of supervisory directors as of the closing of this offering until it ceases to own at least 10% of our issued share capital or an earlier change of control over dievini (or its legal successor) as defined by our articles of association, which period we refer to as the initial nomination period:

- four (4) supervisory directors for as long as dievini (or its legal successor) owns at least 70% of our issued share capital;
- three (3) supervisory directors for as long as dievini (or its legal successor) owns at least 50% (but less than 70%) of our issued share capital;

- two (2) supervisory directors for as long as dievini (or its legal successor) owns at least 30% (but less than 50%) of our issued share capital; and
- one (1) supervisory director for as long as dievini (or its legal successor) owns at least 10% (but less than 30%) of our issued share capital.

Dievini and Mr. Dietmar Hopp may be able to significantly influence all matters requiring shareholder approval. Even when dievini ceases to own common shares representing a majority of the total voting power, for so long as dievini continues to own a significant percentage of our common shares, dievini will still be able to significantly influence the composition of our supervisory board and the approval of actions requiring shareholder approval. Accordingly, for such period of time, dievini will continue to have significant influence with respect to our management, business plans and policies, including the appointment and removal of our managing directors, decisions on whether to raise future capital and amending our organizational documents, which govern the rights attached to our common shares. In particular, for so long as dievini continues to own a significant percentage of common shares, it will be able to cause or prevent a change of control of us or a change in the composition of our supervisory board and could preclude any unsolicited acquisition of us.

In addition, KfW (or its legal successor) will have the right under our articles of association to make a binding nomination for one (1) supervisory director until it ceases to own at least 10% of our issued share capital. The shareholders' agreement between KfW, dievini and Mr. Hopp includes provisions relating to voting together and in a coordinated fashion on certain specified matters as further described under "Related Party Transactions."

The concentration of ownership and these nomination rights could deprive you of an opportunity to receive a premium for your common shares as part of a sale of us and ultimately might affect the market price of our common shares. In addition, the concentration of voting power and these nomination rights could delay or prevent an acquisition of our company on terms that other shareholders may desire or result in the management of our company in ways with which other shareholders disagree.

Transformation into a public company may increase our costs and disrupt the regular operations of our business.

This offering will have a significant transformative effect on us. Our business historically has operated as a privately owned company, and we expect to incur significant additional legal, accounting, reporting and other expenses as a result of having publicly traded common shares. We will also incur costs which we have not incurred previously, including, but not limited to, costs and expenses for managing directors' and supervisory directors' fees, increased directors and officers insurance, investor relations, and various other costs of a public company.

We also anticipate that we will incur costs associated with corporate governance requirements, including requirements under the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act, as well as rules implemented by the SEC and Nasdaq. We expect these rules and regulations to increase our legal and financial compliance costs and make some management and corporate governance activities more time-consuming and costly, particularly after we are no longer an "emerging growth company." These rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance, and we may be required to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. This could have an adverse impact on our ability to retain, recruit and bring on a qualified independent supervisory board. We expect that the additional costs we will incur as a public company, including costs associated with corporate governance requirements, will be considerable relative to our costs as a private company.

The additional demands associated with being a public company may disrupt regular operations of our business by diverting the attention of some of our senior management team away from revenue producing activities to management and administrative oversight, adversely affecting our ability to attract and complete business opportunities and increasing the difficulty in both retaining professionals and managing and growing our businesses. Any of these effects could harm our business, financial condition and results of operations.

For as long as we are an "emerging growth company" under the recently enacted JOBS Act, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. We could be an emerging growth company for up to five years. See "Prospectus Summary — Implications of Being an Emerging Growth Company." Furthermore, after the date we are no longer an emerging growth company, our independent registered public accounting firm will only be required to attest to the effectiveness of our internal control over financial reporting depending on our market capitalization. Even if our management concludes that our internal controls over financial reporting are effective, our independent registered public accounting firm may still decline to attest to our management's assessment or may issue a report that is qualified if it is not satisfied with our controls or the level at which our controls are documented, designed, operated or reviewed, or if it interprets the relevant requirements differently from us. In addition, in connection with the implementation of the necessary procedures and practices related to internal control over financial reporting, we may identify deficiencies that we may not be able to remediate in time to meet the deadline imposed by the Sarbanes-Oxley Act for compliance with the requirements of Section 404. Failure to comply with Section 404 could subject us to regulatory scrutiny and sanctions, impair our ability to raise revenue, cause investors to lose confidence in the accuracy and completeness of our financial reports and negatively affect our share price.

We are a foreign private issuer and, as a result, we are not subject to U.S. proxy rules and are subject to Exchange Act reporting obligations that, to some extent, are more lenient and less frequent than those of a U.S. domestic public company.

We report under the Securities Exchange Act of 1934, as amended, or the Exchange Act, as a non-U.S. company with foreign private issuer status. Because we qualify as a foreign private issuer under the Exchange Act, we are exempt from certain provisions of the Exchange Act that are applicable to U.S. domestic public companies, including (i) the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations in respect of a security registered under the Exchange Act, (ii) the sections of the Exchange Act requiring insiders to file public reports of their share ownership and trading activities and liability for insiders who profit from trades made in a short period of time and (iii) the rules under the Exchange Act requiring the filing with the SEC of quarterly reports on Form 10-Q containing unaudited financial and other specified information, or current reports on Form 8-K, upon the occurrence of specified significant events. In addition, foreign private issuers are not required to file their annual report on Form 20-F until four months after the end of each fiscal year, while U.S. domestic issuers that are accelerated filers are required to file their annual report on Form 10-K within 75 days after the end of each fiscal year. Foreign private issuers are also exempt from the Regulation Fair Disclosure, aimed at preventing issuers from making selective disclosures of material information. As a result of the above, you may not have the same protections afforded to shareholders of companies that are not foreign private issuers.

We may lose our foreign private issuer status which would then require us to comply with the Exchange Act's domestic reporting regime and cause us to incur significant legal, accounting and other expenses.

We are a foreign private issuer and therefore we are not required to comply with all of the periodic disclosure and current reporting requirements of the Exchange Act applicable to U.S. domestic issuers. If in the future we are not a foreign private issuer as of the last day of the second fiscal quarter in any fiscal year, we would be required to comply with all of the periodic disclosure, current reporting requirements and proxy solicitation rules of the Exchange Act applicable to U.S. domestic issuers. In order to maintain our current status as a foreign private issuer, either (a) a majority of our common shares must be either directly or indirectly owned of record by non-residents of the United States or (b)(i) a majority of our managing directors, supervisory directors and executive officers may not be United States citizens or residents, (ii) more than 50% of our assets cannot be located in the United States and (iii) our business must be administered principally outside the United States. If we were to lose this status, we would be required to comply with the Exchange Act reporting and other requirements applicable to U.S. domestic issuers, which are more detailed and extensive than the requirements for foreign private issuers. We may also be required to make changes in our corporate governance practices in accordance with various SEC and stock exchange rules. The regulatory and compliance costs to us if we are required to comply with the reporting requirements applicable to a U.S. domestic issuer may be significantly higher than the costs we would incur as a foreign private issuer. As a result, we expect that a loss of foreign private issuer status would increase our legal and

financial compliance costs and would make some activities highly time consuming and costly. These rules and regulations could also make it more difficult for us to attract and retain qualified managing directors and supervisory directors.

As a foreign private issuer and as permitted by the listing requirements of Nasdaq, we follow certain home country governance practices rather than the corporate governance requirements of Nasdaq.

We are a foreign private issuer. As a result, in accordance with the listing requirements of Nasdaq we will rely on home country governance requirements and certain exemptions thereunder rather than relying on the corporate governance requirements of Nasdaq. In accordance with Dutch law and generally accepted business practices, our articles of association do not provide quorum requirements generally applicable to general meetings. To this extent, our practice varies from the requirement of Nasdaq Listing Rule 5620(c), which requires an issuer to provide in its bylaws for a generally applicable quorum, and that such quorum may not be less than one-third of the outstanding voting shares. Although we must provide shareholders with an agenda and other relevant documents for the general meeting, Dutch law does not have a regulatory regime for the solicitation of proxies and the solicitation of proxies is not a generally accepted business practice in the Netherlands, thus our practice will vary from the requirement of Nasdaq Listing Rule 5620(b). As permitted by the listing requirements of Nasdaq, we have also opted out of the requirements of Nasdaq Listing Rule 5605(d), which requires, among other things, an issuer to have a compensation committee that consists entirely of independent directors, Nasdaq Listing Rule 5605(e), which requires independent director oversight of director nominations, and Nasdaq Listing Rule 5605(b)(1), which requires an issuer to have a majority of independent directors on its board. We will also rely on the phase-in rules of the SEC and Nasdaq with respect to the independence of our audit committee. These rules require that a majority of our supervisory directors must be independent and all members of our audit committee must meet the independence standard for audit committee members within one year of the effectiveness of the registration statement of which this prospectus forms a part. In addition, we have opted out of shareholder approval requirements, as included in the Nasdaq Listing Rules, for the issuance of securities in connection with certain events such as the acquisition of shares or assets of another company, the establishment of or amendments to equity-based compensation plans for employees, a change of control of our company and certain private placements. To this extent, our practice varies from the requirements of Nasdaq Rule 5635, which generally requires an issuer to obtain shareholder approval for the issuance of securities in connection with such events. For an overview of our corporate governance principles, see "Description of Share Capital and Articles of Association." Accordingly, you may not have the same protections afforded to shareholders of companies that are subject to these Nasdaq requirements.

Although we do not believe that we were a "passive foreign investment company," or a PFIC, for U.S. federal income tax purposes for our 2019 taxable year, we have not yet determined our expected PFIC status for the current taxable year or any future taxable year. A U.S. holder of common shares may suffer adverse U.S. federal income tax consequences if we are a PFIC for any taxable year.

Under the Internal Revenue Code of 1986, as amended, or the Code, we will generally be a PFIC for any taxable year in which, after the application of certain look-through rules with respect to subsidiaries, either (i) 75% or more of our gross income consists of "passive income," or (ii) 50% or more of the average quarterly value of our assets consists of assets that produce, or are held for the production of, "passive income." Passive income generally includes dividends, interest, certain non-active rents and royalties, and capital gains. The value of a non-U.S. corporation's goodwill that is associated with activities that produce or are intended to produce active income is generally an active asset for purposes of the asset test unless, for U.S. federal income tax purposes, the non-U.S. corporation is a "controlled foreign corporation" (CFC) that is not publicly traded "for the taxable year." If a non-U.S. corporation is a CFC that is not publicly traded for the taxable year, its PFIC status under the asset test is determined by using the U.S. tax basis of its assets rather than their fair market value and therefore the market value of its goodwill is generally disregarded. Generally, a non-U.S. corporation is a CFC if more than 50% of its shares' voting power or value is owned, directly, indirectly or constructively, by "United States shareholders" (as defined in Section 951(b) of the Code). Although it is not certain, we may be or may have been a CFC in the current taxable year. However, under recently proposed Treasury regulations (the preamble to which specifies that a taxpayer may generally choose to apply them in their entirety prior to their finalization provided that the taxpayer consistently applies them), or the Proposed Regulations, the fair market value of our assets (including

goodwill) can be used for purposes of the asset test provided that (i) we are publicly traded on the majority of days during our taxable year or (ii) we would not be a CFC if certain constructive ownership rules were not applied. Although no assurances may be given in this regard, we expect that we would be eligible in our 2020 taxable year to use the fair market value of our assets for purposes of the asset test, and U.S. investors are urged to consult their tax advisers whether they could apply the Proposed Regulations for purposes of the asset test. The remainder of this discussion assumes that U.S. Holders will choose to apply the Proposed Regulations in their entirety.

Based on the composition of our income and assets during 2019, we do not believe that we were a PFIC for our 2019 taxable year. However, PFIC status is a fact-intensive determination made on an annual basis after the end of each taxable year, and we have not yet determined our expected PFIC status for the current taxable year or any future taxable year. Whether we will be a PFIC in 2020 or any future year is uncertain because, among other things, (i) we currently own, and will own after the closing of this offering, a substantial amount of passive assets, including cash, (ii) the valuation of our assets that generate non-passive income for PFIC purposes, including our intangible assets, is uncertain and may vary substantially over time, (iii) the treatment of grants as income for U.S. federal income tax purposes is unclear, and (iv) the composition of our income may vary substantially over time. Accordingly, there can be no assurance that we will not be a PFIC in 2020 or any future taxable year.

If we are a PFIC for any taxable year during which a U.S. investor holds common shares, we generally would continue to be treated as a PFIC with respect to that U.S. investor for all succeeding years during which the U.S. investor holds common shares, even if we ceased to meet the threshold requirements for PFIC status. Such a U.S. investor may be subject to adverse U.S. federal income tax consequences, including (i) the treatment of all or a portion of any gain on disposition as ordinary income, (ii) the application of a deferred interest charge on such gain and the receipt of certain dividends and (iii) compliance with certain reporting requirements. There is no assurance that we will provide information that will enable investors to make a qualified electing fund election, also known as a QEF Election, that could mitigate the adverse U.S. federal income tax consequences should we be classified as a PFIC. See "Taxation — Material U.S. Federal Income Tax Considerations to U.S. Holders."

We are an "emerging growth company" and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common shares less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act. We cannot predict if investors will find our common shares less attractive because we will rely on these exemptions. We could be an emerging growth company for up to five years following the year in which we complete this offering, although circumstances could cause us to lose that status earlier. We would cease to be an emerging growth company upon the earliest to occur of (i) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer" with at least $700 million of equity securities; (iii) the issuance, in any three-year period, by our company of more than $1.0 billion in non-convertible debt securities held by non-affiliates; and (iv) the last day of the fiscal year ending after the fifth anniversary of our initial public offering.

In addition, Section 107 of the JOBS Act provides that an emerging growth company can use the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Given that we currently report and expect to continue to report under IFRS as issued by the IASB, we have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required by the IASB. Since IFRS makes no distinction between public and private companies for purposes of compliance with new or revised accounting standards, the requirements for our compliance as a private company and as a public company are the same.

We cannot predict if investors will find our common shares less attractive because we may rely on these exemptions. If some investors find our common shares less attractive as a result, there may be a less active trading market for our common shares and our share price may be more volatile.

Insiders will continue to have substantial control over us after this offering and could limit your ability to influence the outcome of key transactions, including a change of control.

Our principal shareholders, managing directors, supervisory directors and executive officers and entities affiliated with them will own approximately % of the outstanding common shares after the closing of this offering. As a result, these shareholders, if acting together, would be able to influence or control matters requiring approval by our general meeting, including the appointment of managing directors and supervisory directors, changes to our articles of association and approval of mergers or other extraordinary transactions. They may also have interests that differ from yours and may vote in a way with which you disagree and which may be adverse to your interests. The concentration of ownership may have the effect of delaying, preventing or deterring a change of control of our company, could deprive our shareholders of an opportunity to receive a premium for their common shares as part of a sale of our company and might ultimately affect the market price of our common shares.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our share price and trading volume could decline.

The trading market for our common shares will depend in part on the research and reports that securities or industry analysts publish about us or our business. Securities and industry analysts do not currently, and may never, publish research on our company. If no securities or industry analysts commence coverage of our company, the trading price for our common shares would likely be negatively impacted. In the event securities or industry analysts initiate coverage, if one or more of the analysts who cover us downgrades our common shares or publishes inaccurate or unfavorable research about our business, our share price may decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our shares could decrease, which might cause our share price and trading volume to decline.

We do not anticipate paying any cash dividends in the foreseeable future.

We currently intend to retain our future earnings, if any, for the foreseeable future, to fund the development and growth of our business. We do not intend to pay any dividends to holders of our common shares. As a result, capital appreciation in the price of our common shares, if any, will be your only source of gain on an investment in our common shares.

If we do pay dividends, we may need to withhold tax on such dividends payable to holders of our shares in both Germany and the Netherlands.

We do not intend to pay any dividends to holders of our common shares. See “Risk Factors — We do not anticipate paying any cash dividends in the foreseeable future.” However, if we do pay dividends, we may need to withhold tax on such dividends both in Germany and the Netherlands.

As an entity incorporated under Dutch law, any dividends distributed by us are subject to Dutch dividend withholding tax on the basis of Dutch domestic law. However, on the basis of the 2012 Convention between the Federal Republic of Germany and the Kingdom of the Netherlands for the avoidance of double taxation with respect to taxes on income, or the “double tax treaty between Germany and the Netherlands,” the Netherlands will be restricted in imposing these taxes if we are also a tax resident of Germany and our effective management is located in Germany, or the withholding tax restriction. See also “— We may become taxable in a jurisdiction other than Germany and this may increase the aggregate tax burden on us.” The withholding tax restriction does, however, not apply, and Dutch dividend withholding tax is still required to be withheld from dividends, if and when paid to Dutch resident holders of our common shares (and non-Dutch resident holders of our common shares that have a permanent establishment in the Netherlands to which their shareholding is attributable). As a result, upon a payment of dividends, we will be required to identify our shareholders in order to assess whether there are Dutch residents (or non-Dutch residents with a permanent establishment in the Netherlands to which the common shares are attributable) in respect of which Dutch dividend tax has to be withheld. Such identification may not always be possible in practice. If the identity of our shareholders cannot be determined, withholding of both German and Dutch dividend tax may occur upon a payment of dividends.

Furthermore, the withholding tax restriction referred to above is based on the current reservation made by Germany under the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting, or the MLI, with respect to the tie-breaker provision included in Article 4(3) of the double tax treaty between Germany and the Netherlands, or the MLI tie-breaker reservation. If Germany changes its MLI tie-breaker reservation, we will not be entitled to any benefits of the double tax treaty between Germany and the Netherlands, including the withholding tax restriction, as long as Germany and the Netherlands do not reach an agreement on our tax residency for purposes of the double tax treaty between Germany and the Netherlands, and, as a result, any dividends distributed by us during the period no such agreement has been reached between Germany and the Netherlands, may be subject to withholding tax both in Germany and the Netherlands.

Our ability to use our net operating loss carryforwards and other tax attributes may be limited.

Our ability to utilize our net operating losses, or NOLs, is currently limited, and may be limited further, under Section 8c of the German Corporation Income Tax Act (*Korperschaftsteuergesetz*, or KStG) and Section 10a of the German Trade Tax Act (*Gewerbesteuergesetz*, or GewStG). These limitations apply if a qualified ownership change, as defined by Section 8c KStG, occurs and no exemption is applicable.

Generally, a qualified ownership change occurs if more than 50% of the share capital or the voting rights are directly or indirectly transferred to a shareholder or a group of shareholders within a period of five years. A qualified ownership change may also occur in case of a transaction comparable to a transfer of shares or voting rights or in case of an increase in capital leading to a respective change in the shareholding. In the case of such a qualified ownership change tax loss carryforwards expire in full. To the extent that the tax loss carryforwards do not exceed the built-in gains (*stille Reserven*) in the assets and liabilities taxable in Germany, they may be further utilized despite a qualified ownership change. In case of a qualified ownership change within a group, tax loss carryforwards will be preserved if certain conditions are satisfied. In case of a qualified ownership change, tax loss carryforwards will be preserved (in the form of a "fortfuhrungsgebundener Verlustvortrag") if the business operations have not been changed and will not be changed within the meaning of Section 8d KStG.

According to an appeal filed by the fiscal court of Hamburg dated August 29, 2017, Section 8c, paragraph 1, sentence 1 KStG is not in line with the German constitution. The appeal is still pending. It is unclear when the Federal Constitutional Court will decide this case.

As of December 31, 2019, there are NOLs of CureVac AG and CureVac Real Estate GmbH for German corporate tax purposes of approximately €413,325,000 (€398,322,000 for CureVac AG and €15,003,000 for CureVac Real Estate GmbH) and for German trade tax purposes of approximately €411,014,000 (€396,342,000 for CureVac AG and €14,672,000 for CureVac Real Estate GmbH) available. The intended contribution of 100% of CureVac AG's shares into CureVac B.V. qualifies as an ownership change within the meaning of Section 8c KStG and Section 10a GewStG. The available tax loss carryforwards of CureVac AG and CureVac Real Estate GmbH will generally expire in full.

Future changes in share ownership may also trigger an ownership change and, consequently, a Section 8c KStG or a Section 10a GewStG limitation. Any limitation may result in the expiration of a portion or the complete tax operating loss carryforwards before they can be utilized. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to reduce German income tax may be subject to limitations, which could potentially result in increased future cash tax liability to us.

Investors purchasing common shares in this offering will experience immediate and substantial dilution as a result of this offering and any future equity issuances.

The initial public offering price of our common shares is substantially higher than the pro forma net tangible book value per common share. Dilution is the difference between the initial public offering price per common share and the pro forma net tangible book value per common share after this offering. If you purchase common shares in this offering, you will incur immediate and substantial dilution in the amount of $ per common share. We also have approximately outstanding share options to

purchase common shares with exercise prices that are below the assumed initial public offering price of the common shares. To the extent that these options are exercised, there will be further dilution. See "Dilution."

Shareholders may not be able to exercise preemptive rights and, as a result, may experience substantial dilution upon future issuances of common shares.

In the event of an issuance of common shares, subject to certain exceptions, each shareholder will have a pro rata preemptive right in proportion to the aggregate nominal value of the common shares held by such holder. These preemptive rights may be restricted or excluded by a resolution of the general meeting or by another corporate body designated by the general meeting. Prior to the closing of this offering, our management board, subject to approval of our supervisory board, will be authorized, for a period of five years to issue shares or grant rights to subscribe for shares up to our authorized share capital from time to time and to limit or exclude preemptive rights in connection therewith. This could cause existing shareholders to experience substantial dilution of their interest in us.

We may become taxable in a jurisdiction other than Germany and this may increase the aggregate tax burden on us.

Since our incorporation we have had, on a continuous basis, our place of "effective management" in Germany. We will therefore qualify as a tax resident of Germany on the basis of German domestic law. As an entity incorporated under Dutch law, however, we also qualify as a tax resident of the Netherlands on the basis of Dutch domestic law. However, based on our current management structure and the current tax laws of the United States, Germany and the Netherlands, as well as applicable income tax treaties, and current interpretations thereof, we should qualify solely as a tax resident of Germany for the purposes of the double tax treaty between Germany and the Netherlands due to the "effective management" tie-breaker included in Article 4(3) of the double tax treaty between Germany and the Netherlands.

The test of "effective management" is largely a question of fact and degree based on all the circumstances, rather than a question of law. Nevertheless, the relevant case law and OECD guidance suggest that our company is likely to be regarded as having become German tax resident from incorporation and remaining so if, as our company intends, (i) most meetings of its management board are prepared and held in Germany (and none will be held in the Netherlands) with a majority of managing directors present in Germany for those meetings; (ii) at those meetings there are full discussions of, and decisions are made regarding, the key strategic issues affecting our company and its subsidiaries; (iii) those meetings are properly minuted; (iv) a majority of our managing directors, together with supporting staff, are based in Germany; and (v) our company has permanent staffed office premises in Germany. We may, however, become subject to limited income tax liability in other countries with regard to the income generated in the respective other country, for example, due to the existence of a permanent establishment or a permanent representative in such other country.

The applicable tax laws or interpretations thereof may change. Furthermore, whether we have our place of effective management in Germany and are as such tax resident in Germany is largely a question of fact and degree based on all the circumstances, rather than a question of law, which facts and degree may also change. Changes to applicable laws or interpretations thereof, changes to applicable facts and circumstances (for example, a change of directors or the place where board meetings take place), or changes to applicable income tax treaties, including a change to the MLI tie-breaker reservation, may result in us becoming (also) a tax resident of the Netherlands or another jurisdiction. See "— If we do pay dividends, we may need to withhold tax on such dividends payable to holders of our shares in both Germany and the Netherlands." As a consequence, our overall effective income tax rate and income tax expense could materially increase, which could have a material adverse effect on our business, results of operations, financial condition and prospects, which could cause our share price and trading volume to decline. In addition, as a consequence, dividends distributed by us, if any, may become subject to dividend withholding tax in more than one jurisdiction. The double taxation of income and the double withholding tax on dividends may be reduced or avoided entirely under the double tax treaty between Germany and the Netherlands or under a double tax treaty between the Netherlands and the respective other country.

Claims of U.S. civil liabilities may not be enforceable against us.

We are incorporated under the laws of the Netherlands, and our headquarters is located in Germany. Most of our assets are located outside the United States. The majority of our managing directors and supervisory directors reside outside the United States. As a result, it may not be possible for investors to effect service of process within the United States upon such persons or to enforce against them or us in U.S. courts, including judgments predicated upon the civil liability provisions of the federal securities laws of the United States.

There is currently no treaty between the United States and the Netherlands for the mutual recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters. Therefore, a final judgment for the payment of money rendered by any federal or state court in the United States based on civil liability, whether or not predicated solely upon the U.S. federal securities laws, would not be enforceable in the Netherlands unless the underlying claim is relitigated before a Dutch court of competent jurisdiction. Under current practice, however, a Dutch court will generally, subject to compliance with certain procedural requirements, grant the same judgment without a review of the merits of the underlying claim if such judgment (i) is a final judgment and has been rendered by a court which has established its jurisdiction vis-à-vis the relevant Dutch companies or Dutch company, as the case may be, on the basis of internationally accepted grounds of jurisdiction, (ii) has not been rendered in violation of principles of proper procedure (*behoorlijke rechtspleging*), (iii) is not contrary to the public policy of the Netherlands, and (iv) is not incompatible with (a) a prior judgment of a Dutch court rendered in a dispute between the same parties, or (b) a prior judgment of a foreign court rendered in a dispute between the same parties, concerning the same subject matter and based on the same cause of action, provided that such prior judgment is capable of being recognized in the Netherlands and except to the extent that the foreign judgment contravenes Dutch public policy (*openbare orde*). Dutch courts may deny the recognition and enforcement of punitive damages or other awards. Moreover, a Dutch court may reduce the amount of damages granted by a U.S. court and recognize damages only to the extent that they are necessary to compensate actual losses or damages. Enforcement and recognition of judgments of U.S. courts in the Netherlands are solely governed by the provisions of the Dutch Code of Civil Procedure.

The United States and Germany currently do not have a treaty providing for the reciprocal recognition and enforcement of judgments, in civil and commercial matters. Consequently, a final judgment for payment or declaratory judgments given by a court in the United States, whether or not predicated solely upon U.S. securities laws, would not automatically be recognized or enforceable in Germany. German courts may deny the recognition and enforcement of a judgment rendered by a U.S. court if they consider the U.S. court not to be competent or the decision to be in violation of German public policy principles. For example, judgments awarding punitive damages are generally not enforceable in Germany. A German court may reduce the amount of damages granted by a U.S. court and recognize damages only to the extent that they are necessary to compensate actual losses or damages.

In addition, actions brought in a German court against us, our managing directors, our supervisory directors, our senior management and the experts named herein to enforce liabilities based on U.S. federal securities laws may be subject to certain restrictions. In particular, German courts generally do not award punitive damages. Litigation in Germany is also subject to rules of procedure that differ from the U.S. rules, including with respect to the taking and admissibility of evidence, the conduct of the proceedings and the allocation of costs. German procedural law does not provide for pre-trial discovery of documents, nor does Germany support pre-trial discovery of documents under the 1970 Hague Evidence Convention. Proceedings in Germany would have to be conducted in the German language and all documents submitted to the court would, in principle, have to be translated into German. For these reasons, it may be difficult for a U.S. investor to bring an original action in a German court predicated upon the civil liability provisions of the U.S. federal securities laws against us, our managing directors, our supervisory directors, our senior management and the experts named in this prospectus.

Based on the foregoing, there can be no assurance that U.S. investors will be able to enforce against us or managing directors, supervisory directors, executive officers or certain experts named herein who are residents of or possessing assets in the Netherlands, Germany, or other countries other than the United States any judgments obtained in U.S. courts in civil and commercial matters, including judgments under the U.S. federal securities laws.

Upon the closing of this offering, we will be a Dutch public company. The rights of our shareholders may be different from the rights of shareholders in companies governed by the laws of U.S. jurisdictions and may not protect investors in a similar fashion afforded by incorporation in a U.S. jurisdiction.

Upon the closing of this offering, we will be a public company (*naamloze vennootschap*) organized under the laws of the Netherlands. Our corporate affairs are governed by our articles of association and by the laws governing companies incorporated in the Netherlands. However, there can be no assurance that Dutch law will not change in the future or that it will serve to protect investors in a similar fashion afforded under corporate law principles in the United States, which could adversely affect the rights of investors.

The rights of shareholders and the responsibilities of managing directors and supervisory directors may be different from the rights and obligations of shareholders and directors in companies governed by the laws of U.S. jurisdictions. In the performance of their duties, our managing directors and supervisory directors are required by Dutch law to consider the interests of our company, its shareholders, its employees and other stakeholders, in all cases with due observation of the principles of reasonableness and fairness. It is possible that some of these parties will have interests that are different from, or in addition to, your interests as a shareholder.

For more information on relevant provisions of Dutch corporation law and of our articles of association, see “Description of Share Capital and Articles of Association” and “Comparison of Dutch Corporate Law and U.S. Corporate Law.”

Provisions of our articles of association or Dutch corporate law might deter acquisition bids for us that might be considered favorable and prevent, delay or frustrate any attempt to replace or remove our managing directors or supervisory directors.

Under Dutch law, various protective measures are possible and permissible within the boundaries set by Dutch law and Dutch case law. In this respect, our general meeting shall authorize our management board, subject to the approval by our supervisory board, to grant a call option to an independent foundation under Dutch law (if and when incorporated), or protective foundation, to acquire preferred shares pursuant to a call option agreement, or the call option agreement, that may be entered into between us and such protective foundation after dievini (or its legal successor) ceases to own at least 25% of our issued share capital (or an earlier change of control over dievini, as defined in our articles of association), which we refer to as the initial period.

This call option, if and when granted, shall be continuous in nature and can be exercised repeatedly on multiple occasions. If the protective foundation, if and when incorporated, would exercise such call option, if and when granted, a number of preferred shares up to 100% of our issued share capital held by others than the protective foundation, minus one share, will be issued to the protective foundation. These preferred shares would then be issued to the protective foundation under the obligation to pay up 25% of their nominal value upon issuance. In order for the protective foundation to finance the issue price in relation to the preferred shares, the protective foundation may enter into a finance arrangement with a bank or other financial institution. As an alternative to securing this external financing, subject to applicable restrictions under Dutch law, the call option agreement, if and when entered into, will provide that the protective foundation may request us to provide, or cause our subsidiaries to provide, sufficient funding to the protective foundation to enable it to satisfy the payment obligation (or part thereof) in cash and/or to charge an amount equal to the payment obligation (or part thereof) against our profits and/or reserves in satisfaction of such payment obligation. The articles of association of the protective foundation, if and when incorporated, will provide that it will promote and protect the interests of the company, the business connected with the company and the company's stakeholders from time to time, and repressing possible influences which could threaten the strategy, continuity, independence and/or identity of the company or the business connected with it, to such an extent that this could be considered to be damaging to the aforementioned interests. These influences may include a third party acquiring a significant percentage of our common shares, the announcement of an unsolicited public offer for our common shares, shareholder activism, other concentration of control over our common shares or any other form of undue pressure on us to alter our strategic policies. The protective foundation, if and when incorporated, shall be structured to operate independently of us.

The voting rights of our shares are based on nominal value and, as we expect our common shares to trade substantially in excess of their nominal value, preferred shares issued at 25% of their nominal value can carry significant voting power for a substantially reduced price compared to the price of our common shares and thus can be used as a defensive measure. These preferred shares, if and when issued, will have both a liquidation and dividend preference over our common shares and will accrue cash dividends at a fixed rate calculated over the amount paid-up on those preferred shares pro rata tempore for the period during which they were outstanding. The protective foundation would be expected to require us to cancel its preferred shares, if and when issued to the protective foundation, once the perceived threat to the company and its stakeholders has been removed or sufficiently mitigated or neutralized. However, subject to the same limitations described above, the protective foundation would, in that case, continue to have the right to exercise the call option in the future in response to a new threat to the interests of us, our business and our stakeholders from time to time.

In addition, certain provisions of our articles of association may make it more difficult for a third-party to acquire control of us or effect a change in our management board and supervisory board. These include:

- a provision that our managing directors and supervisory directors are appointed on the basis of a binding nomination which can only be overruled by a simple majority of votes cast representing at least one-third of our issued share capital;
- a provision that our managing directors and supervisory directors may only be dismissed by the general meeting by a two-thirds majority of votes cast representing more than 50% of our issued share capital (unless the dismissal is proposed by the supervisory board or, during the initial period with respect to supervisory directors, by dievini (or its legal successor), in which case a simple majority of the votes would be sufficient);
- a provision allowing, among other matters, the former chairman of our supervisory board or our former CEO, as applicable, to manage our affairs if all of our managing directors and supervisory directors are removed from office and to appoint others to be charged with the management and supervision of our affairs, until new managing directors and supervisory directors are appointed by the general meeting on the basis of a binding nomination discussed above; and
- a requirement that certain matters, including an amendment of our articles of association, may only be brought to our shareholders for a vote upon a proposal by our management board with the approval of our supervisory board.

In addition, Dutch law allows for staggered multi-year terms of our managing directors and supervisory directors, as a result of which only part of our managing directors and supervisory directors may be subject to appointment or re-appointment in any one year.

We are not obligated to, and do not, comply with all best practice provisions of the Dutch Corporate Governance Code.

Upon the closing of this offering, we will be subject to the Dutch Corporate Governance Code, or the DCGC. The DCGC contains both principles and best practice provisions on corporate governance that regulate relations between the management board, the supervisory board and the general meeting and matters in respect of financial reporting, auditors, disclosure, compliance and enforcement standards. The DCGC is based on a “comply or explain” principle. Accordingly, companies are required to disclose in their annual reports, filed in the Netherlands, whether they comply with the provisions of the DCGC. If they do not comply with those provisions (for example, because of a conflicting Nasdaq requirement), the company is required to give the reasons for such noncompliance. The DCGC applies to Dutch companies listed on a government-recognized stock exchange, whether in the Netherlands or elsewhere, including Nasdaq. We do not comply with all best practice provisions of the DCGC. See “Description of Share Capital and Articles of Association.” This may affect your rights as a shareholder and you may not have the same level of protection as a shareholder in a Dutch company that fully complies with the DCGC.

We and our independent registered public accountants have identified a material weakness in our internal control over financial reporting. If we are unable to remediate the material weakness, or if other control deficiencies are identified, we may not be able to report our financial results accurately, prevent fraud or file our periodic reports as a public company in a timely manner.

Prior to this offering, we have been operating as a private company that was not required to comply with the obligations of a public company with respect to internal controls over financial reporting. We have historically operated with limited accounting personnel and other resources with which to address our internal controls over financial reporting.

In connection with the audit of our consolidated financial statements for the years ended December 31, 2018 and 2019, we and our independent registered public accountants identified a material weakness in our internal control over financial reporting. A "material weakness" is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness that was identified was primarily related to (a) a lack of sufficient accounting and supervisory personnel who have the appropriate level of technical accounting experience and training and (b) a lack of consistent application of accounting processes and procedures. These deficiencies constitute a material weakness in our internal controls over financial reporting in both design and operation. As a result of the material weakness, we failed to identify adjustments in various areas, including but not limited to grants from government agencies and similar bodies and capitalization of tangible and intangible assets. Additionally, certain of our documentation was insufficient for assessment of critical accounting guidance for complex or judgmental areas, including share-based compensation. We have relied on the assistance of outside advisors with expertise in these matters to assist us in the preparation of our financial statements and in our compliance with SEC reporting obligations related to this offering and expect to continue to do so while we remediate this material weakness.

We have initiated a remediation plan to address this material weakness; however, our control environment can still be improved, and as a result, we may be exposed to errors. We plan to take additional steps to remediate the material weakness and improve our accounting function, including hiring of additional senior level and staff accountants to support the timely completion of financial close procedures, implement robust processes, and provide additional needed technical expertise, and in the interim, continuing to engage third parties as required to assist with technical accounting, application of new accounting standards, tax matters and valuations of equity instruments. Additionally, we intend to develop and implement consistent accounting policies, internal control procedures and provide additional training to our accounting and finance staff.

While we are working to remediate the weakness as quickly and efficiently as possible, we cannot at this time, provide an estimate of the timeframe we expect in connection with implementing our plan to remediate this material weakness. These remediation measures may be time consuming, costly, and might place significant demands on our financial and operational resources. If we are unable to successfully remediate this material weakness, or other material weaknesses occur in the future, or successfully supervise and rely on outside advisors with expertise in these matters to assist us in the preparation of our financial statements, our financial statements could contain material misstatements that, when discovered in the future, could cause us to fail to meet our future reporting obligations and cause the price of our shares to decline significantly.

As a result of becoming a public company, we will be obligated to develop and maintain proper and effective internal control over financial reporting in order to comply with Section 404 of the Sarbanes-Oxley Act. We may not complete our analysis of our internal control over financial reporting in a timely manner, or these internal controls may not be determined to be effective, which may adversely affect investor confidence in us and, as a result, the value of our common shares. In addition, because of our status as an emerging growth company, you will not be able to depend on any attestation from our independent registered public accountants as to our internal control over financial reporting for the foreseeable future.

When we become a public company following this initial public offering, we will be required by Section 404 of the Sarbanes-Oxley Act to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting in our second annual report following the completion of this offering. The process of designing and implementing internal control over financial

reporting required to comply with this requirement will be time-consuming, costly and complicated. If during the evaluation and testing process we identify one or more other material weaknesses in our internal control over financial reporting or determine that existing material weaknesses have not been remediated, our management will be unable to assert that our internal control over financial reporting is effective. See "— Our independent registered public accountants have identified a material weakness in our internal control over financial reporting. If we are unable to remediate the material weakness, or if other control deficiencies are identified, we may not be able to report our financial results accurately, prevent fraud or file our periodic reports as a public company in a timely manner." In addition, if we fail to achieve and maintain the adequacy of our internal controls, as such standards are modified, supplemented or amended from time to time, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal controls over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act.

Even if our management concludes that our internal control over financial reporting is effective, our independent registered public accounting firm may issue a report that is qualified if it is not satisfied with our controls or the level at which our controls are documented, designed, operated or reviewed. However, our independent registered public accounting firm will not be required to attest formally to the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act until the later of the filing of our second annual report following the completion of this offering or the date we are no longer an "emerging growth company," as defined in the JOBS Act. Accordingly, you will not be able to depend on any attestation concerning our internal control over financial reporting from our independent registered public accountants for the foreseeable future.

We cannot be certain as to the timing of completion of our evaluation, testing and any remediation actions or the impact of the same on our operations. If we are not able to implement the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner or with adequate compliance, our independent registered public accounting firm may issue an adverse opinion due to ineffective internal controls over financial reporting, and we may be subject to sanctions or investigation by regulatory authorities, such as the SEC. As a result, there could be a negative reaction in the financial markets due to a loss of confidence in the reliability of our financial statements. In addition, we may be required to incur costs in improving our internal control system and the hiring of additional personnel. Any such action could negatively affect our results of operations and cash flows.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains statements that constitute forward-looking statements. Many of the forward-looking statements contained in this prospectus can be identified by the use of forward-looking words such as “anticipate,” “believe,” “could,” “expect,” “should,” “plan,” “intend,” “estimate” and “potential,” or other similar expressions.

Forward-looking statements appear in a number of places in this prospectus and include, but are not limited to, statements regarding our intent, belief or current expectations. Forward-looking statements are based on our management’s beliefs and assumptions and on information currently available to our management. Such statements are subject to risks and uncertainties, and actual results may differ materially from those expressed or implied in the forward-looking statements due to of various factors, including, but not limited to, those identified under the section entitled “Risk Factors” in this prospectus. These risks and uncertainties include factors relating to:

- our ability to obtain funding for our operations necessary to complete further development and commercialization of our product candidates;
- the initiation, timing, progress, results, and cost of our research and development programs and our current and future preclinical studies and clinical trials, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available and our research and development programs;
- the timing of and our ability to obtain and maintain regulatory approval for our product candidates;
- the ability and willingness of our third-party collaborators to continue research and development activities relating to our product candidates;
- our and our collaborators’ ability to obtain, maintain, defend and enforce our intellectual property protection for our proprietary and collaborative product candidates, and the scope of such protection;
- the rate and degree of market acceptance of our products;
- our ability to commercialize our product candidates, if approved;
- our ability and the potential to successfully manufacture our drug substances and delivery vehicles for preclinical use, for clinical trials and on a larger scale for commercial use, if approved;
- general economic, political, demographic and business conditions in the United States and Europe;
- fluctuations in inflation and exchange rates in Europe;
- our ability to implement our growth strategy;
- our ability to compete and conduct our business in the future;
- our ability to enroll patients for our clinical trials;
- the availability of qualified personnel and the ability to retain such personnel;
- regulatory developments and changes in the United States and foreign countries including tax matters;
- our use of proceeds from this offering;
- our ability to overcome the challenges posed by the COVID-19 pandemic to the conduct of our business;
- other factors that may affect our financial condition, liquidity and results of operations; and
- other risk factors discussed under “Risk Factors.”

You should read this prospectus carefully with the understanding that our actual future results may be materially different from and worse than what we expect. If our forward-looking statements prove to be inaccurate, the inaccuracy may be material. Other sections of this prospectus include additional factors which could adversely impact our business and financial performance. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame or at all. Moreover, we operate in an evolving environment. Thus, new risk factors and uncertainties emerge from time to time and it is not possible for our management to predict all risk factors and uncertainties, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. We qualify all of our forward-looking statements by these cautionary statements.

Forward-looking statements speak only as of the date they are made, and we do not undertake any obligation to update them in light of new information or future developments or to release publicly any revisions to these statements in order to reflect later events or circumstances or to reflect the occurrence of unanticipated events or otherwise.

USE OF PROCEEDS

We estimate that the net proceeds to us from the offering will be approximately $, assuming an initial public offering price of $ per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and offering expenses payable by us. Each $1.00 increase (decrease) in the assumed initial public offering price of $ per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our net proceeds, assuming that the number of common shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and offering expenses, by $ million. If the underwriters exercise in full their option to purchase additional shares, we estimate that the net proceeds from this offering will be approximately $ million.

We currently intend to use the net proceeds from this offering, together with cash and cash equivalents on hand, as follows:

- approximately $ million to advance our lead oncology program, CV8102, which is currently in a Phase 1 clinical trial through the completion of the Phase 2 clinical trial;
- approximately $ million to advance our lead vaccine program, CV7202, which is currently in a Phase 1 clinical trial as a vaccine candidate for rabies through the completion of the Phase 2 clinical trial;
- approximately $ million to fund clinical development of our mRNA vaccine program against SARS-CoV-2 that we are advancing in response to the global pandemic due to COVID-19 through the completion of the Phase 2 clinical trial;
- approximately $ million to advance the development of our other preclinical and clinical programs;
- approximately $ million to invest in further development of our mRNA technology platform;
- approximately $ million to fund the expansion of our manufacturing capabilities; and
- the remainder for working capital and general corporate purposes.

Our expected use of net proceeds from this offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual use of net proceeds will vary depending on numerous factors, including the timing and success of our current and future preclinical studies and clinical trials and the timing and outcome of regulatory submissions. As a result, our management will have broad discretion in the application of the net proceeds of this offering, and investors will be relying on our judgment regarding the application of the net proceeds.

Pending their use, we plan to invest the net proceeds of this offering in short- and intermediate-term interest-bearing investments.

We believe that the anticipated net proceeds from this offering, together with our existing cash, cash equivalents, borrowings available to us and short-term investments, will enable us to fund our operating expenses and capital expenditure requirements through . We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. The anticipated net proceeds from this offering, together with our existing cash and cash equivalents, will not be sufficient for us to advance our product candidates through regulatory approval, and we will need to raise additional capital to complete the development and potential commercialization of our product candidates. In particular, we will need additional funds to advance our product candidates through Phase 3 clinical trials. We expect to finance our cash needs primarily through a combination of public or private equity offerings, strategic collaborations and debt financing. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources — Contractual Obligations and Commitments — Future Capital Requirements” and “Risk Factors — Risks Related to Our Financial Position and Need for Additional Capital — We have incurred

significant losses since our inception. We expect to incur losses for the foreseeable future and may never achieve or maintain profitability" and "— Even if we consummate this offering, we will require substantial additional financing, which may not be available on acceptable terms, or at all. Raising additional capital may cause dilution to our shareholders, including purchasers of common shares in this offering, restrict our operations or require us to relinquish rights to our technologies or product candidates."

DIVIDEND POLICY

We have never paid or declared any cash dividends on our common shares, and we do not anticipate paying any cash dividends on our common shares in the foreseeable future. We intend to retain all available funds and any future earnings to fund the development and expansion of our business. As of the completion of our corporate reorganization, under Dutch law, we may only pay dividends to the extent our shareholders' equity (*eigen vermogen*) exceeds the sum of the paid-in and called-up share capital plus the reserves required to be maintained by Dutch law or by our articles of association and (if it concerns a distribution of profits) after adoption of the annual accounts by the general meeting from which it appears that such dividend distribution is allowed. Subject to such restrictions, any future determination to pay dividends will be at the discretion of our management board with the approval of our supervisory board and will depend upon a number of factors, including our results of operations, financial condition, future prospects, contractual restrictions, restrictions imposed by applicable law and other factors our management board and supervisory board deem relevant.

Under our articles of association, our management board may decide that all or part of the profits are added to our reserves. After reservation of any profit, if any preferred shares are outstanding, a dividend is first paid out of the remaining profit on the preferred shares in accordance with our articles of association. This dividend, or preferred dividend, shall be calculated on the basis of a fixed rate over the amount paid-up on the outstanding preferred shares pro rata tempore for the period during which they were outstanding during the financial year concerned, and shall include any arrears in payment of prior years' preferred dividends (if any). The remaining profit will be at the disposal of the general meeting for distribution on the common shares, subject to restrictions of Dutch law and approval by our supervisory board. Our management board is permitted, subject to certain requirements, to declare interim dividends without the approval of the general meeting, but only with the approval of the supervisory board. Dividends and other distributions shall be made payable not later than the date determined by the management board. Claims to dividends and other distributions not made within five years from the date that such dividends or distributions became payable will lapse and any such amounts will be considered to have been forfeited to us (*verjaring*).

CORPORATE REORGANIZATION

Introduction

CureVac B.V. is a Dutch private company with limited liability (*besloten vennootschap met beperkte aansprakelijkheid*) that was incorporated for the purpose of making this offering. Upon the incorporation of CureVac B.V., Mr. Franz-Werner Haas, our chief operating officer, became the sole director and the sole shareholder of CureVac B.V., holding one common share in the capital of CureVac B.V., the nominal value of which (in the amount of €0.12) has not been paid-in. CureVac B.V. has no assets, liabilities or contingent liabilities and will have no assets, liabilities or contingent liabilities until the completion of our corporate reorganization. As part of the corporate reorganization, all of the interests in CureVac AG will be exchanged for new common shares of CureVac B.V. to be issued to the existing security holders of CureVac AG in the course of such exchange in the course of a capital increase of CureVac B.V., and as a result, CureVac AG will become a wholly owned subsidiary of CureVac B.V., while the current shareholders of CureVac AG will become the shareholders of CureVac B.V. In connection with such exchange, the common share in CureVac B.V. held by Mr. Franz-Werner Haas will be cancelled (*ingetrokken*). Subsequently, CureVac B.V. will convert into a Dutch public company (*naamloze vennootschap*) and change its name to CureVac N.V. Therefore, investors in this offering will only acquire, and this prospectus only describes the offering of, common shares of CureVac N.V. We refer to the reorganization described above as our "corporate reorganization."

The corporate reorganization will take place in several steps as described below.

Exchange of CureVac AG Securities for CureVac B.V. Common Shares

Immediately following the pricing of this offering, the existing shareholders of CureVac AG will each become a party to a separate notarial deed of issue under Dutch law, the existing shareholders will (i) subscribe for new common shares in CureVac B.V. and (ii) agree to transfer their respective shares in CureVac AG to CureVac B.V. as a contribution in kind against issuance of the aforementioned common shares in CureVac B.V. in the course of a capital increase of CureVac B.V. Immediately thereafter, the existing shareholders of CureVac AG will effect such transfer of their respective shares in CureVac AG to CureVac B.V.. As a result of the issuance of common shares in CureVac B.V. to the shareholders of CureVac AG as consideration for the contribution and transfer of their respective shares in CureVac AG to CureVac B.V., CureVac B.V. will become the sole shareholder of CureVac AG.

Shares of CureVac B.V. to be Outstanding After the Corporate Reorganization

Shares of CureVac AG will be exchanged for common shares of CureVac B.V. on a -to- basis as provided for in each notarial deed of issue.

Upon completion of this share exchange (and prior to the closing of this offering), the current shareholders of CureVac AG will hold an aggregate of common shares of CureVac B.V.

Conversion of CureVac B.V. into CureVac N.V.

As part of the corporate reorganization, the legal form of CureVac B.V. will be converted from a Dutch private company with limited liability (*besloten vennootschap met beperkte aansprakelijkheid*) to a Dutch public company (*naamloze vennootschap*), and the articles of association of CureVac N.V. will become effective. Such final step will take place by means of the execution of a notarial deed of conversion and amendment, which will take place prior to the listing of our common shares on Nasdaq. This deed of conversion and amendment shall be executed following the delivery of a Dutch auditor's statement confirming that, on a day within five months prior to the conversion, our shareholders' equity was at least equal to the paid-in part of our issued share capital as set forth in the deed of conversion and amendment. The conversion will result in a name change from CureVac B.V. to CureVac N.V. Our articles of association, as they will read upon the closing of this offering, are further described in the section "Description of Share Capital and Articles of Association" and are filed (as an English translation of the official Dutch version) as an exhibit to the registration statement of which this prospectus forms a part.

CAPITALIZATION

The table below sets forth our cash and cash equivalents and capitalization (defined as long-term debt and shareholders' equity) as of December 31, 2019 derived from our audited consolidated financial statements prepared in accordance with IFRS as issued by the IASB:

- on an actual basis;
- on a pro forma basis to give effect to (i) the consummation of the KfW Investment and (ii) our corporate reorganization; and
- on a pro forma as adjusted basis to give further effect to the issuance and sale of common shares in this offering, assuming an initial public offering price of $ per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

This table should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Corporate Reorganization," "Certain Relationships and Related Party Transactions" and the consolidated financial statements and notes thereto appearing elsewhere in this prospectus.

	December 31, 2019		
	Actual	Pro Forma	Pro Forma As Adjusted[1]
	(in thousands of euros)		
Cash and cash equivalents	30,684		
Convertible loans	65,018		
Equity:			
Issued capital	727		
Capital reserve	472,396[2]		
Accumulated deficit	(515,947)		
Other comprehensive income	22		
Total shareholders' equity	(42,802)		
Total capitalization	**22,216**		

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase (decrease) of 1.0 million in the number of shares we are offering would increase (decrease) the net proceeds to us from this offering, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, by approximately $ million, assuming the assumed initial public offering price remains the same. The actual net proceeds payable to us will adjust based on the actual number of common shares sold by us, the actual public offering price and other terms of the offering determined at pricing. U.S. dollar amounts have been translated into euros at a rate of USD to €1.00, the official exchange rate quoted as of , 2020 by the Federal Reserve Bank of New York. Such U.S. dollar amounts are not necessarily indicative of the amounts of U.S. dollars that could actually have been purchased upon exchange of euros at the dates indicated.

(2) Includes €7,604,000 equity component of outstanding convertible loans.

DILUTION

If you invest in our common shares in this offering, your ownership interest will be diluted to the extent of the difference between the initial public offering price per share and the as adjusted net tangible book value per common share after this offering.

At December 31, 2019, we had a pro forma net tangible book value of $ million (€ million), corresponding to a pro forma net tangible book value of $ per common share (€ per common share). Pro forma net tangible book value represents the amount of our total assets less our total liabilities, excluding intangible assets, divided by , the number of common shares issued and outstanding, after giving effect to (i) the consummation of the KfW Investment and (ii) our corporate reorganization.

After giving further effect to the sale of the common shares offered by us in the offering at an assumed initial public offering price of $ per common share (€ per common share), which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value estimated at December 31, 2019 would have been approximately $ (€), representing $ per common share (€ per common share). This represents an immediate increase in pro forma net tangible book value of $ per common share (€ per common share) to existing shareholders and an immediate dilution in net tangible book value of $ per common share (€ per common share) to new investors purchasing common shares in this offering. Dilution for this purpose represents the difference between the price per common shares paid by these purchasers and net tangible book value per common share immediately after the completion of the offering.

The following table illustrates this dilution to new investors purchasing common shares in the offering.

	$	€
Assumed initial public offering price per common share		
Pro forma net tangible book value per common share at December 31, 2019 after giving effect to (i) the consummation of the KfW Investment and (ii) our corporate reorganization		
Increase in net tangible book value per common share attributable to new investors		
Pro forma as adjusted net tangible book value per common share at December 31, 2019 after giving effect to the corporate reorganization and the offering		
Dilution per common share to new investors		
Percentage of dilution per common share to new investors		

Each $1.00 increase (decrease) in the offering price per common share, respectively, would increase (decrease) the pro forma as adjusted net tangible book value after this offering by $ per common share (€ per common share) and the dilution to new investors purchasing common shares in the offering by $ per common share (€ per common share). Each increase (decrease) of 1.0 million in the number of shares we are offering would increase (decrease) the pro forma as adjusted net tangible book value after this offering by $ per common share (€ per common share) and the dilution to new investors purchasing common shares in the offering by $ per common share (€ per common share).

If the underwriters were to fully exercise their option to purchase additional shares, the pro forma as adjusted net tangible book value per common share after the offering would be $ per common share (€ per common share), and the dilution per common share to new investors would be $ per common share (€ per common share), in each case at the initial public offering price of $ per common share (€ per common share).

SELECTED CONSOLIDATED FINANCIAL INFORMATION

The following selected consolidated statement of financial position as of December 31, 2018 and 2019 and the consolidated statement of operations and comprehensive income (loss) for the years ended December 31, 2018 and 2019 of CureVac AG are derived from the consolidated financial statements included elsewhere in this prospectus, which have been audited by Ernst & Young.

We maintain our books and records in euros, and we prepare our financial statements under IFRS as issued by the IASB.

CureVac B.V. is a newly formed holding company formed for the purpose of effecting the offering and has not engaged in any activities except those incidental to its formation, the corporate reorganization and the initial public offering of our common shares. CureVac B.V. has no assets, liabilities or contingent liabilities and will have no assets, liabilities or contingent liabilities until the completion of our corporate reorganization. Accordingly, summary financial information for CureVac B.V. is not presented. CureVac AG's financial statements, including the notes thereto, are included elsewhere in this prospectus.

This financial information should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements, including the notes thereto, included elsewhere in this prospectus.

	For the Years Ended December 31,	
(in thousands of euros, except per share amounts)	2018	2019
Statement of Operations and Comprehensive Income (Loss) Data:		
Revenue	12,871	17,416
Cost of sales	(17,744)	(27,983)
Selling and distribution expenses	(1,085)	(1,755)
Research and development expenses	(41,722)	(43,242)
General and administrative expenses	(25,289)	(48,969)
Other operating income	808	5,587
Other operating expenses	(663)	(552)
Operating loss	**(72,824)**	**(99,498)**
Finance income	1,968	833
Finance expenses	(275)	(1,460)
Loss before income tax	**(71,131)**	**(100,125)**
Income tax benefit (expense)	(110)	252
Net loss for the year	**(71,241)**	**(99,873)**
Other comprehensive income/loss:		
Items that may be subsequently reclassified to profit or loss		
Foreign currency adjustments	66	32
Total comprehensive loss for the year	**(71,175)**	**(99,841)**
Net loss per share (basic and diluted)	**(98.05)**	**(137.45)**

	As of December 31,	
	2018	2019
	(in thousands of euros)	
Statement of Financial Position Data:		
Cash and cash equivalents	21,380	30,684
Total assets	125,659	130,620
Total liabilities	93,576	173,422
Total equity	32,083	(42,802)

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of our financial condition and results of operations should be read in conjunction with CureVac AG's audited consolidated financial statements as of and for the years ended December 31, 2018 and 2019 and the notes thereto, included elsewhere in this prospectus, as well as the information presented under "Selected Consolidated Financial Information." The following discussion is based on our financial information prepared in accordance with IFRS as issued by the IASB, which may differ in material respects from generally accepted accounting principles in the United States and other jurisdictions. The following discussion includes forward looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from those anticipated in these forward looking statements as a result of many factors, including but not limited to those described under "Risk Factors" and elsewhere in this prospectus.

On April 7, 2020, CureVac B.V. was incorporated under the laws of the Netherlands to become the holding company for CureVac AG in connection with this offering pursuant to the corporate reorganization. See "Corporate Reorganization." CureVac B.V. has not engaged in any activities except those incidental to its formation, the corporate reorganization and the initial public offering of our common shares. CureVac B.V. has no assets, liabilities or contingent liabilities and will have no assets, liabilities or contingent liabilities until the completion of our corporate reorganization. Accordingly, financial information for CureVac B.V. and a discussion and analysis of its results of operations and financial condition for the period of its operations prior to the corporate reorganization would not be meaningful and are not presented. Following the corporate reorganization, CureVac N.V. will become the holding company of CureVac AG and the historical consolidated financial statements of CureVac AG included in this Registration Statement will become part of the historical consolidated financial statements of CureVac N.V.

Overview

We are a leading global clinical-stage biopharmaceutical company developing a new class of transformative medicines based on messenger ribonucleic acid that has the potential to improve the lives of people. Our vision is to revolutionize medicine and open new avenues for developing therapies by enabling the body to make its own drugs. Messenger ribonucleic acid, or mRNA, plays a central role in cellular biology in the production of proteins in every living cell. We are the pioneers in successfully harnessing mRNAs designed to prevent infections and to treat diseases by mimicking human biology to synthesize the desired proteins. Our technology platform is based on a natural approach to optimize mRNA constructs that encode functional proteins that replace defective or missing proteins using the cell's intrinsic translation machinery. Our current product portfolio includes clinical and preclinical candidates across multiple disease indications in oncology, prophylactic vaccines and protein therapy. Our lead clinical programs are CV8102, which we are evaluating in a Phase 1 clinical trial for the treatment of four types of solid tumors, and CV7202, which we are currently investigating in a Phase 1 clinical trial for potential vaccination against rabies. We are also rapidly advancing our mRNA vaccine program against coronavirus (SARS-CoV-2), for which we initiated a Phase 1 clinical trial in healthy volunteers in June 2020, with results expected in the fourth quarter of 2020.

As of December 31, 2019, we had cash and cash equivalents amounting to €30.7 million. We have incurred significant losses since our inception. Our consolidated net loss for the year ended December 31, 2019 was €99.9 million. As of December 31, 2019, our accumulated deficit was €515.9 million. We expect to continue to incur losses in the future as we continue our research and development of, and seek regulatory approvals for, our product candidates and maintain and develop new technology platforms, prepare for and begin to commercialize any approved product candidates and add infrastructure and personnel to support our product development efforts and operations as a public company in the United States. We have devoted substantially all of our financial resources and efforts to research and development, including preclinical studies and clinical trials and development of our manufacturing technology and we anticipate that our expenses will continue to increase over the next several years as we continue these activities. We believe that we will continue to expend substantial resources for the foreseeable future developing our proprietary product candidates. These expenditures will include costs associated with research and development, conducting preclinical studies and clinical trials, seeking regulatory approvals, as well as launching and commercializing products approved for sale, if any, costs associated with manufacturing products and maintaining

manufacturing facilities. In addition, other unanticipated costs may arise. Because the outcomes of our anticipated clinical trials are highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of our proprietary product candidates.

Upon the outbreak of the COVID-19 pandemic, we determined to make the development of a vaccine candidate against COVID-19 a priority and to use our large scale GMP III facility to provide required material for a potential vaccine product candidate. While there is currently no larger production batch required for our other product candidates, this prioritization could impact clinical development of our other product candidates if such a production need arises. Our research personnel dedicated to infectious diseases focused its efforts on optimizing vaccine constructs in preparation of a Phase 1 clinical trial, and this focus may delay development of other potential infectious disease product candidates. We also postponed initially planned preclinical work on an influenza vaccine to later in 2020. We can provide no assurances that our focus on clinical development of a vaccine candidate against COVID-19 will not adversely impact clinical development of our other product candidates.

In addition, our operating plan may change as a result of many factors currently unknown to us. As a result of these factors, we may need additional funds sooner than planned. We expect to finance future cash needs primarily through a combination of public or private equity offerings, strategic collaborations and debt financing. If sufficient funds on acceptable terms are not available when needed, or at all, we could be forced to significantly reduce operating expenses and delay, limit, reduce or terminate one or more of our product development programs or commercialization efforts, which would have a negative impact on our business, prospects, operating results and financial condition.

Key Factors Affecting Our Results of Operations

We believe that the most significant factors affecting our results of operations include:

Research and Development Expenses

Our ability to successfully pioneer a robust mRNA technology platform and develop innovative product candidates will be the primary factor affecting our future growth and development. Our approach to the discovery and development of product candidates based on mRNA technology is still being demonstrated. As such, we do not know whether we will be able to successfully develop any products. Developing novel product candidates requires a significant investment of resources over a prolonged period of time, and a core part of our strategy is to continue making sustained investments in this area. We have chosen to leverage our platform to initially focus on advancing our product candidates in the areas of oncology, infectious diseases and protein delivery.

For more information on our proprietary technology and clinical development pipeline, see “Business — Our Product Portfolio.”

All of the product candidates are still in development, and we have incurred and will continue to incur significant research and development costs for preclinical studies and clinical trials. We expect that our research and development expenses will constitute the most substantial part of our expenses in future periods in line with the advance and expansion of the development of our product candidates.

We have historically been able to fund the research and development expenses primarily through private placements of equity securities, convertible loans, grants from government agencies and similar bodies and payments for collaborative research and development services with strategic partners.

The net proceeds to us from this offering will also be an important source of funds for our research and development. For more information on the nature of the intended uses for the proceeds from this offering, see “Use of Proceeds.”

Our and Our Collaborators’ Ability to Commercialize Our Product Candidates

Our ability to generate revenue from our product candidates depends on our and our collaborators’ ability to successfully complete clinical trials for our product candidates and receive regulatory approval, particularly in the United States, Europe, and other major markets.

We believe that our broad portfolio of product candidates with both novel and validated targets enhances the likelihood that our research and development efforts will yield successful product candidates. Nonetheless, we cannot be certain if any of our product candidates will receive regulatory approvals. Even if such approvals are granted, we will thereafter need to maintain manufacturing and supply arrangements and engage in extensive marketing prior to generating any revenue from such products, and the ultimate commercial success of our products will depend on their acceptance by patients, the medical community and third-party payors and their ability to compete effectively with other therapies on the market. See "Risk Factors — Risks Related to the Development, Clinical Testing and Commercialization of Our Product Candidates."

The competitive environment is also an important factor with the commercial success of our product candidates, and our ability to successfully commercialize a product candidate will depend on whether there are competing product candidates being developed or already marketed by other companies.

Our Collaborations and Related License Agreements

Our results of operations have been, and we expect them to continue to be, affected by our collaborations with third parties for the development and commercialization of certain of our product candidates. To date, our revenues have been recognized pursuant to license and collaboration agreements, which include upfront payments for licenses or options to obtain licenses, milestone payments, payments for product sales and payments for research and development services. Grants from government agencies or similar bodies are recognized as other operating income or as a reduction to depreciation and amortization expense recognized from assets purchased under the associated arrangements.

We have entered into strategic collaborations and license agreements with third parties. As part of our business development strategy, we aim to increase the number of our strategic collaborations in order to derive further value from our platform and more fully exploit their potential.

Certain key terms of our current material collaboration and license agreements are summarized below. For further details on our collaboration agreements, see "Business — Collaborations."

Genmab

In December 2019, we entered into a Collaboration and License Agreement, which we refer to as the Genmab Agreement, with Genmab to research and develop up to four potential differentiated mRNA-based antibody products, to be selected by Genmab, based on the combination of our proprietary RNAntibody technology with Genmab's proprietary antibody technology for the treatment of human diseases. We will collaborate on research to identify an initial product candidate designed to express a certain Genmab proprietary antibody and we will contribute a portion of the overall costs for the development of such product candidate, until submission of an IND. Genmab will thereafter be responsible for the development and commercialization of the product candidate. Under the Genmab Agreement we further grant Genmab a license for the preclinical development of up to four additional mRNA antibody product concepts and options to obtain commercial licenses under our mRNA technology to develop, manufacture and commercialize product candidates for up to three of such product concepts.

Under the terms of the Genmab Agreement, Genmab agreed to pay us a $10 million upfront fee and made a €20 million equity investment in March 2020. Genmab will be obligated to pay us a $0.5 million reservation fee upon the selection of each additional product concept for development under the Genmab Agreement and $5 million upon selection of a product targeting Genmab's proprietary antibody for further development and commercialization. Genmab is additionally required to pay us up to $30 million in option exercise fees. If Genmab exercises any of its options to obtain commercial licenses for the additional mRNA antibody concepts, Genmab would fund all research and would develop and commercialize any resulting product candidates. We are additionally eligible to receive up to between $275 million and $368 million in development, regulatory and commercial milestone payments for each product, depending on the specific product concept. In addition, we are eligible to receive a mid single-digit to low teens percentage tiered royalty on aggregate net sales of licensed products, on a per-product basis and subject to certain customary reductions. If Genmab grants a sublicense to the initial product candidate developed under the Genmab Agreement before a certain milestone event, Genmab must pay us a one-time $10 million payment.

We are responsible for any payments to third parties related to the LNP technology we license to Genmab for use in relation to the initial product candidate developed under the Genmab Agreement and a portion of such payments with respect to LNP technology used in the additional product concepts. We retain an option to participate in development and commercialization of one of the potential additional mRNA antibody product concepts under predefined terms and conditions. In the event we exercise such right, we must pay Genmab a one-time payment of $3 million and refund any option fee paid by Genmab with respect to such product. As of May 31, 2020, we have received approximately $0.1 million in development cost reimbursements and we have not received any reservation, product selection, option exercise or sublicense fees or milestone or royalty payments.

Arcturus

In January 2018, we entered into a Development and Option Agreement, which we refer to as the Arcturus Agreement, with Arcturus, which provides us with access to Arcturus LNP formulation technology which we use in combination with our mRNA technology. We agreed to pay Arcturus an upfront fee of $5 million and must pay an extension fee of $1 million if we exercise our option to extend the initial term of the Arcturus Agreement beyond July 2023. We are required to reimburse Arcturus for certain costs incurred in connection with development activities and provide certain FTE funding. We are additionally required to pay up to an aggregate of $5 million in connection with our acceptance of the irrevocable offer to obtain licenses for further development and commercialization of selected targets. Under each license agreement to be entered into in connection with our acceptance of the irrevocable offer, we will additionally be required to make certain royalty payments, which are not in excess of 10% on net sales of licensed products, and pay Arcturus up to $23 million in development, regulatory and commercial milestone payments. As of May 31, 2020, we have made payments totaling approximately $5.3 million to Arcturus reimbursing Arcturus for development costs and in connection with our FTE funding obligations, and we have not accepted the irrevocable offer with respect to any target and therefore have not paid any acceptance fees or made any milestone or royalty payments to Arcturus.

Acuitas

In April 2016, we entered into a Development and Option Agreement, which we refer to as the Acuitas Agreement, with Acuitas, which provides us with access to Acuitas LNP formulation technology that we use in combination with our mRNA technology. We are required to pay Acuitas annual target reservation and maintenance fees of up to approximately $1.1 million if we reserve the maximum number of targets permitted under the Acuitas Agreement and to reimburse Acuitas for certain costs incurred in connection with development activities and certain FTE costs. We are additionally required to pay an option exercise fee ranging from $50,000 to $300,000 upon each exercise of our option to obtain a license for further development and commercialization with respect to a selected target, subject to certain additional fees ranging from $10,000 to $40,000 for the exercise of our option for certain other vaccine targets. Under each license agreement in connection with our exercise of our option, we will additionally be required to make low single-digit percentage tiered royalty payments and must pay up to between approximately $3.6 million and $8.1 million in development, regulatory and commercial milestone payments, depending on whether the license is exclusive or nonexclusive and the number of options exercised to date. As of May 31, 2020 we have exercised our option to obtain a nonexclusive license to nine targets. As of May 31, 2020, we have paid Acuitas approximately $2.3 million in reservation and option exercise fees and have made payments totaling approximately $5.1 million reimbursing Acuitas for development costs and LNP batches and in connection with our FTE funding obligations.

For each option that we have exercised under the Acuitas Agreement, we have entered into a nonexclusive license agreement with Acuitas with respect to such optioned target, all based on the same form agreement, which we refer to as the Acuitas License Agreements. We are required to pay Acuitas up to between approximately $3.6 and $5.1 million in development, regulatory and commercial milestone payments under each Acuitas License Agreement and we must pay Acuitas annual fees ranging from $5,000 to $10,000 for any additional protein targeted by a vaccine product licensed under each Acuitas License Agreement after a certain milestone event. We additionally are obligated to pay Acuitas a low single-digit percentage royalty on net sales of licensed products. As of May 31, 2020, we have made $100,000 in milestone

payments to Acuitas with respect to the license agreement relating to Rabies RAV-G and have not made any royalty payments.

CRISPR Therapeutics

In November 2017, we entered into a Development and License Agreement, which we refer to as the CRISPR Therapeutics Agreement, with CRISPR Therapeutics, pursuant to which we will develop novel Cas9 mRNA constructs for use in gene editing therapeutics. Under the CRISPR Therapeutics Agreement, we granted CRISPR Therapeutics an exclusive worldwide license to use our improved Cas9 constructs for the development and commercialization of three of its *in vivo* gene-editing programs for certain diseases.

CRISPR Therapeutics was required to pay us an upfront one-time technology access fee of $3 million and we are eligible to receive up to $179 million in development and commercial milestone payments as well as mid single-digit percentage royalties from CRISPR Therapeutics on the net sales of licensed products on a product-by-product and country-by-country basis, subject to certain potential customary reductions. Additionally, CRISPR Therapeutics will make payments to us for services provided by us in conjunction with research programs under the CRISPR Therapeutics Agreement. In the event CRISPR Therapeutics exercises its right to sublicense under the agreement, CRISPR Therapeutics must pay us a low teens to mid-twenties percentage of any non-royalty sublicense income, depending on the timing of the sublicense and whether the sublicense is granted through an affiliate of CRISPR Therapeutics. As of May 31, 2020, we have received approximately €0.5 million in payments for the supply of materials and FTE cost and development reimbursements and no milestone, royalty or sublicense fee payments.

Boehringer Ingelheim

In August 2014, we entered into an Exclusive Collaboration and License Agreement, which we refer to as the Boehringer Agreement, with Boehringer Ingelheim, whereby we granted Boehringer Ingelheim exclusive global rights for development and commercialization of our investigational therapeutic mRNA vaccine BI 1361849 (former CV9202).

We received an upfront payment of €30 million, as well as, an option fee payment of €5 million and an additional €7 million in milestone payments. We are eligible to receive up to an additional €423 million in development, regulatory and commercial milestones as well as royalties in the low teens on net sales of licensed products. We are responsible for any payment obligations arising under certain existing third-party license agreements and costs we incur in relation to the research and development of BI 1361849 (former CV9202) manufacturing technology. Boehringer Ingelheim is responsible for all other development and commercialization costs and is required to reimburse us for any such costs we may incur. As of May 31, 2020, Boehringer Ingelheim has made payments to us for a net amount of approximately €7.4 million for the supply of materials and reimbursing us for development costs. We have received no royalty payments.

Bill & Melinda Gates Foundation

In May 2014, we were awarded a grant from the Bill & Melinda Gates Foundation for the development of a vaccine for rotaviruses for up to approximately $2.5 million. As of May 31, 2020, we have received approximately $2.0 million in funding under the agreement. In March 2015, the Bill & Melinda Gates Foundation made an equity investment of $40 million to support continued development of our RNA technology platform and the construction of an industrial scale cGMP production facility. We entered into a Global Access Commitments Agreement with the Bill & Melinda Gates Foundation in February 2015 pursuant to which we are required to take certain actions to support the Bill & Melinda Gates Foundation mission. In connection with the investment by the Bill & Melinda Gates Foundation, we are required to conduct development activities for up to three concurrent projects to be proposed by the Bill & Melinda Gates Foundation. The costs of such projects will be allocated on a project-by-project basis in proportion to the allocation of the expected benefits.

In November 2016, in connection with the Global Access Commitments Agreement, we were awarded a grant for up to approximately $0.9 million in funding from the Bill & Melinda Gates Foundation for the development of a vaccine for picornaviruses. As of May 31, 2020, we have received approximately $0.7 million in funding under the picornaviruses grant agreement. In November 2017, we were awarded two

additional grants each for up to approximately $1.9 million and $1.5 million in funding from the Bill & Melinda Gates Foundation for the development of a universal influenza and a malaria vaccine respectively. As of May 31, 2020, we have received approximately $1.5 million and $0.8 million respectively in funding under each grant agreement.

Coalition for Epidemic Preparedness Innovations

In February 2019, we entered into a framework partnership agreement, which we refer to as the CEPI Agreement, with CEPI, to develop our RNA Printer using certain intellectual property controlled by us covering the development and manufacture of mRNA products, as well as certain additional intellectual property licensed to us. In connection with the CEPI Agreement we have entered into work orders for the preclinical development of a Lassa virus vaccine, a yellow fever vaccine and our rabies virus vaccine. In addition, we entered into a work package for the preclinical development and a Phase 1 clinical trial for a SARS-CoV-2 vaccine. CEPI agreed to contribute up to approximately $34 million in funding for projects undertaken under the CEPI Agreement and an additional $15.3 million in connection with development of the SARS-CoV-2 vaccine. As of May 31, 2020, we have received approximately €20.5 million in funding for projects undertaken under the CEPI Agreement.

Tesla Grohmann

In November 2015, we entered into a development and intellectual property agreement, which we refer to as the Tesla Grohmann Agreement, with Tesla Grohmann, pursuant to which Tesla Grohmann agreed to design, develop and manufacture certain automated manufacturing machines on our behalf. We are obligated to pay Tesla Grohmann a fee for each machine delivered by Tesla Grohmann and up to $50 million to $60 million in commercial milestone payments as well as certain development costs under each associated work order. As of May 31, 2020 we have paid Tesla Grohmann approximately €5 million to €6 million in development costs under various work orders and we have not paid any fees for machines provided under the Tesla Grohmann Agreement or made any milestone payments.

Results of Operations

We have based the following discussion of our financial condition and results of operations on our audited consolidated financial statements as of and for the years ended December 31, 2018 and 2019 and the notes thereto, included elsewhere in this prospectus, as well as the information presented under “Selected Financial Information.”

The following is a discussion of our consolidated results of operations for each of the years ended December 31, 2018 and December 31, 2019. This information is derived from our accompanying consolidated financial statements prepared in accordance with IFRS as issued by IASB.

Year Ended December 31, 2018 Compared to Year Ended December 31, 2019

The following table summarizes our results of operations for the years ended December 31, 2018 and 2019:

	For the Years Ended December 31,	
(in thousands of EUR, except per share data)	**2018**	**2019**
Statement of Operations and Comprehensive Income (Loss) Data:		
Revenue	12,871	17,416
Cost of sales	(17,744)	(27,983)
Selling and distribution expenses	(1,085)	(1,755)
Research and development expenses	(41,722)	(43,242)
General and administrative expenses	(25,289)	(48,969)
Other operating income	808	5,587
Other operating expenses	(663)	(552)
Operating loss	**(72,824)**	**(99,498)**
Finance income	1,968	833
Finance expenses	(275)	(1,460)
Loss before income tax	**(71,131)**	**(100,125)**
Income tax benefit (expense)	(110)	252
Net loss for the year	**(71,241)**	**(99,873)**
Other comprehensive income/loss:		
Items that may be subsequently reclassified to profit or loss		
Foreign currency adjustments	66	32
Total comprehensive loss for the year	**(71,175)**	**(99,841)**
Net loss per share (basic and diluted)	**(98.05)**	**(137.45)**

Revenue

To date, our revenues have consisted of upfront licensing payments, product sales and compensation for research and development services, all of which relate to our license and collaboration agreements. Certain of these payments are initially recorded on our statement of financial position and are subsequently recognized as revenue in accordance with our accounting policy as described further in "Critical Accounting Policies and Estimates" and note 2 to our consolidated financial statements included elsewhere in this prospectus.

Revenue was €17.4 million for 2019, representing an increase of €4.5 million, or 35%, from €12.9 million for 2018. The increase was primarily attributable to an increase of €2.7 million in research and development services and an increase of €1.9 million from product sales in 2019 under our collaboration agreements.

Cost of sales

Cost of sales consists primarily of personnel costs, costs for materials and third-party services, as well as maintenance and lease costs (for 2018), and depreciation and amortization. Costs of sales includes costs of product sales, idle production costs and costs from set-up and quality assurance activities for our production processes, including those relating to pharmaceutical products which are under development in our collaboration agreements and for which we have not yet generated revenues.

Cost of sales was €28.0 million for 2019, representing an increase of €10.3 million, or 58%, from €17.7 million for 2018. The increase was partially attributable to 28% higher product sales under our

collaboration agreements resulting in increases primarily in materials and third-party services expenses. Additional costs for set-up and quality assurance activities for our production processes contributed to increased third-party services and personnel expenses. Increased inventory write-downs contributed to increased materials expenses. We also incurred additional costs for required rework of certain products which contributed to increased materials and third-party services expenses compared to the prior period of 2018.

	For the years ended December 31,	
	2018	2019
	(in thousands of euros)	
Personnel	(7,703)	(9,855)
Materials	(4,941)	(7,542)
Third-party services	(2,340)	(7,268)
Maintenance and lease	(1,758)	(1,060)
Amortization and depreciation	(893)	(2,038)
Other	(109)	(220)
Total	**(17,744)**	**(27,983)**

Selling and distribution expenses

Selling and distribution expenses primarily consist of personnel expenses which include salary and salary-related expenses and expenses from share-based compensation.

Selling and distribution expenses were €1.8 million for 2019, representing an increase of €0.7 million, or 64%, from €1.1 million in 2018. The increase was primarily attributable to increased personnel expenses resulting from share-based compensation.

	For the years ended December 31,	
	2018	2019
	(in thousands of euros)	
Personnel	(581)	(1,263)
Maintenance and lease costs	(300)	(167)
Amortization and depreciation	(95)	(81)
Other	(109)	(243)
Total	**(1,085)**	**(1,755)**

Research and development expenses

Research and development expenses consist primarily of costs incurred for our research and preclinical and clinical development activities, including our product discovery efforts and certain activities relating to the design of GMP-manufacturing facilities. Research and development expenses contain wages and salaries, share-based compensation, fringe benefits and other personnel costs, the costs of clinical testing and the associated clinical production costs, research material production costs, fees for contractual partners, consultants and other third parties, fees to register legal rights, amortization of licensed software and intellectual property as well as costs for plant and facilities. Research and development expenses contain costs for independent research and development work as well as work carried out in the context of collaboration and licensing agreements; such expenses include all costs related to research and development services delivered under our collaboration arrangements.

We also have partnered programs as further described under “Business — Collaborations,” for which we incur additional expenses. In addition, our research and development expenses relate to our preclinical studies of further product candidates and discovery activities. These expenses mainly consist of salaries, share based-compensation, costs for production of preclinical compounds and costs paid to contract research organizations.

We expense research and development expenses as incurred. We recognize costs for certain development activities, such as preclinical studies and clinical trials, based on an evaluation of the progress to completion of specific tasks. We use information provided to us by our vendors such as patient enrollment or clinical site activations for services received and efforts expended. We expect research and development costs, including manufacturing to support these activities, to increase significantly for the foreseeable future as our current development programs progress and new programs are added.

Research and development costs were €43.2 million for 2019, representing an increase of 4% from €41.7 million in 2018. The increase was primarily attributable to higher personnel expenses offset by reversal of provisions for share-based compensation in 2018.

	For the years ended December 31,	
	2018	2019
	(in thousands of euros)	
Materials	(5,867)	(4,015)
Personnel	(7,565)	(14,385)
Amortization and depreciation	(1,143)	(474)
Patents and fees to register a legal right	(4,847)	(4,551)
Third-party services	(19,921)	(18,626)
Maintenance and lease	(1,156)	(670)
Other	(1,223)	(521)
Total	**(41,722)**	**(43,242)**

The following table reflects our research and development costs for each of our key programs for the years ended December 31, 2018 and 2019:

	For the years ended December 31,	
	2018	2019
	(in thousands of euros)	
Key Programs		
CV8102	(1,525)	(4,511)
CV7202	(1,987)	(2,236)
Other Research and Development Programs	(14,047)	(14,271)
Unallocated costs[(1)]	(24,163)	(22,224)
Total	**(41,722)**	**(43,242)**

(1) Unallocated costs primarily consist of costs associated with personnel expenses, patents and fees to register a legal right, amortization and depreciation, maintenance and lease expenses, certain third party service expenses and certain material expenses.

We expect that our total research and development expenses in 2020 will be significantly higher compared to our expenses in 2018 and 2019. Such increased research and development expenses primarily relate to the following key programs:

- Our lead oncology program, CV8102, which is currently in a Phase 1 dose escalating clinical trial for four types of solid tumors as a monotherapy and in combination with anti-PD-1.
- Our lead vaccine program, CV7202, which is currently in a Phase 1 clinical trial as a vaccine candidate for rabies.
- Our mRNA vaccine program against SARS-CoV-2, which we are advancing in response to the global pandemic due to COVID-19.

General and administrative expenses

General and administrative expenses generally include wages and salaries, share-based compensation, fringe benefits and other personnel costs of our senior management and administrative personnel, costs for

professional services, including legal, audit and consulting services and costs of facilities and office expenses. We expect that our general and administrative costs will increase as a result of a greater level of support for our increasing research and development activities, potential commercialization of our product candidates and costs associated with being a public company in the United States.

General and administrative expenses were €49.0 million for 2019, representing an increase of €23.7 million, or 94%, from €25.3 million in 2018. The increase was primarily attributable to increased personnel expenses resulting from share-based compensation.

	For the years ended December 31,	
	2018	2019
	(in thousands of euros)	
Personnel	(10,084)	(31,645)
Maintenance and lease costs	(3,239)	(4,604)
Third-party services	(4,006)	(5,970)
Legal and other professional services	(4,078)	(2,110)
Amortization and depreciation	(1,635)	(2,182)
Other	(2,247)	(2,458)
Total	**(25,289)**	**(48,969)**

Other operating income

Other operating income was €5.6 million in 2019, representing an increase of €4.8 million, from €0.8 million for 2018. The increase was due to an increase in amounts recognized from grants from government agencies and similar bodies.

Other operating expense

Other operating expense was €0.6 million in 2019 and was relatively unchanged from 2018. Other operating expense related primarily to compensation expense for our supervisory board in both years.

Finance income

Finance income was €0.8 million in 2019, representing a decrease of €1.1 million, or 58%, from €2.0 million. The decrease was mainly attributable to higher unrealized foreign exchange gains in 2018.

Finance expenses

Finance expenses were €1.5 million in 2019, representing an increase of €1.2 million, or 500%, from €0.3 million for 2018. The increase related to interest on convertible loans in 2019.

Income tax benefit (expense)

An income tax benefit of €0.3 million was generated in 2019 compared to an income tax expense of €(0.1) million in 2018. The income tax benefit in 2019 results from income tax expenses from CureVac Inc., offset by recognition of deferred tax benefits relating to tax loss carryforwards.

Liquidity and Capital Resources

Our financial condition and liquidity is and will continue to be influenced by a variety of factors, including:

- our ability to generate cash flows from our operations;
- future indebtedness and the interest we are obligated to pay on this indebtedness;
- the availability of public and private debt and equity financing;

- changes in exchange rates which will impact our generation of cash flows from operations when measured in euros; and
- our capital expenditure requirements.

Overview

Since inception, we have incurred significant operating losses. For the years ended December 31, 2018 and 2019, we incurred net losses of €71.2 million and €99.9 million, respectively. To date, we have financed our operations primarily through private placements of equity securities, issuance of convertible debt, grants from government agencies and similar bodies and payments for collaborative research and development services. Our cash and cash equivalents as of December 31, 2018 and 2019 were at €21.4 million and €30.7 million, respectively. Our primary cash needs are for working capital requirements, capital expenditures and to fund our non-clinical and clinical development programs.

Convertible Loans

We entered into a convertible loan agreement on May 3, 2019 with Mr. Dietmar Hopp, managing director of dievini, under which Mr. Hopp disbursed to us the amount of €50 million ("Convertible Loan I"). On October 24, 2019, we entered into an additional convertible loan agreement with Mr. Hopp, under which we have the right to call for disbursements in two tranches of €20 million each and an additional final tranche of approximately €24 million, until December 31, 2021, if our cash balance falls below €15 million ("Convertible Loan II," and together with Convertible Loan I, the "Loans"). The Loans bear an interest rate of 8.00% per annum. As of December 31, 2019, the outstanding principal amount is €69.9 million. Upon consummation of this offering the amount outstanding, including accrued interest under the Loans, could be converted into shares of CureVac AG that will be contributed and transferred to CureVac B.V. in a capital increase in exchange for newly issued common shares of CureVac B.V. as part of our corporate reorganization. See note 12 to our financial statements contained elsewhere in this prospectus for further information on the Loans and "Corporate Reorganization" for further information on our corporate reorganization.

Comparative Cash Flows

The following table summarizes our cash flows from operating, investing and financing activities for the periods indicated:

	For the years ended December 31,	
	2018	2019
	(in thousands of euros)	
Net cash flow from (used in):		
Operating activities	(74,110)	(86,963)
Investing activities	(4,264)	28,181
Financing activities	(112)	67,979
Effect of currency translation gains on cash and cash equivalents	213	107
Overall cash inflow (outflow)	**(78,273)**	**9,304**

Operating Activities

Net cash used in operating activities for the year 2019 was €87.0 million as compared to €74.1 million for 2018. The increase in net cash used in operating activities was primarily attributable to the increase of the loss before income taxes and due to an increase in trade receivables and inventory.

Investing Activities

Net cash from investing activities was €28.1 million for 2019 as compared to net cash used in investing activities of €4.3 million for 2018. The increase in net cash from investing activities was primarily attributable to proceeds from the sale of short-term investments and decreased purchases of intangible assets.

Financing Activities

Net cash from financing activities was €68.0 million for 2019 as compared to €0.1 million for 2018. The increase in cash flow from financing activities was primarily attributable to proceeds from convertible loans.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations and Commitments

Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2019 and the effects, including estimated interest payments, that such obligations are expected to have on our liquidity and cash flows in future periods:

	Payment Due by Period						
	Total	2020	2021	2022	2023	2024	Thereafter
	(in thousands of Euros)						
Convertible loans	(83,940)[1]	—	—	(83,940)	—	—	—
Lease liabilities	(17,121)	(2,843)	(2,298)	(2,298)	(2,298)	(2,298)	(5,086)
Total	**(101,061)**	**(2,843)**	**(2,298)**	**(86,238)**	**(2,298)**	**(2,298)**	**(5,086)**

(1) Upon consummation of this offering, based on the terms of the Loans, the amount outstanding, including accrued interest, could convert into shares of CureVac AG that will be contributed and transferred to CureVac B.V. in a capital increase in exchange for newly issued common shares of CureVac B.V. as part of our corporate reorganization.

We have entered into various agreements with collaborators, including licensing agreements. These agreements provide for us to make milestone and royalty payments that are conditional on the achievement of certain development, regulatory and commercial milestones and certain of these agreements provide us an option to obtain further licenses which could additionally require us to make such milestone and royalty payments. As of December 31, 2019, the aggregate amount of such potential milestone payments, including those relating to licenses acquired from exercised options, under all such collaboration agreements, was up to approximately $95.5 million. The timing of these payments, and whether they become due, is conditional on achieving the applicable milestones.

We enter into contracts in the normal course of business with third-party contract organizations for clinical trials, preclinical studies, manufacturing and other services and products for operating purposes. These contracts generally provide for termination following a certain period after notice and therefore we believe that our noncancelable obligations under these agreements are not material and they are not included in the table above.

We have not included milestone or royalty payments or other contractual payment obligations in the table above if the timing and amount of such obligations are unknown or uncertain.

Future Capital Requirements

We expect our expenses to increase in connection with our ongoing activities. In addition, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company. Our expenses will also increase if, and as, we:

- advance the development of our clinical programs;
- leverage our programs to advance our other product candidates into preclinical and clinical development;

- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- seek to discover and develop additional product candidates;
- establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval and intend to commercialize on our own or jointly;
- hire additional clinical, quality control and scientific personnel;
- expand and/or build out the manufacturing capacities and production volume of our GMP I/II and GMP III facilities, continue construction of our GMP IV facility, and construct or operate additional facilities;
- expand our operational, financial and management systems and increase personnel, including personnel to support our clinical development, manufacturing and commercialization efforts and our operations as a public company;
- advance the testing, process development and operation of the RNA Printer™ prototypes;
- secure, maintain, expand, enforce and protect our intellectual property portfolio; and
- acquire or in-license other product candidates and technologies.

We believe that the anticipated net proceeds from this offering, together with our existing cash, cash equivalents, borrowings available to us and short-term investments, will enable us to fund our operating expenses and capital expenditure requirements through . We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect.

A change in the outcome of any of these or other variables with respect to the development of any of our product candidates could significantly change the costs and timing associated with the development of that product candidate. Further, our operating plans may change in the future, and we may need additional funds to meet operational needs and capital requirements associated with such operating plans.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through a combination of public or private equity offerings, debt financings, collaborations, strategic partnerships or marketing, distribution or licensing arrangements with third parties and grants from organizations and foundations. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest may be materially diluted, and the terms of such securities could include liquidation or other preferences that may adversely affect your rights as a common shareholder. Debt financing and preferred equity financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specified actions, such as incurring additional debt, making capital expenditures or declaring dividends. In addition, debt financing would result in increased fixed payment obligations.

If we raise funds through collaborations, strategic partnerships or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us.

If we are unable to raise additional funds when needed, we may be required to delay, reduce or eliminate our product development or future commercialization efforts or to grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Quantitative and Qualitative Disclosures About Market Risk

In the ordinary course of our business activities, we are exposed to various market risks that are beyond our control, including fluctuations in foreign exchange rates, which may have an adverse effect on the value of our financial assets and liabilities, future cash flows and profit. As a result of these market risks, we could suffer a loss due to adverse changes in foreign exchange rates in the countries in which we operate. Our policy with respect to these market risks is to assess the potential of experiencing losses and

the consolidated impact thereof and to mitigate these market risks. We are not currently exposed to significant interest rate risk because we do not currently hold long-term debt that is exposed to market rates. See note 15 to our financial statements contained elsewhere in this prospectus for further information on our risk management policies and exposure to market risks.

Credit Risk

Our credit risk arises primarily from cash and cash equivalents and other financial assets, including deposits with banks and financial institutions, as well as credit exposures to customers, including outstanding receivables and contract assets. These financial instruments approximate fair value due to short-term maturities. We maintain our cash and cash equivalents and short-term investments with high credit quality financial institutions. We believe that our credit policies reflect normal industry terms and business risk.

Foreign Currency Risk

Foreign currency risk is the risk that the fair value or future cash flows of an exposure will fluctuate because of changes in foreign exchange rates. Our exposure to the risk of changes in foreign exchange rates relates primarily to our operating activities (when revenue or expense is denominated in a foreign currency) and the amounts held as cash and cash equivalents. Our consolidated financial statements are reported in euros. We generate a significant portion of our revenue and incur a significant portion of our expenditures in certain non-euro currencies, principally U.S. dollars. We are exposed to fluctuations in foreign currency exchange rates primarily on revenue generated from sales in these foreign currencies. Our results of operations can be affected if the U.S. dollar appreciates or depreciates against the euro. As of December 31, 2019, if the euro had weakened 10% against the U.S. dollar with all other variables held constant, pre-tax loss for the year would have been €3.4 million (2018: €1.2 million) lower and post-tax loss would have been €2.4 million lower (2018: €0.8 million). Conversely, if the euro had strengthened 10% against the U.S. dollar with all other variables held constant, pre- tax loss would have been €2.8 million (2018: €1.0 million) higher and post-tax loss would have been €2.0 million (2018: €0.7 million) higher. The effects on pre- and post-tax loss and (accumulated) other comprehensive income due to fact that our subsidiary CureVac Inc.'s functional currency is the U.S. dollar would still have been immaterial at December 31, 2019.

To the extent that we need to convert U.S. dollars we receive from this offering into foreign currencies for our operations, appreciation of such foreign currencies against the U.S. dollar would adversely affect the amount of such foreign currencies we receive from the conversion. Sensitivity analysis is used as a primary tool in evaluating the effects of changes in foreign currency exchange rates on our business operations. The analysis quantifies the impact of potential changes in these rates on our earnings, cash flows and fair values of assets and liabilities during the forecast period, most commonly within a one-year period. The ranges of changes used for the purpose of this analysis reflect our view of changes that are reasonably possible over the forecast period. Fair values are the present value of projected future cash flows based on market rates and chosen prices.

Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. Our exposure to the risk of changes in market interest rates relates primarily to our cash and cash equivalents with floating interest rates. Due to persistent low-interest-rates we may be exposed to the risk of being charged negative interest rates on our bank deposits. If interest rates as of December 31, 2018 and 2019 had been 1% higher while all other variables had remained the same, the net loss for the year (before and after tax) would have been €0.3 million (2018: €0.2 million) lower, because the higher interest income would have been generated from floating rates on invested cash and cash equivalents. Because interest rates on cash and cash equivalents as of December 31, 2019 had been almost near zero, lower interest rates would have had an immaterial effect on the net loss for the year (before and after tax) and other comprehensive income.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with IFRS as issued by the IASB. Some of the accounting methods and policies used in preparing the financial statements under IFRS

are based on complex and subjective assessments by our management or on estimates based on past experience and assumptions deemed realistic and reasonable based on the circumstances concerned. The actual value of our assets, liabilities and shareholders' equity and of our earnings could differ from the value derived from these estimates if conditions changed and these changes had an impact on the assumptions adopted.

Our significant accounting policies that we believe to be critical to the judgments and estimates used in the preparation of our financial statements are included in "note 2 — Significant accounting judgments, estimates and assumptions" and "note 9 — Share-based payments" to our consolidated financial statements included elsewhere in this prospectus.

Recent Accounting Pronouncements

We have applied, in our consolidated financial statements for the year 2019, new standards and amendments as issued by IASB and that are mandatory as of January 1, 2019. See note 2 to our consolidated financial statements included elsewhere in this prospectus for further information these new standards and amendments.

The new standards and interpretations applicable on a mandatory basis for fiscal years beginning on or after January 1, 2019, as disclosed in note 2 to our financial statements, mainly relate to IFRS 16 Leases. IFRS 16 supersedes IAS 17 Leases, IFRIC 4 (Determining whether an Arrangement contains a Lease), SIC-15 (Operating Leases-Incentives) and SIC-27 (Evaluating the Substance of Transactions Involving the Legal Form of a Lease). The standard sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model.

We adopted IFRS 16 using the modified retrospective method of adoption with the date of initial application of January 1, 2019. Under this method, the standard is applied retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application. We elected to use certain transition practical expedients, including applying the standard only to contracts that were previously identified as leases applying IAS 17 and IFRIC 4 at the date of initial application.

The following several other amendments and interpretations apply for the first time in 2019:

- IFRIC Interpretation 23: Uncertainty over Income Tax Treatment
- Amendments to IFRS 9: Prepayment Features with Negative Compensation
- Amendments to IAS 19: Plan Amendment, Curtailment or Settlement
- Amendments to IAS 28: Long-term interests in associates and joint ventures
- Annual Improvements 2015-2017 Cycle
    - IFRS 3 Business Combinations
    - IFRS 11 Joint Arrangements
    - IAS 12 Income Taxes
    - IAS 23 Borrowing Costs

These standards did not have a material impact on our consolidated financial statements. We have not early adopted any standards, interpretations or amendments that have been issued but are not yet effective.

Internal Control Over Financial Reporting

Historically, we have been a private company and did not maintain the internal accounting and financial reporting resources necessary to comply with the obligations of a public reporting company, including maintaining effective internal control over financial reporting. We and our independent registered public accountants identified a material weakness primarily related to (i) a lack of sufficient accounting and supervisory personnel who have the appropriate level of technical accounting experience and training and (ii) a lack of consistent application of our accounting processes and procedures. As a result of the material

weakness, management failed to identify adjustments in various areas, including but not limited to grants from government agencies and similar bodies and capitalization of tangible and intangible assets.

We have initiated a remediation plan to address this material weakness; however, our control environment can still be improved, and as a result, we may be exposed to errors. Our remediation plan includes hiring additional senior level and staff accountants to support the timely completion of financial close procedures, implement robust processes, and provide additional needed technical expertise, and in the interim, continuing to engage third parties as required to assist with technical accounting, application of new accounting standards, tax matters and valuations of equity instruments. Additionally, we intend to develop and implement consistent accounting policies and internal control procedures. In addition, we will provide additional training to our accounting and finance staff. While we are working to remediate the weakness as quickly and efficiently as possible, we cannot at this time, provide an estimate of the timeframe we expect in connection with implementing our plan to remediate this material weakness.

JOBS Act Exemptions and Foreign Private Issuer Status

JOBS Act

As a company with less than $1.07 billion in revenue during our last fiscal year, we qualify as an "emerging growth company" as defined in the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- the ability to present only two years of audited financial statements in addition to any required interim financial statements and correspondingly reduced disclosure in management's discussion and analysis of financial condition and results of operations in this prospectus;
- exemption from the auditor attestation requirement of Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, in the assessment of our internal controls over financial reporting; and
- to the extent that we no longer qualify as a foreign private issuer, (i) reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and (ii) exemptions from the requirements of holding a non-binding advisory vote on executive compensation, including golden parachute compensation.

We may take advantage of these exemptions for up to five years or until such earlier time that we are no longer an emerging growth company. We will cease to be an emerging growth company upon the earliest to occur of (i) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer" with at least $700 million of equity securities; (iii) the issuance, in any three-year period, by our company of more than $1.0 billion in non-convertible debt securities held by non-affiliates; and (iv) the last day of the fiscal year ending after the fifth anniversary of our initial public offering.

We may choose to take advantage of some but not all of these reduced burdens. For example, we have presented only two years of audited financial statements and only two years of related "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure in this prospectus, and intend to take advantage of the exemption from auditor attestation on the effectiveness of our internal control over financial reporting in our annual report on Form 20-F. To the extent that we take advantage of these reduced burdens, the information that we provide shareholders may be different than you might obtain from other public companies in which you hold equity interests.

In addition, Section 107 of the JOBS Act provides that an emerging growth company can use the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Given that we currently report and expect to continue to report under IFRS as issued by the IASB, we have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required by the IASB. Since IFRS makes no distinction between public and private companies for purposes of compliance with new or revised accounting standards, the requirements for our compliance as a private company and as a public company are the same.

Foreign Private Issuer

We are also considered a "foreign private issuer." In our capacity as a foreign private issuer, we are exempt from certain rules under the Exchange Act that impose certain disclosure obligations and procedural requirements for proxy solicitations under Section 14 of the Exchange Act. In addition, our managing directors, supervisory directors and our principal shareholders are exempt from the reporting and "short-swing" profit recovery provisions of Section 16 of the Exchange Act and the rules under the Exchange Act with respect to their purchases and sales of our common shares. Moreover, we are not required to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act. In addition, we are not required to comply with Regulation FD, which restricts the selective disclosure of material information.

We may take advantage of these exemptions until such time as we are no longer a foreign private issuer. We will remain a foreign private issuer until such time that more than 50% of our outstanding voting securities are held by U.S. residents and any of the following three circumstances applies: (i) the majority of our managing directors or supervisory directors are U.S. citizens or residents; (ii) more than 50% of our assets are located in the United States; or (iii) our business is administered principally in the United States.

We have taken advantage of certain reduced reporting and other requirements in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies.

BUSINESS

Overview

We are a leading global clinical-stage biopharmaceutical company developing a new class of transformative medicines based on messenger ribonucleic acid that has the potential to improve the lives of people. Our vision is to revolutionize medicine and open new avenues for developing therapies by enabling the body to make its own drugs. Messenger ribonucleic acid, or mRNA, plays a central role in cellular biology in the production of proteins in every living cell. We are the pioneers in successfully harnessing mRNAs designed to prevent infections and to treat diseases by mimicking human biology to synthesize the desired proteins. Our technology platform is based on a natural approach to optimize mRNA constructs that encode functional proteins that replace defective or missing proteins using the cell's intrinsic translation machinery. Our current product portfolio includes clinical and preclinical candidates across multiple disease indications in oncology, prophylactic vaccines and protein therapy. Our lead clinical programs are CV8102, which we are evaluating in a Phase 1 clinical trial for the treatment of four types of solid tumors, and CV7202, which we are currently investigating in a Phase 1 clinical trial for potential vaccination against rabies. We are also rapidly advancing our mRNA vaccine program against coronavirus SARS- CoV-2), for which we initiated a Phase 1 clinical trial in healthy volunteers in June 2020, with results expected in the fourth quarter of 2020.

mRNA-based medicines represent a novel class of medicine that have the potential to address limitations of conventional treatment modalities. We believe the modular nature of mRNA has the potential for higher efficacy, greater speed and lower cost of production as compared to conventional treatment modalities. mRNA delivery enables direct production of any protein (secreted, membrane and intracellular) in the body and has shown a wide range of activity. The flexible chemical structure of mRNA, utilizing only four nucleotide buildings blocks, allows us to encode for a broad range of proteins with simple sequence changes, offering design versatility, specificity and limited off-target effects. Transient expression of mRNA limits the risk of irreversible changes to the cells' DNA and allows for modified dosing based on a patient's needs as well as opportunity for repeat dosing. We believe the modular nature of mRNA has the potential for higher efficacy, greater speed and lower cost of production as compared to conventional treatment modalities. We are leveraging these inherent advantages of mRNA-based medicines in the development of our mRNA technology platform.

We have built an extensive expertise in the fields of mRNA biology, optimization and production. We have continued to invest in developing our proprietary technology platform, which we refer to as the RNAoptimizer, over the past 20 years. We optimize mRNAs to preserve critical protein-RNA interactions as these are an inherent feature of the natural building blocks we employ. Our differentiated technology platform is designed to optimize each component of the mRNA-based medicine. Our RNAoptimizer platform is built on three core pillars:

- ***Protein design:*** optimizing the specific properties of encoded protein;
- ***mRNA optimization:*** increasing half-life and translation efficacy of the mRNA molecule; and
- ***mRNA delivery:*** selecting the best-suited delivery system from our diverse portfolio of proprietary and third party delivery systems.

By leveraging each of these pillars, we have observed improved required protein expression levels while modulating the interaction with the immune system in preclinical and clinical trials. We continue to invest in all levels of optimization to improve the methods we currently employ and to further advance our mRNA-based medicines.

We consider our manufacturing process an important part of our strategy that allows us to continuously improve our technology platform and maintain flexibility in clinical development. We control the critical steps of manufacturing in-house, which allows us to drive innovation and to maintain flexibility, which allows us to pivot quickly in clinical development and potential commercialization. For other non-critical manufacturing steps, such as starting material, formulation and fill and finish, we rely on CMOs. We currently operate three GMP-certified suites, with the capacity to supply our clinical programs and potential early commercialization activities. We are in the process of building a fourth GMP facility that

will support our future commercial launches. Based on the doses and response seen in our CV7202 study, we believe the fourth GMP facility, which is being designed to cover all manufacturing steps from starting material to formulation, could potentially supply materials for billions of doses of our vaccine product candidates. In addition to our GMP manufacturing facilities, we are developing a novel downsized and automated process for producing our mRNA, which we refer to as the RNA Printer. With its modular design and decentralized concept, we believe that it could be used for a rapid first response in outbreak scenarios or be placed as a stand-alone device in front lines of epidemic areas.

Our approach seeks to mitigate clinical and developmental risk across multiple levels to advance and expand our broad product portfolio. We have made advances in utilizing the potential of our technology platform through rational disease selection. We consider a number of factors in our disease selection process including unmet medical need, immune response, duration of expression, dosing requirements, delivery, and targeted tissue types, among other factors. Our programs target the underlying modes of action of the disease that play a critical role in the pathology of the disease. We are initially targeting diseases that require an active immune response (such as prophylactic vaccines and oncology) and require transient expression of mRNA in tissue types that are more easily accessible. We believe these initial indications are amenable to localized delivery using a lipid nanoparticle, or LNP, delivery system. Following the encouraging results from our initial prophylactic vaccines program in clinical studies and based on our advanced understanding of mRNA biology and immune stimulation control, we have expanded our product portfolio to target indications that require an immune silent approach (such as protein delivery), given the need for higher doses, repeated dosing and longer expression of the protein. These initial indications are using LNP delivery systems, or our proprietary polymer based delivery system, which we refer to as the CureVac Carrier Molecule, or CVCM. Our access to a broad range of delivery systems allows us to target multiple tissue types.

We are exploring a range of potential approaches in oncology including intratumoral therapy and novel cancer vaccines targeting neoepitopes and tumor associated antigens. mRNA-based medicines offer a versatile platform for cancer vaccine development, allowing us to encode a wide range of antigens from full length tumor associated antigens to neoepitopes. Our lead oncology candidate, CV8102, is a complex of single-stranded non-coding RNA which has been optimized to maximize activation of cellular receptors that normally detect viral pathogens entering the cells (such as toll-like receptor 7, or TLR7, TLR8, and retinoic acid inducible gene I, or RIG-I pathways), mimicking a viral infection of the tumor. CV8102 is designed to recruit and activate antigen-presenting cells at the site of injection to present tumor antigens released from tumor cells to T cells in the draining lymph node. This potentially leads to activation of tumor specific T cells, which can kill tumor cells at the injected site, but also at distant non-injected tumor lesions or metastases. CV8102 is currently being evaluated in a Phase 1 clinical trial for the treatment of four types of solid tumors — cutaneous melanoma, or cMEL, adenoidcystic carcinoma, or ACC, and squamous cell carcinoma of skin, or SCC, as well as squamous cell carcinoma of head and neck, or HNSCC. As of April 2020, we have enrolled 40 patients (24 in the single agent cohort and 16 in the combination cohort with anti-PD-1) in the Phase 1 dose-escalation portion of the study. As of April 2020, we have observed preliminary evidence of single agent activity with objective tumor responses observed in two melanoma patients and two additional patients have shown a stabilization of their disease, including shrinkage of non-injected lesions. Overall, eight out of 24 patients treated with single agent CV8102 remained free of progression for at least 24 weeks. Based on the results from the Phase 1 clinical trial, we plan to determine the recommended dose for Phase 2.

Our mRNA technology platform has shown potential in the development and production of prophylactic vaccines against infectious diseases. mRNA-based vaccines can encode for specific protein antigens of choice, including combinations of multiple antigens, offering potential for the development of prophylactic vaccines against multiple known and as yet unidentified pathogenic threats. mRNA vaccines are also generally expected to be safer than live or attenuated vaccines since no living virus is injected. Our lead vaccine program, CV7202, is being developed for prophylactic vaccination against rabies. CV7202 is an mRNA that encodes the rabies virus glycoprotein, RABV-G, formulated with LNPs. We are currently investigating CV7202 in Phase 1 clinical trial, evaluating safety, including reactogenicity, and immunogenicity. In January 2020, we reported preliminary data from our Phase 1 trial of CV7202 in rabies. CV7202 induced adaptive immune response as shown by rabies-specific virus-neutralizing antibody titers, or VNTs, above the World Health Organization, or WHO, thresholds considered to be protective, 28 days after the

second dose in all subjects, at the lowest 1µg and 2µg dose levels. We also showed that the lowest dose levels (1µg and 2µg mRNA) were generally well tolerated. We plan to report follow up data from our Phase 1 clinical trial in and initiate a Phase 2 clinical trial in .

In response to the global pandemic due to novel coronavirus 2019 disease, or COVID-19, we have rapidly advanced our mRNA vaccine program against SARS-CoV-2. Upon publication of the sequence of the novel coronavirus disease (SARS-CoV-2), at the end of January 2020, we designed and optimized a variety of potential antigenic constructs based on the spike (S) protein to elicit high immunogenicity. Early exploratory data on these constructs indicated high immunogenicity and titers of S specific binding and neutralizing antibodies in mice after a vaccination. The results of our preclinical studies suggest that our vaccine candidate against SARS-CoV-2 was active at low dose (2µg) and triggered fast induction of a balanced immune response with high levels of VNTs and T-cell responses. Based on the preclinical results, we initiated a Phase 1 clinical trial in healthy volunteers in June 2020, with results expected in the fourth quarter of 2020. We are working closely with many organizations, including the Coalition for Epidemic Preparedness Innovations, or CEPI, on the development of this vaccine candidate. We have also produced material for our vaccine candidate in our GMP III facility in anticipation of clinical trials.

Our development efforts for protein therapy are based on delivering optimized mRNAs to trigger production of antibodies or therapeutic proteins. Using our technology, we can instruct human cells to produce specific proteins in the nucleus, cytoplasm, cellular organelles, cell membrane, or get them secreted. Based on this "healthy" information delivered by mRNA, our cells can produce proteins, which are required to treat the disease caused by missing or inactive proteins. Protein therapy spans broad therapeutic areas and has the potential to be used as a treatment against infectious diseases in passive immunization (protection against an infectious disease with the encoding of the adequate protective antibody) and toxins (protection against a toxin with the encoding of the adequate protective antibody) and to be applied in many disease indications including cancer (mRNA encoded cancer antibodies), cardiovascular diseases, and autoimmune diseases. Our mRNA optimization process, which is a core pillar of our RNAoptimizer platform, is designed to increase protein expression with the aim to reach therapeutic levels. In preclinical studies in non-human primates, we have demonstrated that antibodies encoded by mRNA can be produced in hepatocytes very rapidly and can reach therapeutic levels in the blood stream. We are also currently advancing multiple undisclosed programs in preclinical studies across liver and rare diseases, eye disorders, lung diseases as well as delivering therapeutic antibodies.

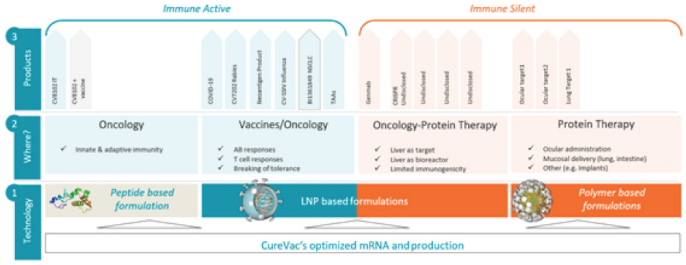
We have built an intellectual property portfolio in the United States, Europe and other major geographies. As of May 31, 2020, we own approximately 693 issued patents worldwide, including 49 issued U.S. patents, 50 issued European patents (which have been validated in various European countries resulting in a total of approximately 506 national patents in European countries), and 138 issued patents in other foreign countries, 119 pending U.S. patent applications, 79 pending European patent applications and 314 pending patent applications in other foreign countries. Our patent portfolio includes claims relating to our RNA technology platform, our CVCM delivery system and our CV8102, CV7202, CV-SSIV and SARS-CoV-2 product candidates.

We are led by a team of veterans with extensive experience in the biopharmaceutical industry, including experience in nucleic acid therapy, oncology, rare and infectious diseases, and antibodies. Our management team as well as our supervisory board members have broad expertise in the clinical, regulatory, and commercialization aspects of oncology, prophylactic vaccines and protein therapy as well as in drug development, process development, and manufacturing for mRNA therapies. We currently have over 450 employees, including 116 employees with advanced scientific degrees. Since our founding, we have raised €451 million in gross proceeds from a combination of equity and convertible debt financings, with an additional €44 million of external committed financing outstanding.

Our Product Portfolio

Our differentiated mRNA technology platform is designed to address a broad range of diseases across multiple therapeutic areas. Given the strengths of our platform, the broad potential of mRNA-based medicines, and our rational approach to disease selection, we have chosen to leverage our platform to initially focus on advancing our product candidates in the areas of oncology, infectious diseases and protein therapy.

A disease indication may require an approach that triggers an immune response (immune active), or that does not require immune activation (immune silent). Each of the disease indications that we are targeting require different levels of immune activation for the mRNA-based medicines to be effective. Our approach is initially focused on RNA or mRNA-based medicines that trigger an immune response such as oncology and prophylactic vaccines. Based on the proof of concept clinical data from our prophylactic vaccine programs, we have expanded our product portfolio to include mRNA therapies based on the expression of therapeutic proteins (including liver, ocular and mucosal applications).



Our lead proprietary programs include:

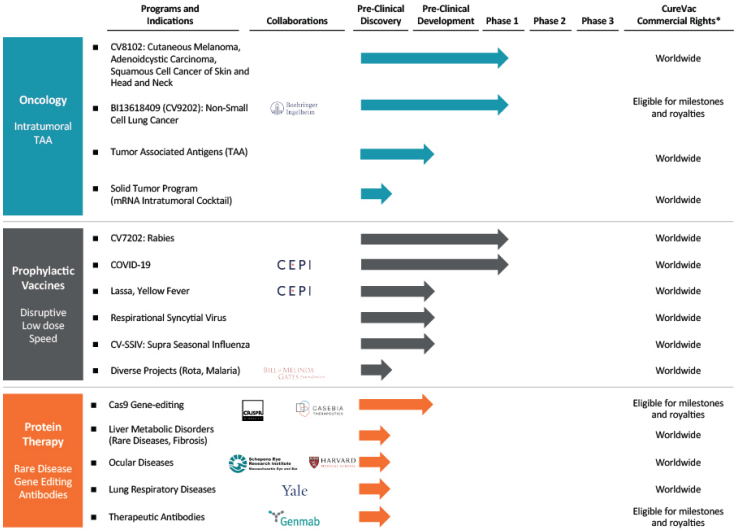
- Our lead oncology program, CV8102, is currently in a Phase 1 dose escalating clinical trial for four types of cancers as a monotherapy and in combination with anti-PD-1. Based on the results from the Phase 1 trial, we plan to determine the recommended dose for Phase 2.
- Our lead vaccine program, CV7202, is currently in a Phase 1 clinical trial as a vaccine candidate against rabies. We plan to report follow up data from our Phase 1 clinical trial in and to initiate a Phase 2 clinical trial in .
- In response to the global pandemic due to COVID-19, we have rapidly advanced our mRNA vaccine program against SARS-CoV-2. Based on the results of preclinical studies, we initiated a Phase 1 clinical trial in June 2020, with results expected in the fourth quarter of 2020.

Our key partnered programs include:

- We have partnered with Boehringer Ingelheim for the development of BI1361849 (previously CV9202) which is a therapeutic vaccine candidate designed to elicit antigen-specific immune responses against tumor-associated antigens frequently overexpressed in patients with non-small cell lung cancer, or NSCLC. BI1361849 is currently being studied by the Ludwig Institute for Cancer Research in a Phase 1/2 clinical trial in NSCLC, in combination with durvalumab, a PD-L1 inhibitor, and tremelimumab, an anti CTLA-4 antibody.
- We have partnered with CRISPR Therapeutics for the development of novel Cas9 mRNA constructs for use in gene editing therapeutics, with improved properties such as increased potency, decreased duration of expression and reduced potential for immunogenicity. CRISPR Therapeutics has an exclusive license to the improved constructs in three of their *in vivo* gene editing programs.
- We have a broad strategic partnership with Genmab to leverage our mRNA technology platform to develop up to four mRNA based novel therapeutic antibodies. This represents the first publicly announced strategic partnership focused on differentiated mRNA-based antibodies.
- We have received grants from the Bill & Melinda Gates Foundation to develop prophylactic vaccines designed to prevent picornaviruses, influenza, malaria and rotavirus.

- We are collaborating with CEPI on the development of several vaccine projects including programs against SARS-CoV-2, Lassa virus and yellow fever. Further, we are collaborating with CEPI on the development of our RNA Printer.

We also have several academic collaborations, including with SERI for target discovery research in mRNA-based eye therapy, and Yale University for target discovery research in mRNA-based pulmonary therapy.



* For further details on our collaboration agreements, see "Business — Collaborations" and "Management's Discussion and Analysis of Financial Condition and Results of Operations — Our Collaborations and Related License Agreements"

Our Strengths

We are developing a broad portfolio of product candidates currently in preclinical or Phase 1 development stages that we believe position us at the forefront of targeted immune active and immune silent mRNA medicines. Our key strengths include:

- **We have a differentiated mRNA technology platform that has the potential to address a wide range of diseases.** As the pioneers in the field of mRNA-based medicines, we have a deep understanding of mRNA biology, its interaction with the cellular translation machinery as well as the immune system. We have built our differentiated RNAoptimizer platform to incorporate these insights over the past 20 years. We optimize mRNA to preserve critical protein-RNA interactions as these are an inherent feature of the natural building blocks we employ. Given the advantages of the mRNA-based medicines over existing treatment modalities, such as potential for broad application, natural biology, wide range of activity, flexibility, design versatility, transient expression and a single manufacturing process, we believe that we have the potential to address a broad range of diseases across multiple therapeutic areas. Our technology platform has been validated in clinical and preclinical studies in selected disease indications.
- **We have a broad portfolio of mRNA-based medicines in preclinical or Phase 1 development stages being designed for efficacy, safety and protein expression at relatively low doses.** We are developing our product candidates and have conducted preclinical studies and initiated Phase 1 trials of

several of our product candidates. The potential of our technology optimized for immune activation has been observed in multiple early stage clinical studies. Our lead oncology product candidate, CV8102, for the treatment of four types of solid tumors through intratumoral treatment, has shown evidence of single agent therapeutic activity with shrinkage of non-treated lesions, with limited treatment emergent adverse events. Our most clinically advanced vaccine product candidate, CV7202, for prophylactic vaccination against rabies, induced protective antibody titers above the WHO threshold in a Phase 1 study, following two doses as low as 1µg of mRNA. In addition, we have rapidly advanced our mRNA vaccine program against SARS-CoV-2 in response to the COVID-19 global pandemic. We are continuing to advance this program. Our vaccine candidate against SARS-CoV-2 was observed to be active at low dose (2µg) and triggered fast induction of a balanced immune response with high levels of VNTs and T-cell responses. Based on the results of preclinical studies, we initiated a Phase 1 clinical trial in June 2020, with results expected in the fourth quarter of 2020. We are working closely with many organizations, including CEPI, on the development of this vaccine. Our approaches optimized for protein therapies have been evaluated in multiple preclinical disease models.

- **We have the ability to target different tissue types based on our delivery systems.** We have access to a number of mRNA delivery systems, including third-party and our proprietary systems, which allow us to target distinct tissues in an optimal way. Our initial clinical programs are based on localized delivery or using the LNP delivery system. Our prophylactic vaccine programs rely on LNP-based delivery systems administered intramuscularly and provide access to the immune cells. Moreover, LNP based systems deliver mRNA efficiently to the hepatocytes in the liver, if administered intravenously. Protein expressed in the liver may either restore a specific function in the liver itself or produce secreted proteins for release into circulation. We rely on third-party state of the art LNP delivery systems for our initial clinical programs but we are developing our own proprietary LNP delivery system. In addition to LNPs, we have developed our proprietary polymer based delivery system called CVCM, which allows us to further expand into other indications. CVCMs offer the ability to target indications that require localized, long-term dosing and create formulations that are appropriate for certain tissue types (such as lung, eye and mucosal).
- **We have invested in building our in-house manufacturing infrastructure, capabilities and expertise to rapidly, efficiently and cost-effectively produce mRNA-based medicines at commercial scale.** We have continued to invest in our manufacturing platform since 2000 and have manufactured thousands of mRNA constructs and obtained manufacturing authorization for over 80 products. All of our mRNA-based active ingredients for various fields of application originate from a common technology platform and are based on identical source materials, which enables us to produce mRNA-based medicines using a substantially similar platform process concept. We currently have three certified GMP suites, with the ability to produce mRNA material for our late stage clinical studies and early commercialization activities. For other non-critical manufacturing steps, such as starting material, formulation and fill and finish, we rely on CMOs. In December 2019, our GMP III facility was certified by the EMA, allowing us to achieve additional scale. We are currently constructing our GMP IV facility, which is being designed to cover all manufacturing steps from starting material to formulation and would allow us to scale up even further and provide supplies for our future commercialization efforts. Based on the doses and response seen in our CV7202 study, we believe our fourth GMP facility could potentially supply materials for billions of doses of our vaccine product candidates.
- **We have entered into strategic partnerships with leading biopharmaceutical companies and research and non-profit institutions to expand the applications of our technology platform.** We have a history of partnering with leading biopharmaceutical companies such as Boehringer Ingelheim, CRISPR Therapeutics and Genmab. We also have received research grants from the Bill & Melinda Gates Foundation and CEPI for the development of several prophylactic vaccines. Our academic collaborations are focused on identifying and evaluating novel targets in selected therapeutics areas. We have collaborations with SERI, and Yale University for eye disorder and pulmonary diseases, respectively. These partnerships and collaborations allow us to expand the application of our platform and bring in external expertise and capabilities.

- **We have built an intellectual property portfolio in a variety of markets for our platform and product candidates.** As pioneers in the field of mRNA therapies, we have built an intellectual property portfolio in the United States and other major geographies. As of May 31, 2020, we owned approximately 693 issued patents worldwide, including 49 issued U.S. patents, 50 issued European patents (which have been validated in various European countries resulting in a total of approximately 506 national patents in European countries), and 138 issued patents in other foreign countries, 119 pending U.S. patent applications, 79 pending European patent applications and 314 pending patent applications in other foreign countries. These patents include claims relating to our mRNA technology platform, our CVCM delivery system, CV8102, CV7202, and other product candidates. We believe our patent applications and other patents are the most cited among mRNA companies' intellectual property.
- **We have a long history of mRNA research and development and are led by an experienced management team.** We are led by veterans of the biopharmaceutical industry with extensive experience in nucleic acid therapy, oncology, rare and infectious diseases, and antibodies. Our management team as well as our supervisory board members have broad expertise in the clinical, regulatory, and commercialization aspects of oncology, prophylactic vaccines and rare diseases as well as in drug development, process development, and manufacturing for mRNA-based medicines. Members of our management team have held senior positions at Bristol-Myers Squibb, Ipsen, LION Bioscience, Pharmacia (Pfizer), Pixium Vision, Sirona Dental Systems, Sygnis Pharma AG and other companies. Our broader team includes over 115 individuals with advanced scientific degrees working on advancing our mRNA platform.

Our Strategy

Our goal is to continue to build a leading, fully integrated mRNA-based medicines company that can transform the lives of people. The key components of our strategy include:

- **Continue to invest in our proprietary technology platform to be the leading mRNA platform company.** We intend to invest in our proprietary technology platform to broaden its potential across therapeutic areas, in addition to broadening our pipeline in existing therapeutic areas. We believe our continued investment will enable us to further optimize the three core pillars of our technology platform — protein design, mRNA optimization and mRNA delivery — and to further enhance our treatment approaches by offering higher selectivity, greater protein expression, potential combination therapies and reduced or flexible dosing. We are continuing to build on our deep expertise in mRNA-based medicines based on what we have learned from our current programs to apply to our future programs.
- **Utilize a rational disease selection approach to minimize clinical and commercial risk for our programs and broader platform.** Our strategy is to maximize the potential of our technology platform through our rational disease selection approach to clinical development. We are initially targeting diseases that require an active immune response (such as prophylactic vaccines and oncology) and require transient expression of mRNA in tissue types that are more easily accessible. Based on the proof of concept achieved in our clinical trials for these initial indications, we have expanded our product portfolio to target diseases that require an immune silent approach (such as protein therapy).
- **Rapidly advance our lead product candidates through clinical development and regulatory approval.** Our product candidates are currently in preclinical or Phase 1 development stages. Our lead oncology candidate, CV8102, is currently being evaluated in a Phase 1 clinical trial for the treatment of four types of solid tumors — cMEL, ACC, SCC and HNSCC. Based on the results from the Phase 1 clinical trial, we plan to determine the recommended dose for Phase 2. Similarly, our most clinically advanced vaccine candidate, CV7202, is currently in development for the prophylactic vaccination of rabies. We intend to report results from our Phase 1 clinical trial in and initiate a Phase 2 clinical trial in .

  Additionally, we have rapidly advanced our mRNA vaccines against SARS-CoV-2 through preclinical studies. Based on the results from our preclinical studies, we initiated a Phase 1 study

in healthy volunteers in June 2020, with results expected in the fourth quarter of 2020, and the goal of quickly proceeding to late stage clinical development. Given the urgency of the need for an effective vaccine for COVID-19, we intend to pursue an accelerated clinical development pathway.

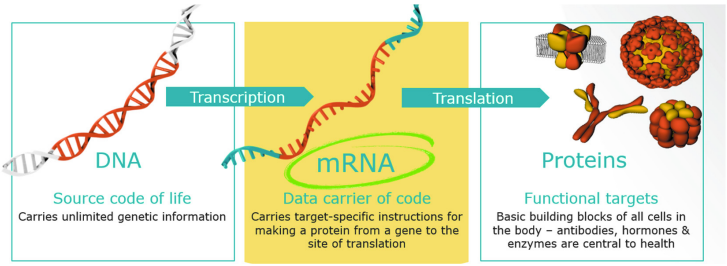
We believe that by initially targeting diseases with high unmet medical need, we will be able to rapidly advance our programs through clinical development. We intend to pursue the appropriate regulatory pathways available to further accelerate our development efforts.

- **Continue to invest in our manufacturing capabilities across all manufacturing steps from starting material to formulation to further add scale and flexibility for potential commercialization.** We believe that our manufacturing capabilities are a key strategic advantage that offer us flexibility, scalability, versatility and reliability in discovery and development. We are currently building our GMP IV facility, which is being designed to cover all manufacturing steps from starting material to formulation and would allow us to further scale up, reduce manufacturing time and reduce production costs. In addition, we are developing a new automated production concept, the RNA Printer, which would enable downscaling of the production of mRNA material, allowing us to be more flexible and respond rapidly to manufacturing needs. We have successfully manufactured a demonstration batch with the first RNA Printer prototype and are currently developing a second generation prototype.
- **Selectively seek strategic partners to develop and commercialize product candidates in certain therapeutic areas and geographies.** We plan to continue to seek additional partnerships with other leading biopharmaceutical companies with specialized capabilities, including development and commercialization expertise in selected therapeutic areas and geographies. We may pursue partnerships that allow us to expedite the discovery and development of product candidates, complement our internal development expertise, broaden the breadth of our technology platform, and provide us with non-dilutive financing, while allowing us to retain economic rights to our product candidates that we view as strategically important. Our approach of partnering with a number of biopharmaceutical companies allows us to execute on a broad range of programs simultaneously, while mitigating our drug development risk.
- **Seek strategic acquisitions or in-licenses of technology or assets that are complementary to our programs and technology platform.** mRNA-based medicines is an emerging field with ongoing advancements and discoveries. As the pioneers in the field, we have made significant strides in advancing and optimizing our technology platform over the past 20 years. We may seek acquisitions and in-licensing opportunities that can augment our internal expertise, expand our competitive differentiation and further enhance our mRNA technology platform.
- **Strengthen and expand our intellectual property portfolio to protect our scientific and technical know-how.** We intend to continue to strengthen and expand our intellectual property to protect our advances in scientific and technical know-how. Our intellectual property strategy is focused on covering advancements in our technology platform, manufacturing processes, and product candidates. In addition to patent protection, we also rely on trade secrets and confidentiality agreements to protect other proprietary information that is not patentable or that we elect not to patent.

Overview of mRNA Therapeutics

The Role of mRNA

mRNA is a molecule instructing the translation of genetic information encoded in DNA by cells into proteins, which carry out essential cellular functions. As depicted in the figure below, genetic information stored in DNA is transferred to mRNA in a process called transcription in the cell nucleus. In transcription, double-stranded DNA is temporarily unwound and copied into single-stranded mRNA by the enzyme RNA polymerase. mRNA is then transported to the cytoplasm where it instructs synthesis of proteins through a process called translation. In translation, cellular structures called ribosomes decode mRNA bases in groups of three (called codons) as amino acids. Each codon specifies a particular amino acid which are the building blocks of protein molecules which perform distinct functions within the body.



Limitations of Existing Treatment Modalities

There are several existing treatment modalities that seek to address the underlying cause of absent or defective proteins associated with diseases, including protein replacement therapy, gene therapy, gene editing, RNA interference, and small molecule therapies. Other treatment modalities seek to harness the immune system, including antibody therapies and traditional prophylactic vaccines. Each of these treatment modalities have certain limitations as discussed below:

Protein Replacement Therapy: While this approach has been successfully used to treat a subset of protein-based disorders, it is mostly limited to proteins that function outside of the cell.

Antibody Therapy: Antibody therapeutics are largely administered intravenously and, being proteins themselves, have applications largely limited to surface molecules. In addition, antibodies have historically faced challenges due to their relatively large size, inadequate pharmacokinetics and tissue accessibility as well as unwanted interactions with the immune system.

Gene Therapy: Gene therapy is usually a one-time intervention meant to provide lasting levels of therapeutic protein. While expected to be a one-time treatment, the duration of treatment efficacy is still largely unknown and it may not be amenable to repeat dosing due to neutralizing antibodies against the gene therapy vehicle. In addition, large-scale manufacturing is costly, time-consuming, and complex.

Gene Editing: Despite its promise, gene editing is still in the early stages of development and has potential risks related to unwanted on- and off-target DNA modifications, incomplete targeting or mosaicism that hinder intended modifications. Similar to gene therapies, manufacturing complexities and costs for gene editing are also challenging.

RNA Interference: RNA interference has potential in silencing certain genes but has limitations in replacing defective or missing proteins, as well as highly expressed proteins. Most of the current efforts in this treatment modality are focused on genes expressed in the liver, with limited evidence of applications in extra-hepatic tissues.

Small Molecule: While small molecules offer advantages over other treatment modalities in terms of biodistribution, tolerability, and delivery, they do not directly address specific gene defects and have a high potential to cause off-target toxicities.

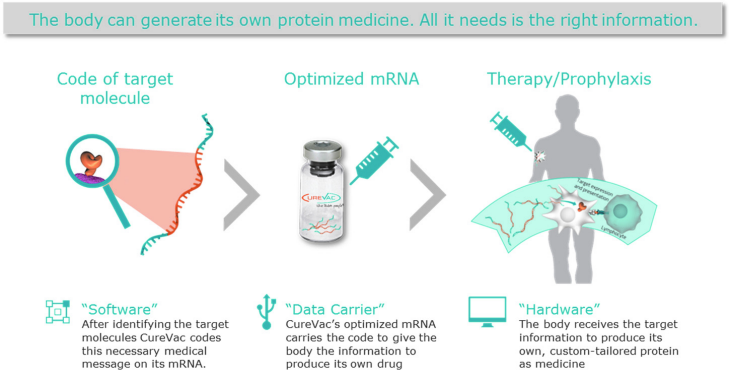
Traditional Prophylactic Vaccines: While traditional prophylactic vaccines are one of the most successful and cost-effective global health interventions, their complex development and costly production processes create a high barrier to entry, long development cycle and limitation in developing vaccines with high serotype coverage.

mRNA as a Novel Treatment Modality

mRNA, as the universal template for protein synthesis, can direct the synthesis of any protein in the body. To treat a medical condition, we identify a target protein and encode the information required to

synthesize this protein on the mRNA. The mRNA, optimized using our platform, carries this code to give a patient's body the information to produce its own, custom-tailored protein as medicine.

mRNAs are typically characterized by their rate of translation into protein and their short and predictable, yet steerable half-life. We optimize these mRNA properties for specific therapeutic needs to provide the most efficacious mRNA-based medicine. mRNAs provide the flexibility to deliver medicines that are required for a limited time as well as the opportunity to deliver repeated doses that can be adjusted to patient needs. The development and manufacturing of mRNA-based medicines can also proceed much more quickly than traditional protein-based therapies, including antibodies.



Key advantages of mRNA therapies that could position it as a novel treatment modality include:

Broad Application: mRNA has the ability to produce all types of proteins, including secreted, membrane and intracellular proteins. This enables broad applicability across a variety of diseases.

Natural Biology: mRNAs mimic human biology to produce proteins in the body in contrast to recombinant proteins that are manufactured using processes that are foreign to the body.

Wide Range of Activity: mRNAs can be used to create therapies that can be applied as an agonist, an antagonist or for vaccines.

Flexibility: A large number of alternative mRNA candidates can be generated in short time and tested to optimize both the mRNA and protein format.

Design versatility: Therapeutic protein expressed from mRNA *in situ* can be designed for efficacy without being limited by the constraints which recombinant proteins are subject to.

Specificity: mRNA-based medicines encode proteins which offer much higher specificity of interactions compared to small molecule drugs, which limits any potential off-target effects.

Repeat Dosing: mRNA-based medicines can be dosed repeatedly given their low immunogenicity.

Transient Expression: Short-lived expression of mRNA limits the risk of unforeseen adverse effects of lasting protein expression (as seen in gene therapy and gene editing) and allows for modified dosing schedules adjusted based on patient's needs.

Manufacturing: mRNA production process is independent of the encoded protein as changes to the mRNA sequence do not affect its chemical and physical properties, allowing for higher efficiency, greater speed and lower cost of production.

Historical Challenges with Developing mRNA Treatments

Using mRNA as a treatment has long been of interest given its potential to address limitations of existing treatment modalities. However, mRNA has historically been limited by the following theoretical and practical hurdles:

Stability: Naked mRNA is rapidly degraded by RNase enzymes present throughout the body which limits the duration of its therapeutic effect. An effective mRNA would need to be masked from these enzymes.

Uptake by cells: Uptake of naked mRNA into cells is relatively inefficient. A more effective mRNA-based medicine would need a delivery system that delivers mRNA efficiently into cells.

Expression level: Protein expression levels from synthetic mRNA obtained by *in vitro* production have been considered too low historically for therapeutic purposes, which underlines the need for an optimized mRNA construct.

Immunogenicity: Non-optimized mRNA in the body rapidly activates receptors on immune cells which triggers the innate immune response and can lead to shut down of protein translation in cells. An effective mRNA-based medicine needs to modulate the immune system according to the disease indication being targeted.

Tissue targeting: Each indication requires delivery to a specific tissue. An effective mRNA-based medicine would need a delivery system that efficiently delivers mRNA to a specific target tissue with low off-target delivery and toxicity.

Manufacturing: mRNA manufacturing technology must be scalable and cost-effective to enable large production for multiple clinical trials and commercialization.

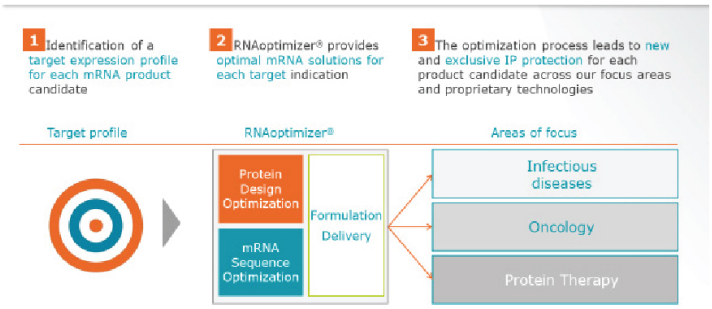
Our Proprietary Technology Platform

The therapeutic potential of mRNAs was discovered by our co-founders in 2000. As the pioneers in the field of mRNA, we have built extensive expertise in mRNA biology, optimization and production. We have developed our proprietary technology platform, called RNAoptimizer, through continued investments over the past 20 years. We believe that we have created the broadest and most versatile platform to develop optimized mRNA-based medicines that has potential to offer differentiated profile in terms of safety, stability and expression.

Our optimization approach covers three pillars: protein design, mRNA optimization and mRNA delivery. Our approach is based on the extensive data libraries we have generated to date. To improve protein expression from *in vitro* produced mRNA, we isolated millions of human natural mRNAs from different cells and identified elements which stabilize mRNA in a natural way and improve their interaction with the cellular translation machinery. We continue to invest in all levels of optimization to improve the methods we currently employ and continue advancing mRNA-based medicines.

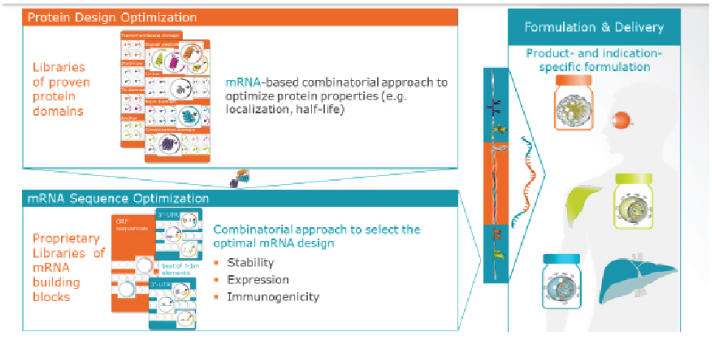
We have a long track record of performing clinical trials with multiple product candidates since 2008. The data generated in these clinical trials has allowed us to better understand the biology of mRNA and to further accelerate development in new therapeutic areas and approaches. We were the first company to demonstrate that mRNA vaccines can induce protective antibody titers in a naïve human subjects with a previous version of our current rabies vaccine product candidate.

Our product candidates consist of two major components: the protein-coding mRNA and a delivery vehicle. Once we have established delivery capability to a target tissue, we can design new product candidates that vary only in the mRNA component, which we expect will allow for rapid target and development candidate identification. We believe that this will enable our platform to be flexible and scalable as we develop additional product candidates.



Our process for creating novel mRNA therapies comprises the following three pillars:

- **Protein Design:** Our goal is to define the amino acid sequence to optimize specific properties of the encoded protein.
- **mRNA Optimization:** Our goal is to define the nucleotide sequence of the mRNA encoding the optimized protein to improve the properties of the mRNA molecule.
- **mRNA Delivery:** Our goal is to define mRNA encapsulation and delivery to select the optimal formulation for each specific indication and tissue.



First Pillar: Protein Design

Proteins play a central role in biology, including formation of the structural framework of the body, aiding in intra- and extracellular transport, biological catalysts (such as enzymes), controlling the activity of cells, and enabling signal transduction throughout the body. Accordingly, mutations that alter the function of a protein that plays a critical role inside the body can disrupt normal development and cause disease. Diseases could be caused by low expression, over expression, or abnormal structures for specific proteins.

We target diseases that are caused by these abnormal or missing proteins. Once our team identifies the protein of interest for a specific vaccine or therapeutic target with a defined target product profile, protein design further improves the potential efficacy by adaptation of the amino acid sequence. Protein design is based on modulation of beneficial protein characteristics that are not present in the naturally occurring protein. We have a library of validated protein domains that can be leveraged using a combinatorial approach to optimize the properties of the target protein.

Our protein design process considers multiple factors before the protein is encoded in the mRNA, including half-life, stabilization of tertiary structure, oligomerization, secretion, and immunogenicity. We have the ability to modify each of these parameters while ensuring that these modifications work in harmony with the required function of the target protein.

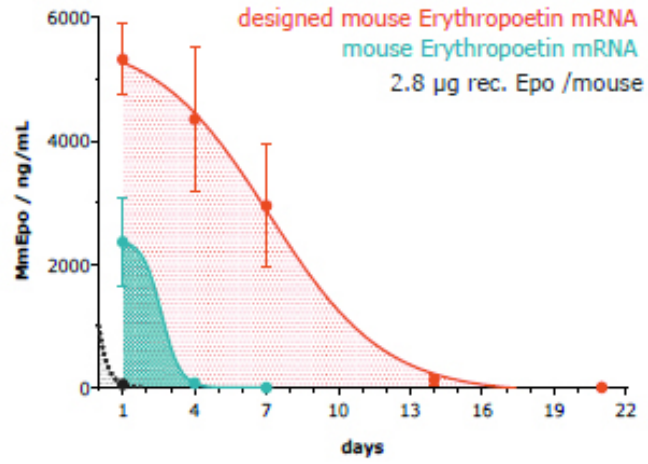
Protein design always depends on the function of the individual protein of interest. The protein can serve as a therapeutic protein without any activation of the immune system or the protein can serve as an antigen with the goal of inducing strong immune responses against it. We employ different optimization strategies to support these distinct functions and requirements. For example, we can enhance certain parameters to extend the half-life or localization of a protein in the case of therapeutic proteins while making sure that RNA sensors remain muted to avoid activation of the immune system. For vaccines, our goal is to induce an optimal immune response mimicking response induced by bacterial or viral infections. Therefore, protein design is always bespoke and multi-factorial to support distinct functions and requirements of the specific target protein.

Below are several specific examples of protein modifications by which we designed a protein's properties relative to the wild type protein:

Extended half-life of secreted protein

This approach relies on the addition of supplementary short domains to the coding sequence of the protein of interest. Although this fusion increases protein size, the additional domains recruit binding proteins already present in blood which promote stabilization of the target protein by preventing proteolytic degradation. To support the efficient persistence of a secreted protein in the bloodstream, we can improve the half-life of this protein by adding specific, endogenous domains. By tailoring the pharmacokinetic profile of secreted proteins, we have the ability to reduce the frequency of dosing, generating a better therapeutic window, and using less material.

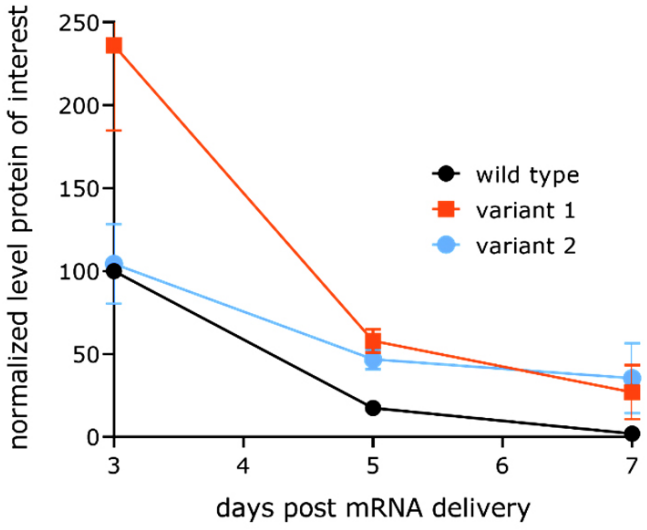
For example, wild type erythropoietin (Epo) is a protein that has a very short half-life of three to four hours in the bloodstream. In a preclinical model, mice were dosed with mouse Epo and protein engineered mouse Epo, both encoded with our optimized mRNA. Dosing with the engineered mouse Epo protein showed an increase in serum titers and pharmacokinetic profile. We were able to increase the half-life and availability of functional Epo in blood from four days to two weeks by fusing endogenous Epo to a selected domain. Notably, both mRNA-encoded Epo proteins showed significantly higher protein expression levels than the injected recombinant Epo, which was cleared from the bloodstream after a single day.



Mice received a single injection in the tail vein of recombinant protein (control) or mRNA encoding proteins. Mice received 2.8 µg of recombinant mouse Epo protein. Wild type Epo encoded by our optimized mRNA and engineered Epo protein encoded by our optimized mRNA were administered at a dose of 0.4 mg/kg giving rise to relevant serum titers of functional Epo and different pharmacokinetic profiles.

Extended half-life of intracellular protein

Similar approaches can also be applied to intracellular proteins, promoting the half-life of functional target proteins. In the example below, protein variant 1 represents the fusion of a protein of interest with a selected protein domain, while variant 2 represents a construct with a single point mutation within the protein of interest. In contrast to the wild type protein, both engineered protein variants enabled the detection of protein even one week after mRNA delivery to hepatocyte cells in culture. Notably, variant 1 and 2 had no deleterious effect on protein function.

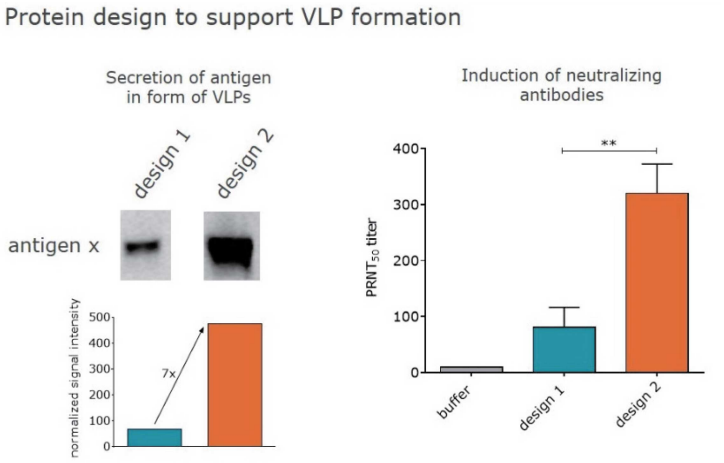


Intracellular abundance of engineered protein variants in comparison to unmodified wild type protein. Protein levels were determined by whole cell Western Blot analysis in human hepatocytes, followed by normalization to signals from a cytosolic loading control and relative to the wild type protein. Same doses used in wild type and engineered protein variants.

Increased oligomerization

Protein oligomerization is a process that converts monomers to macromolecular complexes through polymerization. We can engineer protein oligomerization by adding domains capable to perform this process

to the target protein. As antigens need to be secreted and build clusters to form virus like particles, or VLPs, this oligomerization process is beneficial in boosting the immune response.

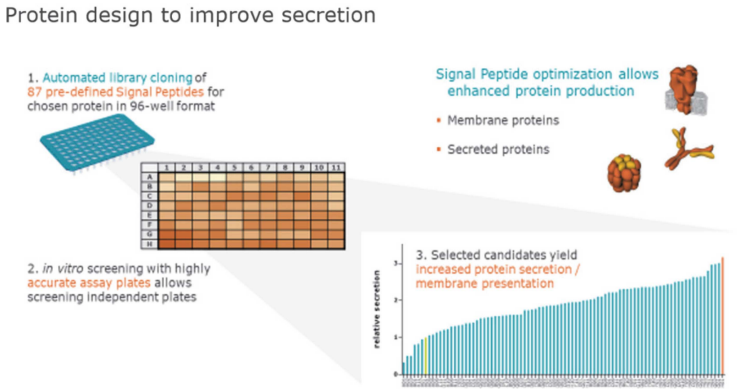


Protein sequence of viral antigen was optimized (design 2) by adding an element promoting secretion and clustering of antigen. In the left-hand side of the graphic, secretion of antigen in form of clusters was confirmed by Western Blot analysis of supernatants from transfected human cells. In the right-hand side of the graphic, vaccination of mice with an mRNA vaccine based on this improved protein design resulted in higher immunogenicity, measured by induction of virus neutralizing antibodies.

Improved secretion

The potency of secreted target proteins can be improved by using alternative, more powerful signal peptides. These signal peptides are responsible for transporting the target protein from the cytoplasm to the outside of the cell, where the secreted protein fulfills its primary function. We screen large libraries of signal peptides to optimize secretion of any given target protein and in any cell type of choice.

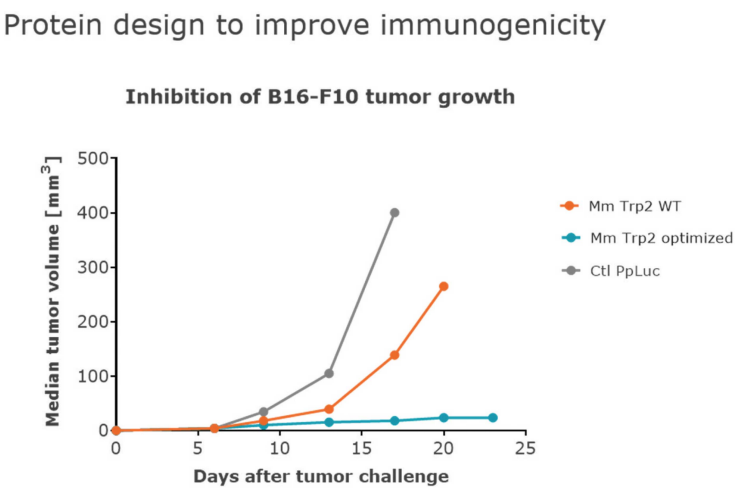
For example, we selected a set of 87 verified signal peptides to maximize secretion. These were combined with the novel target protein via automated cloning to enable facile screening and selection of the most potent product candidate. In the figure below, the top hit from this screen increased the secreted protein levels in primary human muscle cells by three-fold relative to the native signal peptide.



Modified immunogenicity

If the target protein serves as a therapeutic agent, it is important to curb the protein's natural immunogenicity. Our protein design process analyzes and replaces immunogenic epitopes, masking immunogenic epitopes and thereby rendering the target protein more immunosilent. In contrast, we also have the ability to improve immunogenicity for certain applications (for example in a cancer vaccine) by

protein design. These protein sequence adaptations promote immunogenicity and suppress tumor growth in mouse models, as shown in the below example.



Therapeutic vaccination with mRNA vaccine encoding optimized Trp2 cell antigen inhibited tumor growth in murine melanoma model. Syngeneic mice were challenged subcutaneously with melanoma cells. When tumors were palpable, mice were vaccinated intradermally twice a week with LNP-formulated mRNA encoding either wild-type murine antigen Trp2 or Trp2 designed to improve antigen presentation. Mice vaccinated with LNP-formulated irrelevant mRNA (PpLuc) served as control.

Second Pillar: mRNA Optimization

Overview of mRNA Biology

mRNA is a linear polymer comprised of four monomers called nucleotides: adenosine (A), guanosine (G), cytidine (C), and uridine (U). The sequence at any mRNA's center instructing the synthesis of the protein encoded by it is the open reading frame (ORF, also known as coding sequence). The ORF is a continuous stretch of groups of three nucleotides (called codons) that is decoded and translated into protein by the ribosome. The process of translation begins at the first codon of the ORF, always an AUG (the start codon). The start codon signals to the ribosome where to start protein synthesis. The ribosome then progresses along the ORF one codon at a time, adding the amino acid to the protein chain fitting to the codon. A stop codon at the end of the ORF (UAA, UAG, or UGA) signals to the ribosome to terminate protein synthesis. In every cell, hundreds of thousands of mRNAs are translated into hundreds of millions of proteins every day. A typical protein contains 200-600 amino acids; therefore, a typical mRNA coding region ranges from 600-1,800 nucleotides.

In addition to the coding sequence, mRNAs contain the following elements:

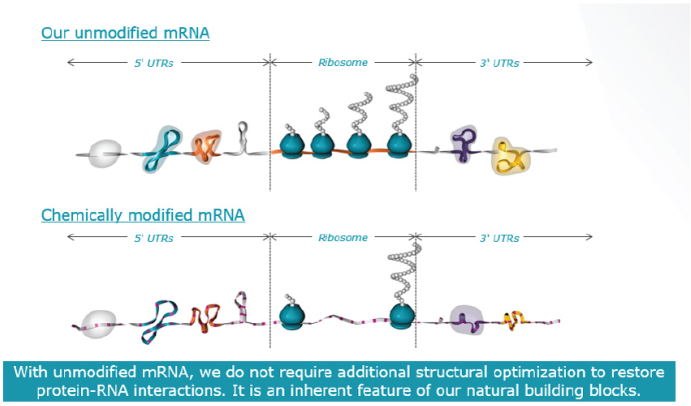
- Untranslated regions, or UTRs — UTRs are sequences that are not translated into protein. The 5' UTR precedes the start codon, the 3' UTR follows the stop codon. These regions play important roles in gene expression including mRNA stability, mRNA localization and translational efficiency via protein-RNA interactions. Some of the elements in the UTRs form characteristic secondary structures that are involved in mRNA regulation.
- 5' cap — The cap structure is required to recruit ribosomes and additional proteins involved in translation to the mRNA.
- 3' polyadenosine, or poly-A, tail — The 3' poly-A tail is a long sequence of adenosine nucleotides (often several hundred) at the 3' end of mRNA. This tail promotes mRNA export from the nucleus and translation, and protects mRNA from degradation. In addition, the 3' end of the mRNA can include a stretch or sequence of nucleotides following the 3' poly-A tail.

Our Approach

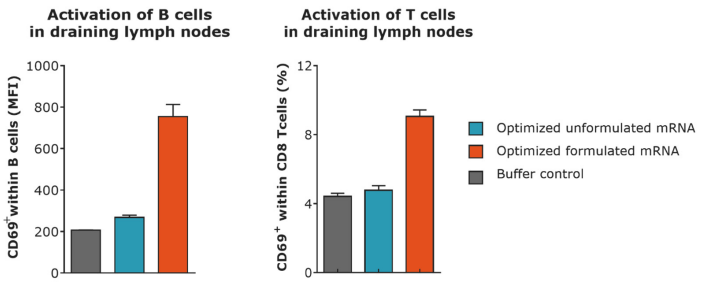
Our mRNA optimization process is designed to generate the most efficacious mRNA for any particular target and indication by optimizing translation, stability and immunogenicity. Each of these parameters can be modified by changing individual mRNA elements and their interplay guided by the envisaged application. Our mRNA molecule contains six elements that can be optimized to improve the potential efficacy of the mRNA construct. These elements include 5' cap, 5' UTR, ORF, 3' UTR, and 3' poly-A tail and 3' end.

Depending on the target and indication, the required pharmacokinetics of protein expression might be different. Some applications may require the highest possible protein expression but only for a limited time, as is the case for gene editing approaches. For other applications, for example some protein replacement therapies, long-lasting protein expression might be key. Peak level and duration of protein expression can be adjusted by the choice or design of enhancer and stabilizing elements in untranslated regions of mRNA. Each of the mRNA elements together in combination with the overall sequence influence the degree of activation of the immune system by any particular mRNA. Therefore, our approach to RNA optimization always considers multiple factors as well as the whole construct to generate the optimal mRNA.

UTRs contribute decisively to the potential efficacy of therapeutic mRNAs. Natural mRNAs contain several different 5' and 3' UTRs, setting the individual level of translation and stability for each message. We have tapped this natural wealth of regulatory sequences and identified a large set of UTRs that confer translation or mRNA stability via diverse protein-RNA interactions. Producing mRNA *in vitro* using the four natural building blocks of mRNA (adenosine (A), guanosine (G), cytidine (C), and uridine (U)), we find that many of these UTRs retain their favorable properties also in combination with a heterologous ORF, for example in coding for a therapeutic protein of interest. Specifically, with our unmodified mRNA, no additional structural optimization to preserve or restore these critical protein-RNA interactions is required as these are an inherent feature of the natural building blocks we employ.



Historically, one factor limiting the use of mRNA as a treatment has been the observation that *in vitro* produced synthetic mRNA activated the innate immune system, resulting in a fast shut down of protein translation in cells. An effective mRNA therapy would need to evade recognition by the immune system to avoid shut down of protein translation. We have accumulated significant knowledge about the signatures recognized by the innate immune system over the past few years. With the insights we have gained, we are able to avoid signatures activating the immune system in elements at our disposal or eliminate them from mRNA constructs. This is demonstrated by the following example where formulated mRNA was injected intradermally in mice and both B-cells and T-cells were activated in the draining lymph node. In contrast, unformulated mRNA injected intradermally had limited immunostimulatory capacity.



10 µg of mRNA, either free or formulated, was administered intradermally to the back of mice. 24 hours post treatment, draining lymph nodes were isolated and the activation status of immune cells was analyzed by flow cytometry. A higher CD69 signal indicates activation of the respective immune cells.

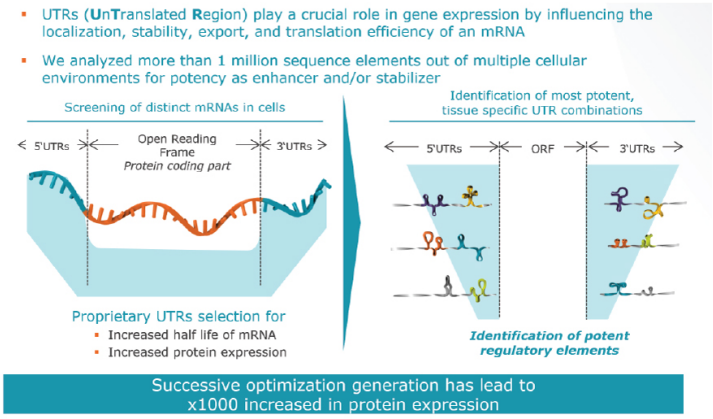
Cap structure

The cap structure influences translation as it recruits the translational machinery including initiation factors and the ribosome. The cap structure also affects mRNA stability due to its influence on the various proteins recruited to mRNA. Further, the cap structure is a determinant of activation of the innate immune system as different cap structures are differentially recognized by several innate immune sensors. In addition, different cap structures are incorporated during *in vitro* production of mRNA with different capping efficiency, resulting in varying proportion of mRNA lacking a cap, which is an mRNA species which

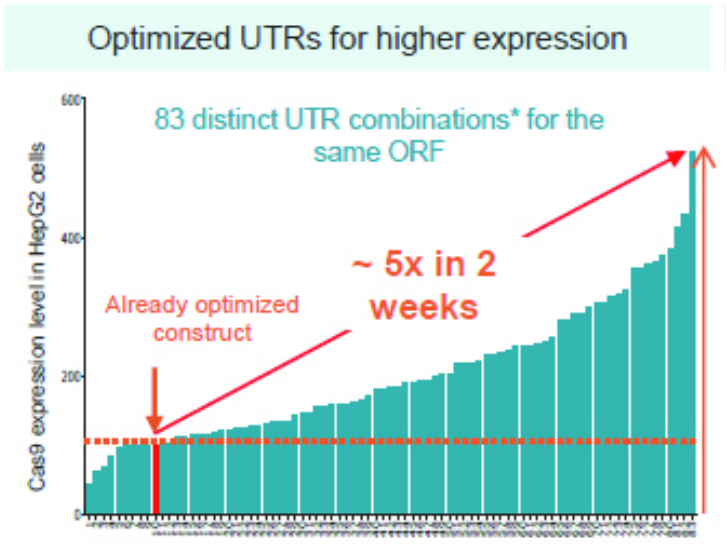
is recognized by yet other sensors of the innate immune system. Accordingly, there is great potential to improve protein expression and immunosilence in mRNA by optimizing the cap structure. We have access to several cap structures, including those we have developed and commercially available ones.

5' and 3' UTRs

We have identified over six million naturally occurring 5' and 3' UTRs. Using bioinformatics analysis to identify patterns of increased expression, duration of expression, and reduced immunogenicity, we have catalogued more than one million 5' and 3' UTRs. From these, we selected a large set of potential enhancer elements (improving the rate of protein expression) and stabilizer elements (improving half-life of protein expression). By running a high throughput combinatorial approach, we identify and create optimized UTR combinations for a specific construct. Further, we have created UTR sub-libraries because we discovered that different UTRs perform differently in various tissue types.



Below is an example of the effectiveness of our UTR library to optimize protein expression as part of our collaboration with CRISPR Therapeutics. An open reading frame coding for an optimized Cas9 protein was combined with 83 UTR combinations via automated cloning. This target-specific UTR screening increased Cas9 protein levels in HepG2 cells five-fold compared to an already optimized construct within several weeks.

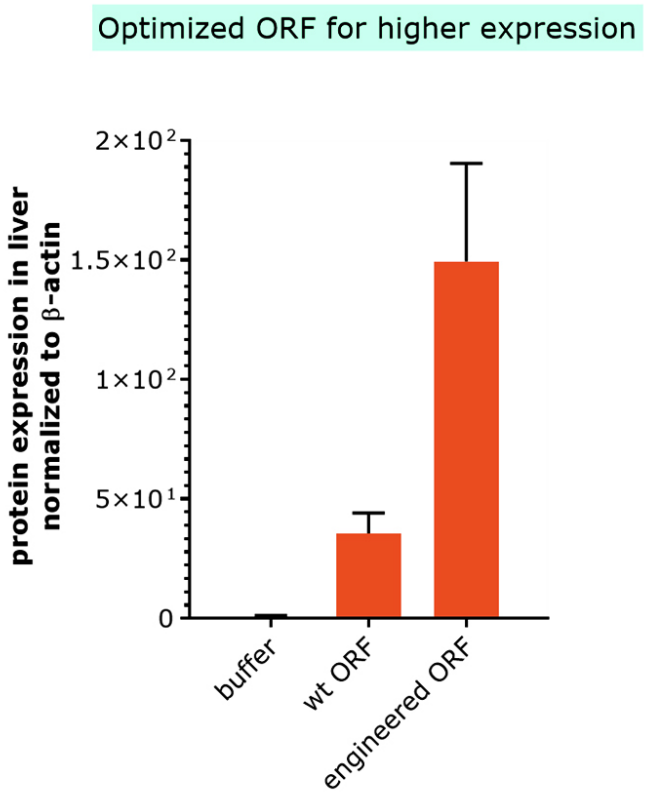


To maximize expression of the target protein a set of 83 combinations of untranslated regions (UTR) was selected from screens identifying stable or highly translated endogenous transcripts. These UTR combinations were combined with the target open reading frame (ORF) via automated cloning to enable facile screening and selection of the most potent product candidates. Target-specific UTR screening led to a five-fold increase in protein levels in HepG2 cells compared to an already optimized construct.

Open reading frame (ORF)

The ORF instructs the synthesis of the protein it encodes by the ribosome. The ORF is a continuous stretch of groups of three nucleotides called codons. Ribosomes decode each codon as an amino acid to be added to the nascent protein. Each codon specifies a particular amino acid, however, many amino acids are specified by more than one codon. Due to this multiplicity of codons that specify an amino acid, any protein can be encoded by a myriad of coding sequences differing in their codon composition. These various ORFs differ largely in their properties and for any particular protein a top performing ORF needs to be identified or designed to make an efficacious mRNA based medicine. We currently optimize the ORF in a broad, holistic approach that includes multiple parameters taking into account codon optimality. Our algorithms also take into account that, similar to UTRs, different codons are optimal for different tissues. Furthermore, these algorithms also analyze and consider secondary structure. For example, as certain elements are known to drive immune stimulation by secondary structure, our algorithms avoid generation of sequences that may give rise to such immune stimulations.

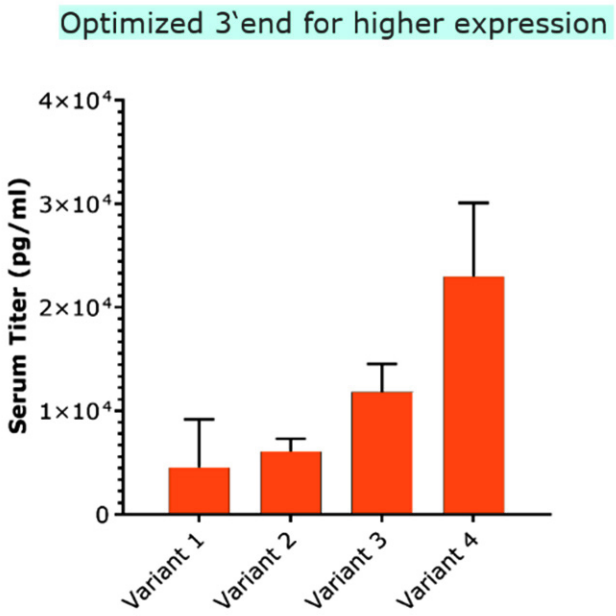
In the following example, protein expressed from our mRNA containing a wild type coding sequence was abundant in the livers of mice injected intravenously with LNP-encapsulated mRNA. However, protein levels were higher from our mRNA containing a coding sequence engineered for maximal protein expression.



Abundance of a therapeutic protein in mouse liver expressed from an engineered open reading frame (ORF) in comparison to the wild ORF. mRNAs containing ORF variants were formulated in LNPs and injected intravenously into mice (called engineered ORF). Protein levels were determined by Western Blot analysis of liver lysates, followed by normalization to the signal from a loading control.

Poly(A) tail and 3' end

The 3' end of the mRNA molecule, prone to degradation by nucleases, is another form of optimization. The 3' end can be sealed using different stabilizing elements, including secondary structure or specific nucleotide sequences, to inhibit RNA nucleases degrading RNA from the 3' end.



Impact of different mRNA 3' end on serum levels of a therapeutic protein. mRNAs containing different vector-encoded 3' end variants were formulated in LNPs and injected intravenously at a dose of 20 µg into female Balb/c mice. Six hours after injection, serum levels of secreted protein were determined by an enzyme-linked immunosorbent assay test, also referred to as ELISA, to measure antibodies in blood.

Finally, we analyze the structure of the optimized mRNA as a whole including ORF and UTRs to predict its recognition by RNA sensors and immune activating potential and modify any inappropriate elements.

Third Pillar: mRNA Delivery

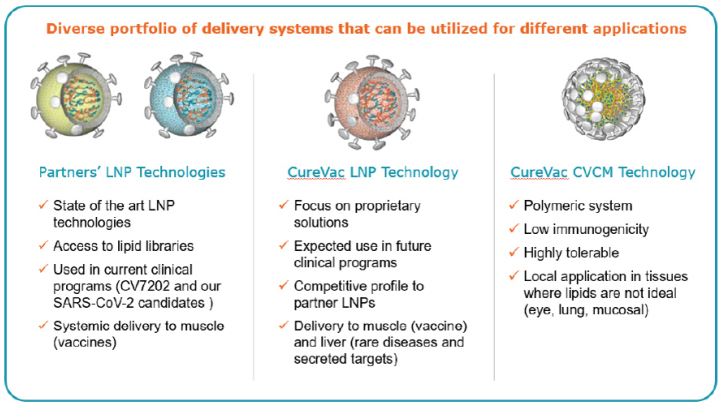
The potency of the administered mRNA drug product is the combination of the potential efficacy of the mRNA that encodes the protein and the delivery system that transports the mRNA to the cells. Protein levels are highly correlated with the number of transfected cells which requires optimized delivery systems. While it is possible to deliver mRNA directly into the target tissue without delivery systems in certain cases, the presence of RNA degrading enzymes in blood and interstitial fluids rapidly regrade any extracellular mRNA. Additionally, cell membranes act as a significant barrier to entry of large molecules such as mRNA. These delivery technologies enable us to deliver large quantities of mRNA to the target cells.

We have access to a diverse portfolio of third-party and proprietary delivery systems that allow us to target a range of diseases. Access to this broad range of delivery technologies allows us to select the best-suited technology for development of each of our product candidates. We choose the most suited delivery system based on a number of factors including immunogenicity, duration of treatment, dose levels, mode of administration and targeted tissue type.

The key delivery systems that we currently employ include:

- Lipid-based delivery systems — We employ lipid nanoparticles (LNPs) to deliver our mRNA-based prophylactic and cancer vaccines locally. For rare disease and antibody therapeutic candidates, we apply LNP-formulated mRNA systemically and deliver mRNA to the liver. We have relied on third-party state of the art LNP delivery systems for our initial clinical programs, and we are developing our proprietary LNP delivery systems for our future clinical programs.
- Polymer-based delivery systems — We employ our novel, proprietary PEGylated polymer system, the CureVac Carrier Molecule (CVCM), to administer therapeutic candidates to such organs as eye and lung. CVCMs are designed to be delivered locally and their administration method may vary (injection, nebulization, among others) due to the robustness of the formulation.

LNPs and CVCM delivery technologies complement each other in their applicability and enable us to cover a greater number of modalities within the mRNA space. With these delivery modalities at hand, we are currently expanding our development pipeline and plan to bring new mRNA therapies to different organs and applications.



Lipid nanoparticles (LNPs)

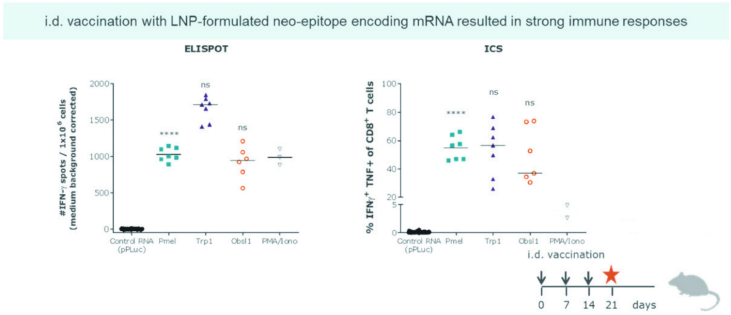
A variety of nanoparticles have been developed over the years for use in drug delivery. LNPs represent the most clinically advanced non-viral delivery systems. Encapsulation of the mRNA within

LNPs enables delivery to the site of action within the cell. LNPs protect the mRNA from degradation, rapid excretion and liver clearance, enabling higher bioavailability and longer half-life.

LNPs consist of different lipids that form together a lipid nanoparticle with a solid core. The four primary LNP components include cationic lipids, pegylated lipids, phospholipids, and cholesterols. LNPs mimic low-density lipoproteins, which allows them to be taken up by an endogenous cellular transport pathway to deliver the mRNA cargo to cells. When LNPs are injected into biological systems, they attach to natural transport proteins, apolipoproteins, to facilitate the transport of lipids within the bloodstream and throughout the body. Following intravenous administration, the apolipoprotein binding enables efficient transport of the mRNA cargo to the liver. Once internalized in endosomes within cells, the LNPs are designed to escape the endosome and release their mRNA cargo into the cytoplasm, where the mRNA can be translated. Any mRNA and LNP components that do not escape the endosome are typically delivered to lysosomes where they are degraded by the natural process of cellular digestion.

The properties of each LNP system can be customized based on altering each component or overall composition. All of the LNPs we employ in our projects are designed to be biodegradable. We have extensively tested over 40 different delivery solutions and have selected the ones we use based on comparative data for the most efficient LNPs available from third parties for licensure. Having access to these technologies enables us to develop fast powerful solutions for vaccines and protein therapy.

Besides the licensed LNP technology from our partners, we are also developing our own LNP technology. We have established two ionizable lipid families and are developing those LNPs for application in local vaccination and systemic delivery to the liver. For local vaccination in skin and muscle, we are currently conducting a systematic screening of LNP components and compositions, optimized exactly for this route. Those adjusted LNP formulations incorporating our own lipids helped to raise significant levels of immune response in epitope based vaccinations.



The graphs above demonstrate the induction of antigen-specific T cell responses after intradermal vaccination of mice with LNP-formulated mRNA encoding for selected neoepitopes. Animals vaccinated with LNP-formulated mRNA encoding reporter protein served as negative controls. Stimulation of splenocytes harvested 7 days post last vaccination with respective peptides demonstrated strong induction of antigen specific T cells in enzyme-linked immune absorbent spot, or Elispot, (depicted in the left hand graph) and Fluorescence-activated cell sorting, or FACs analysis (depicted in the right hand graph).

CureVac Carrier Molecule or CVCM Delivery Technology

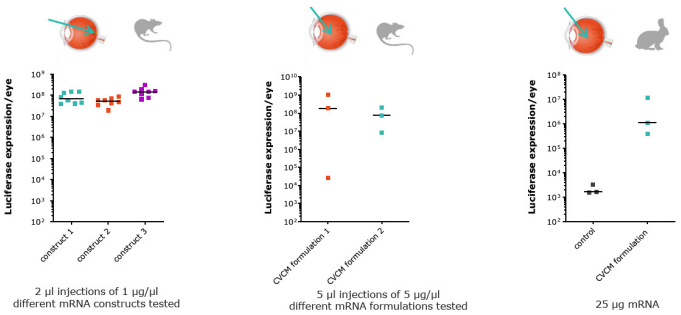
Our proprietary CVCM delivery technology is a polymer based approach for local delivery of mRNA medicines to selected tissues. CVCMs are uptaken via endocytosis and at lower pH during the trafficking, the core peptide and the lipids get protonated. The lipids are then released from the CVCM particles and are inserted into the endosomal membrane, thereby disrupting the membrane. Within the

reducing environment of the cytosol, the CVCMs get destabilized and broken down into its components, resulting in mRNA being efficiently released.

We believe the CVCM delivery technology offers the following key advantages:

- **Stability:** CVCM formulation confers physicochemical stability by design and generates very stable complexes that can survive physical stress. CVCMs can be effectively spray dried, lyophilized, or nebulized, enabling formulation methods that are difficult to achieve with LNPs.
- **Degradation and Excretion:** The human body handles the degradation and excretion of hydrophilic materials very well, without any accumulation in lipid membranes. CVCM polymer is designed and equipped with intrinsic degradation mechanism that enables fast decomposition in the cytosol of cells.
- **Tolerability:** The human body tolerates polymers very well due to the fact that polymers do not disturb the lipid membrane. We have extensively optimized and adapted our CVCM system for mRNA to enable efficient complexation and protection of the mRNA in hostile environments. The excipient to cargo ratio is an important metric that influences the tolerability of delivery systems. For our CVCMs, this excipient to cargo ratio is very low, allowing us to deliver higher amounts of mRNA.
- **Immunogenicity:** Polymeric systems are immunosilent as they do not mimic virus-like particles and do not interact with RNA or lipid sensors.
- **Production of mRNA Therapies:** Polymeric systems tend to be water soluble and enable a homogeneous mixing with the mRNA, thus allowing for less complicated production methods.

The combination of low immune stimulatory capacity and high tolerability makes CVCM formulation highly suitable for sensitive tissues like eye (nerve tissue) and lung (immune sensitive). In preclinical models, CVCM technology enabled high protein in eye (nerve tissue) after intravitreal or sub-retinal administration.



Picture: CVCM nanoparticles mediated protein expression in eye in rats (left panel subretinal injection; middle panel intravitreal injection) and rabbits (right panel intravitreal injection)

The high physicochemical stability during physical stress is also well suited for the administration of CVCM formulation to the lung via the airway. Enabling an administration as an aerosol or as a dry powder formulation.

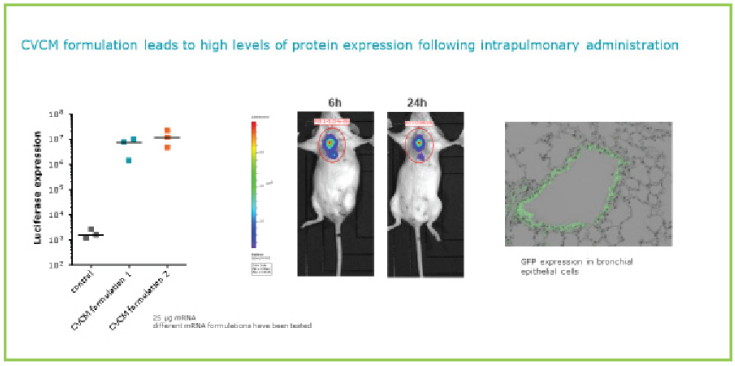


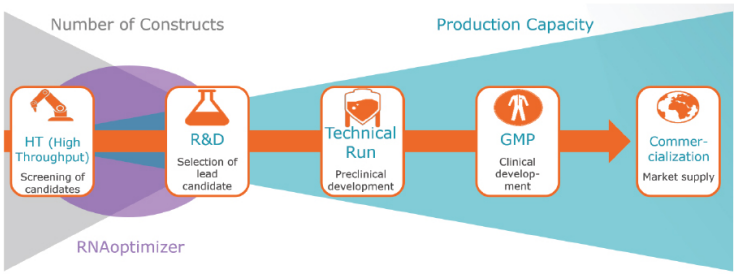
Figure legend: CVCM formulated mRNA, encoding Luciferase was delivered, intratracheal using penncentury device.

Our Manufacturing Platform

We are an integrated biopharmaceutical company with in-house manufacturing capabilities and expertise. We consider our manufacturing process an important part of our strategy that allows us to continuously improve our technology platform and maintain flexibility in clinical development. The close interaction of our technical development and research teams enables us to rapidly implement innovations to the manufacturing process and creates a feedback loop between manufacturing and research. Using this feedback loop, we have created processes and analytics. We control the critical steps of manufacturing in-house, which allows us to drive innovation and to maintain flexibility, and in turn allows us to pivot quickly in pandemic settings such as COVID-19.

All of our mRNA-based active ingredients for various fields of application originate from a common technology platform and are based on identical source materials. This enables us to produce all mRNA therapies using a substantially similar platform process concept. Given the differences in the encoded protein only require alterations of the sequence of the mRNA molecule, leaving its physicochemical characteristics largely unaffected, we can use the same mRNA production strategy applying the same unit operations for diverse products. This allows us to save time and reduce costs compared to other manufacturing processes. Our approach supports a seamless production concept based on our experience and know-how in mRNA manufacturing.

Our GMP Manufacturing Facilities



We have continued to invest significantly in building and expanding our manufacturing capabilities since 2006. We currently have the capacity to produce late stage clinical trial RNA material and early commercial lots. Since 2006, we have manufactured thousands of mRNA constructs, from high throughput and small amounts for discovery and pre-clinical development to GMP level of quality.

We are currently operating three GMP-certified suites. Our GMP I/II facility was designed to run up to 14 different products in parallel, using a lab scale process. The facility covers all steps from starting material pDNA, through mRNA manufacturing to fill and finish. Our GMP I/II facility is dedicated to provide supplies for early clinical development (Phase 1 and 2), with capacity to produce multiple batches per year. In 2019, we expanded our production capacity to meet the increasing demands for clinical studies and future initial commercial supply by adding a GMP III facility. In contrast to the GMP I/II facility, our GMP III facility allows us to achieve additional scale and reduce manufacturing process time. Our GMP III facility focuses on the production of mRNA, and we currently use CMOs for starting material plasmid DNA, or pDNA. We intend to add the formulation step by mid-2021. Our GMP III facility is intended to provide supply for our late-stage clinical studies and initial market supply, and is based on a new scalable process design compared to our GMP I/II facility. We are currently in the process of building a GMP IV facility, which is being designed to cover all manufacturing steps from starting material to formulation, to support our future commercial launches, as shown in the picture below.

GMP IV facility

The RNA Printer

In addition to our GMP manufacturing facilities, we are currently developing a new automated production concept, the RNA Printer. The RNA Printer is a GMP production system that is being designed

to downscale the manufacturing process and automate major manufacturing steps. This fully synthetic production process would allow us to have rapid manufacturing of products and offer reproducibility. It will also include automated cleaning and sanitization in place procedures and continuous process validation. Testing and process development of the first RNA Printer prototype is ongoing. We have successfully manufactured a demonstration batch with the first RNA Printer prototype and are developing a second generation prototype. These new prototypes for DNA and RNA production are being designed to cover automated down- and upstream production up to drug substance.

RNA Printer

The key characteristics of the RNA Printer are rapid throughput, easy operator access to equipment, sophisticated precision control software, and data capture and the small footprint that allows for easy decentralization. With its modular design, it could be used for a rapid first response in outbreak scenarios or even be placed as a stand-alone device for epidemic areas. We view the RNA Printer as complementary to our manufacturing strategy. For example, we expect that the RNA Printer could be deployed to the front lines of pandemic outbreaks complementing our large scale production facilities that can be used to generate supplies to protect the broader population.

Our vision is to have a flexible, mobile and automated end-to-end solution for the different fields of application. Our objective is to cover the entire production stream and we believe efficient accompanying analytics will help to rapidly produce high quality material. All data generated during production would be collected to further improve production processes and product development.

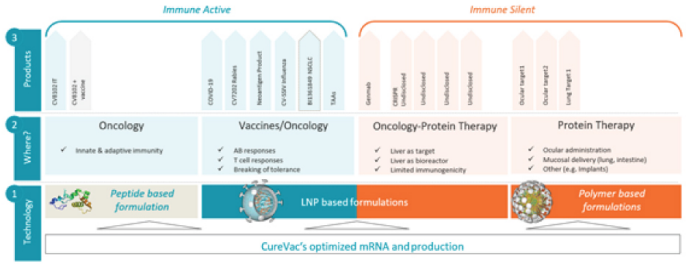
Our Approach to Disease Selection

Our approach seeks to mitigate risk across multiple levels to advance and expand our broad product portfolio. While mRNA is still an emerging treatment modality, we believe that we have made advances towards utilizing the potential of our technology platform through rational disease selection. Our approach for selecting new programs is based on the following key factors:

- Target diseases with high unmet medical needs that are not effectively addressed using the current standard of care.
- Target areas where the underlying mode of action of the disease is understood or hypothesized which allows us to identify the required protein(s) or antigen(s).
- Identify areas where mRNA therapies have potential to have differentiated profile compared to the conventional treatment modalities.

- Assess the likelihood of being able to address the disease using our technology platform and seek to continuously improve and expand the capabilities of our platform to address an even broader range of diseases.
- Seek to build on our deep understanding of mRNA biology, data derived from our technology platform and previous clinical and preclinical studies to apply to new indications.

In building our product portfolio, we have considered a number of factors including immune response, duration of expression, dosing requirements, delivery technology, target tissue type, potential for responsiveness to mRNA based medicine, and target disease profile, among other factors. A disease indication may require a mRNA based medicine that triggers an immune response, or that is immune active, or a mRNA based medicine that requires no immune activation, or that is immune silent. Each of the disease indications that we are targeting require different levels of immune activation for the mRNA based medicine to be effective. Our approach is to initially target indications that require an immune active approach (such as prophylactic vaccines), given the need for lower doses and transient expression of the antigen. These initial indications are amenable to localized delivery using an LNP delivery system. Following the proof of concept in clinical studies from our prophylactic vaccines program and our advanced understanding of mRNA biology and immune stimulation modulation, we have expanded our product portfolio to target indications that require an immune silent approach (such as protein delivery). Targeting diseases amenable to the immune silent approach requires higher doses and longer expression of the protein, with potential for long-term repeat dosing for chronic diseases. By using both LNP and our proprietary CVCM delivery systems, we are able to address a broad range of target tissue types.



We are able to explore the full potential of mRNA product candidates via two main approaches:

- **Immune active.** For indications that require immune stimulation such as prophylactic and therapeutic vaccines, our technology optimizes the combination of mRNA molecules encoding specific antigens and selected delivery modalities to provide the desired immunostimulatory capacity. This allows us to design vaccines with high immunogenic effect. The goal is to induce an immune response against the encoded antigen. The mRNA is taken up by cells, including dendritic cells, at the injection site. Expressed antigens are then presented to the adaptive immune system leading to selective activation of T cells and B cells that recognize these antigens. These activated adaptive immune cells can then recognize and attack similar antigens that are found on tumors or pathogens.
- **Immune silent.** For indications that require no immune stimulation such as protein delivery, our technology can also design product candidates to be immuno-silent and to express encoded proteins over an extended period of time. These product candidates can be expressed either locally (eye or lung) or systemically, using the liver as a bioreactor for production of the therapeutic proteins (enzymes and antibodies).

Oncology

mRNA is a versatile platform for cancer vaccine development allowing to encode a wide range of antigens from full length tumor associated antigens to neoepitopes. We are taking multiple approaches in oncology to induce tumor specific immune responses in patients:

- **Intratumoral therapy:** Intratumoral injection of immunostimulating agents into tumors is an alternative to classic vaccination to induce a therapeutic immune response. High concentration of such agents can be achieved by local administration in the tumor tissue with little systemic side effects. Intratumoral immunotherapy activates antigen-presenting cells in the tumor environment and draining lymph nodes to present a broad panel of antigens expressed by the tumor to T and B cells and induce a systemic immune response against the injected tumor as well as non-injected metastatic lesions (abscopal effect).

  Our lead oncology product candidate, CV8102, is based on a complex of single stranded non-coding RNA with a polymeric peptide carrier which has been shown to activate the TLR7, TLR8, and RIG-I pathways. These pathways activate the innate immune system upon detection of RNA molecule. We are currently evaluating CV8102 in a Phase 1 clinical trial for the treatment of four types of solid tumors. We are also investigating mRNAs encoding immunostimulating proteins for intratumoral therapy. We have shown in several animal models that intratumoral injection of mRNA encoding immunostimulating proteins, such as cytokines, can induce regression of the injected tumors and prolong survival of the animals. We are testing different mRNA constructs and formulations in preclinical studies to achieve optimal expression of proteins in the tumor. We are also exploring combinations of mRNA encoding different immunostimulating proteins in order to demonstrate optimal therapeutic level in tumor models that are refractory to immunotherapies like anti-PD-1 agents.

- **Novel cancer vaccines:** We are also working on discovery of novel vaccines against tumor-associated antigens, which are antigens that are overexpressed in tumor tissues with no or little expression on healthy tissues, using our LNP formulations. It is known that these antigens are often less immunogenic than neoantigens and require optimized design to improve their presentation to immune cells as well vaccine formulation with strong immunostimulating properties (vaccine adjuvant effect) to enable the induction of relevant immune responses.

  We have demonstrated in a preclinical model that an optimized LNP formulated mRNA vaccine, encoding a TAA, that is also a self-antigen, can induce cellular and humoral immune responses and single agent therapeutic activity. These immune responses led to single agent therapeutic effect in the B16F10 tumor model that does not respond to anti-PD-1 antibodies alone. The therapeutic effect of the vaccine was further enhanced by concomitant systemic anti-PD-1 antibody treatment. Based on these encouraging data, we are developing vaccine candidates targeting tumor associated antigens for different indications. We aim to focus on indications and settings with a high medical need showing a low response rate to anti-PD-1 antibodies alone or indications with minimal residual disease after standard of care surgery (adjuvant setting) and aim to use the vaccines to prevent cancer relapse.

  We are also developing novel vaccine targeting a number of neoantigens. We have demonstrated that LNP formulated mRNA vaccines encoding are also able to induce T cell responses against model neoantigens.

Prophylactic Vaccines

Similar to the proteins expressed on cancer cells, infectious disease-related proteins, such as viral surface proteins, specific target for the body's immune defense system can be expressed by injected mRNA and then presented to B- and differentiated T- cells, activating a specific immune response. We believe that our mRNA technology offers a platform for the development and production of prophylactic vaccines against infectious diseases. We believe our mRNA vaccines offer many advantages over existing vaccine technologies, including:

- mRNA vaccines mimic several aspects of a natural viral infection and may offer improved and balanced immune response.
- mRNAs allow us to encode for specific protein antigens of choice, offering potential for the development against known and yet unidentified pathogenic threats.
- mRNAs allow production of multivalent vaccines with the potential to either demonstrate a broader efficacy by including additional target pathogens, or to strengthen potential efficacy by better targeting a specific pathogen, for example by adding of immunogenic epitopes, or both.
- mRNA vaccines are generally expected to be safer than live or attenuated vaccines since no living virus is injected. As they do not interact with the host-cell DNA, they avoid the potential risk of genomic integration posed by DNA-based vaccines.
- mRNA binds to pattern recognition receptors and mRNA vaccines are thereby self-adjuvanting, a property which peptide- and protein-based vaccines lack.
- Rapid speed of development from knowing the sequence of the virus to progressing programs in clinical development given our ability to produce antigens without dedicated cell cultures and fermentation-based manufacturing processes.
- Commercial scale production of mRNA is fast, cost-effective and, in contrast to traditional vaccine approaches, does not require cell culture or the use of live pathogens and as a result, multiple vaccines can be produced in the same plant.

Our current approach to the development of potential prophylactic vaccines is focused on:

- **CV7202 for rabies:** Our most advanced program, CV7202, is a rabies vaccine candidate currently in a Phase 1 clinical trial. CV7202 induced adaptive immune response as shown by rabies-specific VNTs above the WHO thresholds considered to be protective, 28 days after the second dose in all subjects, at the lowest 1µg and 2µg dose levels.
- **SARS-CoV-2 vaccine:** Our mRNA vaccine program against SARS-CoV-2 is currently in Phase 1 clinical studies. Our preclinical studies showed a fast induction of a balanced immune response in mice with high levels of VNTs and T-cell responses at a low dose (2µg). We believe that VNTs provide evidence supporting the potential of our vaccine candidate to induce a strong immunologic response to neutralize SARS-CoV-2.
- **CV-SSIV for influenza:** As part of our influenza program, we have evaluated mRNA-based influenza vaccines starting with a monovalent influenza vaccine followed by seasonal cocktails based on influenza hemagglutinin, or influenza HA. In preclinical studies, we demonstrated that the multivalent mRNA vaccines induced hemagglutination inhibition, or HI, titers above the accepted threshold for protective immunity in ferrets and non-human primates, or NHPs.
- **Respiratory Syncytial Virus, or RSV vaccine:** Our approach for the RSV program is based on delivering mRNAs encoding for the RSV F (fusion) protein. Based on *in vivo* challenge studies in cotton rat, we have demonstrated that our mRNA vaccines induce high levels of virus neutralizing antibodies, protect animals against RSV infection, without any signs of lung pathology.
- **Other prophylactic vaccines:** In partnership with the Bill & Melinda Gates Foundation, we are developing prophylactic vaccines for prevention of other infectious diseases associated with high mortality in the developing world including malaria and rotavirus.

Protein therapy: Deliver mRNA to express the right protein wherever needed

We are seeking to optimize mRNA molecules to trigger production of antibodies. Our antibody work has potential to protect against viruses and toxins and can be applied in many disease indications including cancer, cardiovascular diseases, infectious diseases and autoimmune diseases. In preclinical studies in non-human primates, we have demonstrated that antibodies encoded by mRNA can be produced in hepatocytes very rapidly and can reach in the blood stream at relevant therapeutic levels.

With our technology, we can instruct human cells to produce specific proteins in the nucleus, cytoplasm, cellular organelles, cell membrane, or get them secreted. Based on this "healthy" information delivered by mRNA, our cells are designed to produce proteins, which are required to treat the disease caused by missing or inactive proteins.

We believe there are several advantages of our technology applied to development of protein therapy, including:

- mRNA encoded proteins can function within or outside of cells as well as inside cell membranes, allowing us to address intracellular protein deficiencies that are not addressed by recombinant proteins.
- mRNAs can enable production of complex proteins that are challenging to make using recombinant technologies due to their folding requirements and complexity.
- Administered mRNAs encode proteins using natural pathways allowing for post-translational modifications such as glycosylation whereas recombinant proteins use non-human post-translational modifications which may lead to lower effectiveness and increased immunogenicity.
- mRNA constructs can be optimized to produce proteins that offer desirable pharmacology relative to the wild type protein, such as increased half-life.
- mRNA allows for dosing flexibility to meet patient needs without causing irreversible changes to the genome.
- mRNA can be delivered repeatedly, creating the opportunity to provide long-term benefit for treatment of chronic diseases.

Our current approach to the development of protein therapies is focused on:

- **Liver and Rare diseases:** We are currently developing multiple undisclosed programs focused on liver-specific metabolic disorders. The goal of these programs is to restore the specific enzyme or protein that is deficient in the liver by LNP-mediated delivery of mRNA to the liver. As such, the target organ for correction is the liver, and secretion and systemic distribution of the enzyme or protein to other organs is not required for a therapeutic effect. We have shown initial proof of concept in a knockout mice model for hereditary spastic paraplegia type 5 (SPG5), where we demonstrated a significant reduction in oxysterols in serum, liver and brain. We are applying this approach for delivery of liver-specific protein factors, which we believe can resolve liver fibrosis, a key pathological feature of NAFLD, NASH, cirrhosis and hepatocellular carcinoma. In addition, we have conducted preclinical studies in undisclosed lysosomal storage disorder using liver as a bioreactor.
- **Therapeutic antibodies:** We are also developing mRNAs therapies to produce antibodies systemically using the liver as a bioreactor for subsequent secretion and systemic distribution of the antibodies to primary organs affected by a disease. Our collaboration with Genmab, a global leader in antibody discovery and design, will allow us to work with novel antibodies produced using our mRNA technology. This partnership represents the first-ever publicly disclosed mRNA antibody focused deal and will allow us to optimize and manufacture mRNA encoded antibodies for Genmab.
- **Eye diseases:** Using our CVCM delivery system that enables different routes of delivery to the eye, we are investigating development of mRNA-based treatments for undisclosed ophthalmic indications. We have a collaboration with SERI for our discovery efforts.
- **Lung diseases:** The CVCM delivery system is also well suited for delivery of mRNA to the lung, administered as either an aerosol or a dry powder formulation. Proof of concept *in vivo* animal studies showed that CVCM mRNA formulations, administered using the intrapulmonary route, were able to transfect airway epithelial cells and produce functional therapeutic proteins in the lung. We have a collaboration with Yale University focused on discovery of novel molecular targets in pulmonary diseases.

Our Key Pipeline Candidates

CV8102

CV8102 is the first compound we are developing for treatment of various solid tumors using an intratumoral approach. CV8102 is based on a complex of single stranded non-coding RNA with a polymeric peptide that binds and coats the RNA, protecting it from rapid degradation while also helping to stimulate the immune system.

CV8102 was shown to activate cellular receptors that normally detect viral pathogens entering the cells (such as TLR7, TLR8, and RIG-I pathways). By mimicking a viral infection at the injection site, CV8102 is designed to induce an inflammation that can activate the immune system to reject the tumor. CV8102 was initially developed as a vaccine adjuvant and was shown to enhance the induction of multifunctional CD8 T cell responses and therapeutic activity of peptide vaccines against cancer in preclinical models.

CV8102 is currently in a Phase 1 clinical trial for the intratumoral treatment of four types of solid tumors — cutaneous melanoma, or cMEL, adenoidcystic carcinoma, or ACC, and squamous cell carcinoma of skin, or SCC, as well as squamous cell carcinoma of head and neck, or HNSCC.

As of April 2020, we have enrolled 40 patients (24 in the single agent cohort and 16 in the combination cohort) in the Phase 1 dose-escalation portion of the study. Intratumoral CV8102 was observed to be tolerated without dose limiting toxicities, or DLTs, at dose levels up to 600 µg (single agent) and 450 µg (anti-PD-1 combination) and dose escalation continues.

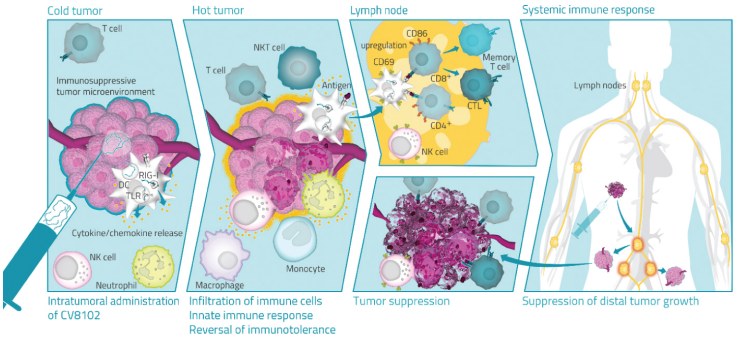
We have observed preliminary evidence of single agent activity with objective tumor responses (1 complete response, or CR, and 1 partial response, or PR, according to RECIST 1.1.) in two melanoma patients. Two additional patients have shown a stabilization of their disease, including shrinkage of non-injected lesions.

Based on clinical data from the ongoing Phase 1 portion of the trial, further clinical development of CV8102 will continue after selection of a recommended Phase 2 dose. We plan to further investigate safety, biological effects and clinical efficacy of this dose in an expansion part of the trial.

Currently, expansion cohorts of 20 to 40 patients per indication are planned and will include combination with anti-PD-1 antibodies in PD-1 naïve and refractory patient populations. In selected sub-cohorts assessment of mandatory tumor biopsies is planned to elucidate the mechanism of action and help to predict which patients may be more responsive to the treatment.

Mechanism of Action

CV8102 is designed to activate cellular receptors that normally detect viral pathogens entering the cells (such as TLR7, TLR8 and RIG-I pathways) mimicking a viral infection of the tumor. CV8102 is designed to recruit and activate antigen-presenting cells at the site of injection to present tumor antigens released from tumor cells to T cells in the draining lymph node. This potentially leads to activation of tumor-specific T cells, which can kill tumor cells at the injected site, but also at distant non-injected tumor lesions or metastases. Activation of other immune cells like natural killer, or NK, cells at the site of injection may also contribute to the antitumor effect. This mechanism of action is illustrated in the figure below.



In preclinical models, CV8102 was shown to initially activate the innate immune system at the site of injection and the draining lymph node based on increase in number or activation of NK cells, monocytes and plasmacytoid dendritic cells. There was also an increased expression of genes associated with T-cell mediated cytotoxicity. These effects were enhanced by concomitant treatment with anti-PD-1 antibodies which also led to increased tumor infiltration by $CD8^+$-T cells.

Market Opportunity

CV8102 is currently being developed against four types of cancers, each frequently exhibiting easily accessible superficial tumor lesions:

- cMEL is an aggressive form of cancer that starts in the pigment-producing cells of the skin and can spread widely to other parts of the body. Cutaneous melanoma accounts for the majority of skin cancer-related deaths in the United States. In 2018, there were approximately 300,000 new cases of cutaneous melanoma and approximately 60,000 deaths worldwide. In the United States, the National Institute of Health, or NIH, estimates approximately 100,000 new diagnoses of cutaneous melanoma and approximately 7,000 deaths in 2020. According to the National Comprehensive Cancer Network, or NCCN, guidelines, while surgical removal of the tumor is the primary treatment for localized melanoma, for patients with metastatic disease, chemotherapy and targeted therapies including the BRAF inhibitors are also recommended. Based on published literature, the majority of patients treated with BRAF inhibitors develop secondary resistance within a relatively short amount of time. Checkpoint inhibitors are recommended as the first-line treatment for advanced / unresectable metastatic melanoma, but their side effects are severe and a significant subset of patients (approximately 40% to 45%) do not respond to these drugs and many of those who do respond (approximately 30% to 40%), develop secondary resistance. There are very limited therapeutic options for patients who have failed anti-PD-1 and targeted therapy (if eligible). Intralesional oncolytic virus therapy, or Tvec, is considered for selected cases, but its use is mostly limited to metastatic stage IIIc or M1A disease.
- HNSCC occurs in the outermost surface of the skin or certain tissues within the head and neck region including the throat, mouth, sinuses and nose. Squamous cell carcinoma makes up about 90% of all head and neck cancers. Consumption of tobacco products and alcohol and having a poor diet are important risk factors. HNSCC is the seventh leading cause of cancer-related mortality: in 2018, an estimated approximately 700,000 people were diagnosed with HNSCC worldwide, with approximately 350,000 deaths. In the United States, according to American Society of Clinical Oncology, or ASCO, approximately 65,000 new cases are diagnosed annually and more than 14,500 deaths are reported every year. Published literature indicates that more than two-thirds of patients with HNSCC initially present with locoregionally advanced disease (stage III-IV). HNSCC treatment typically involves a combination of chemotherapy, radiation and surgery. According to the Cancer Network and published literature, for patients with early-stage

disease, these treatment approaches lead to approximately 60% to 80% response rate. The 5-year progression-free survival, or PFS, rate of advanced HNSCC has continued to remain at 40% to 50% and the average time to relapse is less than 2 years regardless of the combination of various treatment modalities. In patients with advanced disease, more than 50% develop local or regional recurrence and nearly 30% develop distant metastases. Based on the NCCN, the recommended first line treatment for recurrent/metastatic HNSCC include chemotherapy combinations with Cetuximab and anti-PD-1 antibody treatment with or without platinum based chemotherapy. We believe based on publications and our analysis that the typical response rate to anti-PD-1 antibodies in patients with HNSCC is below 20%, and that there is still a significant unmet need.

- ACC is an uncommon form of malignant neoplasm that arises within secretory glands, most commonly the major and minor salivary glands of the head and neck. Other sites of origin include the trachea, lacrimal gland, breast, skin and vulva. ACC accounts for around 10% of all salivary gland neoplasms, 22% of all salivary gland malignancies and about 1% of all head and neck malignancies. The National Cancer Institute, or NCI, estimates that 1,200 patients are diagnosed annually in the United States with ACC and 15,000 patients are affected. Globally, ACC incidence rate is estimated between 0.4 to 13.5 cases per 100,000 annually. The primary treatment of ACC is surgery, which is usually followed by post-operative radiotherapy. According to the American Society of Clinical Oncology, or ASCO, while the 5-year survival of ACC is 89%, 15-year survival is only approximately 40%. For patients with recurrent or advanced/metastatic disease not amenable to curative intent surgery there is no approved systemic standard treatment. There are minimal options for treatment of advanced ACC, traditional chemotherapy has been proven to be of minimal benefit, so patients often seek clinical trials as a second line option, leading to a high unmet medical need.
- SCC is the second most common form of skin cancer that develops in the squamous cells that make up the middle and outer layers of the skin. While not life-threatening, it can be aggressive and can spread to the other parts of the body, causing serious complications. According to ASCO, in the United States, out of 5.4 million skin cancer cases, 20% are SCC. According to published literature, global incidence varies widely with highest incidence reported in Australia and lowest rates reported in Africa. Given most countries do not have cancer registries for skin cancer, figures reported are likely underestimated. Although most SCC are localized and easily treated, approximately 5% of patients experience local recurrence, approximately 4% develop nodal metastases and approximately 2% die of the disease. According to NCCN, most SCC are managed through different surgical methods, along with topical therapy, cryotherapy and photodynamic therapy. Surgical methods usually lead to good prognosis and cure rates greater than 90%. In rare case of metastases, radiation therapy, immunotherapy and/or chemotherapy are deployed. Despite the available treatments, 10-year survival rate is less than 20% in patients with locoregional lymph node metastases and less than 10% in the presence of distance metastases, leading to a significant clinical unmet need.

Phase 1 Clinical Trial of Intratumoral CV8102

We initiated a Phase 1 clinical trial of CV8102 for the treatment of various solid tumors in 2017.

The Phase 1 clinical trial is evaluating intratumoral administration of CV8102 in patients with advanced melanoma, squamous cell carcinoma of the skin, squamous cell carcinoma of the head and neck, or adenoid cystic carcinoma. Patients receive CV8102 as single agent or in combination with anti-PD-1 therapy. Patients with advanced inoperable melanoma, cutaneous or head and neck squamous cell or adenoid cystic carcinoma are eligible for single agent CV8102, and patients with advanced inoperable melanoma and head and neck squamous cell carcinoma indicated for anti-PD-1 therapy or who did not respond or slowly progressed on anti-PD-1 therapy are eligible for the combination. CV8102 is administered for up to eight intratumoral injections into a single accessible tumor lesion over a 12-week period.

The objectives of this clinical trial include to define the maximum tolerated dose and recommended dose for CV8102 alone and in combination with an anti-PD-1 therapy, and to evaluate safety and tolerability

of CV8102 administered alone and in combination with an anti-PD-1 therapy. Secondary endpoints include anti-tumor activity analyses and tumor response assessment.

Key Inclusion Criteria:

- Patients enrolled into single agent CV8102 dose escalation cohorts must have:
  - histologically confirmed advanced cMEL, SCC, HNSCC or ACC with documented disease progression;
  - not amenable to resection or locoregional radiation therapy with curative intent; and
  - at least 1 line of anti-cancer therapy for advanced disease (except adenoid cystic carcinoma).
- Patients enrolled CV8102 anti-PD-1 combination cohort must have:
  - histologically confirmed advanced cMEL or HNSCC; and
  - indication for anti-PD-1 therapy or currently receiving anti-PD-1 therapy with stable of slowly progressing disease after at last 8 weeks (HNSCC) or 12 weeks (cMEL) of anti-PD-1.
- Presence of at least one injectable lesion that is measurable according to RECIST 1.1 criteria.
- Recovered from prior relevant toxicities to grade ≤ 1.
- ECOG PS 0 or 1, 18 years of age or older.

Key Exclusion Criteria:

- Rapidly progressing multi-focal metastatic or acutely life threatening disease;
- Prior use of topical/local TLR-7/8 agonists within the past 6 months;
- Prior anti-cancer therapy administered 2-4 weeks prior to the first dose of study drug depending on the indication;
- Lesions that are to be injected in previously irradiated areas unless progressive tumor growth has been demonstrated (no prior irradiation of injected lesions on patients with melanoma); or
- Treatment with any investigational anticancer agent within 4 weeks prior to the first dose of study drug.

Primary Objectives:

- Determine maximum tolerated dose, or MTD, based on occurrence of DLTs within 2 weeks after the first dose and recommended dose, or RD, respectively, for CV8102 alone and in with anti-PD-1 therapy.
- Tolerability and safety of CV8102 alone and in combination with anti-PD-1 therapy

Secondary Endpoints:

- Evaluate anti-tumor activity of CV8102 alone and in combination with anti PD-1 antibodies per RECIST 1.1 and irRECIST criteria.
- Evaluate duration of response, progression free survival and disease control rate at 6 months.
- Evaluate tumor response of injected and non-injected lesions.
- Evaluate survival time.

Exploratory Endpoints:

- Evaluate effects on immune parameters and other biomarkers of interest in the peripheral blood.
- Evaluate effects on immune cell infiltration and other biomarkers of interest in tumor biopsy specimen (in selected cohorts during the expansion phase).

Preliminary Patient Demographics

As of April 2020, 40 patients were enrolled in the clinical trial: 24 in the single agent cohort and 16 in the combination cohort with anti-PD-1 antibodies. In the single agent cohorts, 42% of patients had melanoma, 17% HNSCC, 13% SCC and 29% ACC. 54% of patients were pre-treated with anti-PD-1 antibodies and 8% with anti CTLA-4 antibodies.

In the combination cohort, 88% of patients had cMEL and 13% had HNSCC. 88% were pre-treated with anti-PD-1 antibodies and 50% with anti CTLA-4 antibodies.

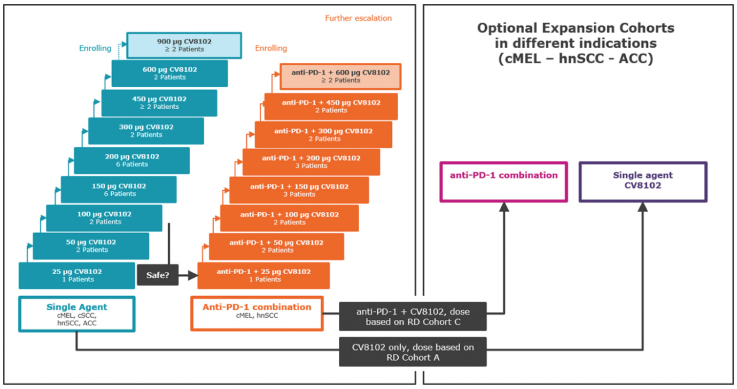
Characteristics	Number of patients (%)		
	Single agent (n=24)	anti-PD-1 combination (n=16)	All (n=40)
Age range (yrs)	35-91	36-90	35-91
Gender			
Male	10 (42)	6 (37)	16 (40)
Female	14 (58)	10 (63)	24 (60)
cMEL			
Stage IIIB	1 (4)	0 (0)	1 (3)
Stage IIIC	3 (13)	2 (13)	5 (13)
Stage IV	6 (25)	12 (75)	18 (45)
HNSCC			
Stage II	1 (4)		
Stage IV	3 (13)	2 (13)	6 (15)
SCC			
Stage IV	3 (13)	0 (0)	3 (8)
ACC			
Stage IV	7 (29)	0 (0)	7 (18)
ECOG PS			
0	12 (50)	12 (75)	24 (60)
1	12 (50)	4 (25)	16 (40)
Pre-treatment anti-PD-1	13 (54)	14 (88)	27 (68)
Pre-treatment with anti-CTLA4	2 (8)	8 (50)	10 (25)

Percentages presented above have been rounded to the nearest whole number.

CV8102 is administered weekly for the first five cycles and then every two to three weeks for the subsequent cycles for a total of eight injections or until disease progression or death of the patient. In the single agent cohorts, more than eight injections may be administered should the patient experience a clinical benefit.

Dose escalation of single agent CV8102 and the combination with anti-PD-1 are running in parallel, with the single-agent cohort being more advanced due to an earlier start of enrolment. We consider a dose level to be safe once it is cleared with monotherapy. This CV8102 dose level is then combined with an anti-PD-1. In parallel, the study continues with the next cohort of the dose escalation monotherapy. Once that higher monotherapy dose is considered safe, combination follows.

Phase 1 Dose Cohorts and Enrolment Status as of April 2020



As of April 2020, the clinical trial has not yet encountered a MTD and there has been no evidence of DLTs. We presented a Phase 1 trial update at the virtual ASCO Conference in May 2020.

Preliminary Safety Data

Preliminary safety data: Treatment emergent AEs occurring in ≥ 10% of patients as of April 2020

AE preferred term	Number of subjects with ≥1 TEAE (%)			
	Single agent (n=24) DL 25-900 µg	anti-PD-1 combination (n=16) DL 25-600 µg	All (n=40)	
			G1/G2	≥G3
Any Adverse Event	24 (100)	16 (100)	40 (100)	13 (33%)
Pyrexia	11 (46)	6 (38)	17 (43)	-
Fatigue	11 (46)	5 (31)	16 (40)	-
Chills	5 (21)	7 (44)	12 (30)	-
Headache	9 (38)	3 (19)	12 (39)	-
Influenza-like illness	7 (29)	2 (13)	9 (23)	-
Injection site pain	6 (25)	2 (13)	8 (20)	-
Pain in extremity	4 (17)	3 (19)	7 (18)	-
Urinary tract infection	3 (13)	4 (25)	7 (18)	-
Arthralgia	4 (17)	2 (13)	6 (15)	-
C-reactive protein increased	4 (17)	2 (13)	6 (15)	-
Nausea	4 (17)	2 (13)	6 (15)	-
Decreased appetite	1 (4)	3 (19)	4 (10)	-
Injection site erythema	2 (8)	2 (13)	4 (10)	-
Injection site reaction	2 (8)	2 (13)	4 (10)	-
Interleukin 6 increased	3 (13)	1 (6)	4 (10)	-

CV8102 was generally well tolerated, with mostly mild to moderate adverse events to date. Grade 3 AEs considered related to CV8102 were self-limiting or manageable with supportive treatment and did not show a clear dose dependency. No Grade 4 or 5 AEs related to CV8102 were reported. A maximum tolerated dose was not reached as of April 2020. Adverse events were graded according to the NCI-Common Terminology Criteria for Adverse Events. Grades refer to the severity of the adverse events with unique clinical descriptions of the severity of each AE based on the following general guideline:

Grade 1: Mild; asymptomatic or mild symptoms or clinical or diagnostic observations only or intervention not indicated.

Grade 2: Moderate; minimal, local or non-invasive intervention indicated or limiting age appropriate instrumental activities of daily living.

Grade 3: Severe or medically significant but not immediately life threatening or hospitalization or prolongation of hospitalization indicated or disabling or limiting self care activities of daily life.

Grade 4: Life threatening consequences or urgent intervention indicated.

Grade 5: Death related to adverse event.

As of April 2020:

- The most frequently reported adverse events occurring in more than 20% of patients were mild to moderate pyrexia, fatigue, chills, headache and influenza-like illness.
- 13 (33%) patients experienced treatment emergent ≥ G3 AEs and 6 (15%) patients experienced G3 AEs considered treatment related per investigator's judgement (none of the events fulfilled criteria for dose limiting toxicities per protocol). There were no G4/5 AEs considered related to study treatment.
- In the single agent CV8102 cohort, 3 patients (1 at 150 µg dose level, 2 at 200 µg dose level) experienced transient G3 elevations of liver enzymes. 1 patient (150 µg dose level) experienced a G3 abscess (SAE) of the injected tumor lesion 3 months after the last administration of CV8102. Prior to the event, a necrosis of the injected tumor lesion was observed. The abscess resolved after antibiotic and surgical treatment. In view of the long latency between last injection of CV8102 and abscess formation the event was considered a potential secondary effect of tissue damage and inflammation induced by CV8102.
- In the combination cohort of CV8102 with anti PD-1 antibodies, 1 patient (100 µg dose level) experienced G3 hypertension, mild chills and tachycardia on day of administration of CV8102 and anti-PD-1 requiring inpatient observation (SAE) and transient asymptomatic G3 elevation of serum lipase. 1 patient (100 µg dose level) experienced transient asymptomatic G3 elevation of serum amylase.

Treatment related Serious Adverse Effects (SAEs)

- In the single agent CV8102 cohort, 1 patient experienced G2 CRP increase (150 µg dose level), 1 patient experienced G3 abscess of injected tumor lesion (150 µg dose level), 1 patient experienced G2 worsening tumor pain (200 µg dose level), and 1 patient experienced G1 chills, pyrexia and vomiting and G2 pyrexia (300 µg dose level).
- In the combination cohort of CV8102 with anti-PD-1 antibodies, 1 patient required inpatient observation (G3) after multiple AEs (100 µg dose level) and 1 patient experienced G2 cytokine release syndrome (300 µg dose level).

Preliminary Efficacy Data

Tumor responses were assessed according to Response Evaluation Criteria in Solid tumors, or RECIST 1.1. The overall response evaluation according to RECIST 1.1 integrates changes in both measurable and non-measurable tumor lesions that can be assessed by radiographic imagining (CT or MRI) or

clinical examination (documented by photographs). Assessment was performed by the investigators at baseline and at defined time points during the study period. Responses per RECIST 1.1 criteria are defined as follows:

A complete response, or CR, is the disappearance of all tumor lesions that were present before start of treatment without appearance of new lesions.

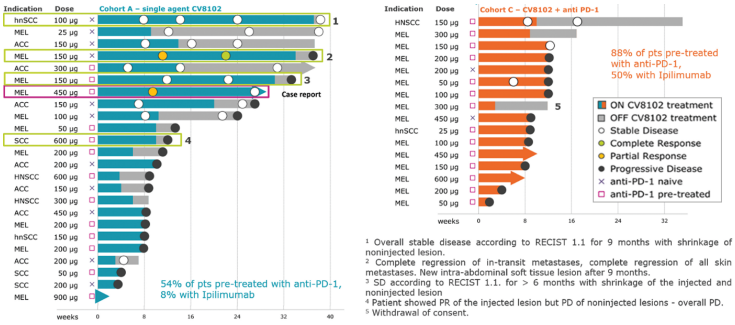
A partial response, or PR, is a ≥ 30% decrease in the sum of diameters of specified tumor lesions (called target lesions) taking as reference the baseline sum diameters without progression or disappearance of the other lesions and without appearance of new lesions or CR of target lesions without disappearance of other lesions but without progression or appearance of new lesions.

Progressive disease, or PD, indicates a ≥ 20% increase in the sum of diameters of specified tumor lesions (called target lesions) (taking as reference the smallest sum of diameters while on study) and at least a 5 mm increase and/or an unequivocal progression of existing further lesions (called nontarget lesions) or appearance of new lesions.

Stable disease indicates there is neither sufficient shrinkage nor increase in size of tumor lesions to declare PR or PD and no appearance of new lesions.

The tables below show duration of treatment, response and time to progression of individual patients enrolled in the trial.

Preliminary data on overall tumor response and duration according to RECIST 1.1 as of April 2020



[1] Overall stable disease according to RECIST 1.1 for 9 months with shrinkage of noninjected lesion.
[2] Complete regression of in-transit metastases, complete regression of all skin metastases. New intra-abdominal soft tissue lesion after 9 months.
[3] SD according to RECIST 1.1. for > 6 months with shrinkage of the injected and noninjected lesion
[4] Patient showed PR of the injected lesion but PD of noninjected lesions - overall PD.
[5] Withdrawal of consent.

Preliminary efficacy data single agent CV8102

As of April 2020, the Phase 1 study has observed one patient with a complete response and one patient with a partial response according to RECIST 1.1 and two further patients experiencing stable disease according to RECIST 1.1 with shrinkage of noninjected lesions after single agent CV8102. Overall 8 of 24 (33%) patients treated with single agent CV8102 remained free of progression for at least six months.

Preliminary efficacy in combination with PD-1 antibodies

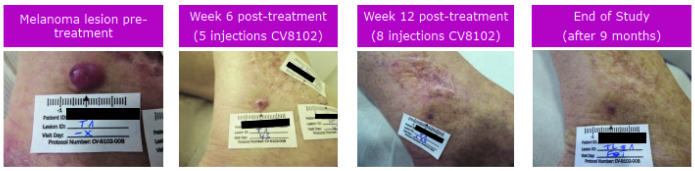
As of April 2020, no objective responses or cases of SD with tumor shrinkage have been observed in the PD-1 combination cohort. Out of 16 patients enrolled, one PD-1 refractory patient with HNSCC and one PD-1 refractory melanoma patient experienced stable disease after the 8 week treatment period.

The number of treated patients and follow up time in this cohort were more limited as compared to the single agent cohort. The patient population was also more heavily pretreated compared to the patients enrolled in the single agent cohort (88% vs. 54% were pretreated with anti-PD-1 antibodies and 50% vs. 8% with anti-CTLA-4 antibodies).

Single Agent Response Data

Case reports of patients with observed tumor shrinkage after single agent CV8102:

- A 74-year-old female patient with Stage IIIc melanoma and multifocal in-transit metastases was treated with single agent CV8102 (150 µg). The pictures below show the injected primary tumor before treatment, after first five weekly injections, and after eight injections at 12 weeks. After the first five injections, a partial regression of the injected lesion became apparent, which turned into a complete regression after eight injections (12 weeks). An MRI scan showed a complete regression of all noninjected in transit metastases. The response data together represent a confirmed complete response based on RECIST 1.1 criteria. The patient continued to receive injections at monthly intervals for up to nine months without locoregional recurrence but there was occurrence of a new intraabdominal soft tissue lesion.



longest diameter 12 mm

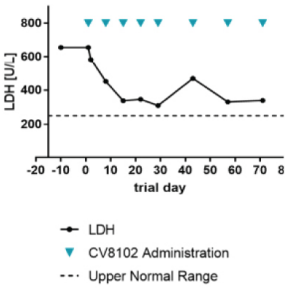
Partial regression, longest diameter 8 mm

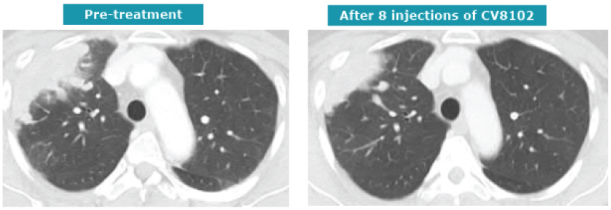
Complete regression with minimal remaining palpable skin induration

No locoregional recurrence after 9 months

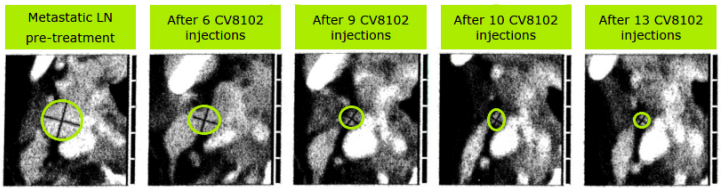
- A 50-year-old female patient with Stage IV melanoma, metastases in ipsilateral supraclavicular lymph nodes and distant detectable metastases at study entry was treated with single agent CV8102 (450 µg). The patient previously experienced early tumor progression on adjuvant treatment with Nivolumab and subsequently underwent multiple resections of cutaneous and lymph node metastases and radiation prior to study entry. The patient received 8 intratumoral injections of CV8102 into an axillary lymph node metastasis. After an early decrease in serum LDH she developed a partial response. Treatment with CV8102 was ongoing as of April 2020. The table below shows the decrease in the size of measurable tumor lesions after 8 intratumoral injections of CV8102. The CT scan shows the decrease in size of the noninjected metastatic pleural lesion. The graph shows the decrease in serum LDH over time during the treatment period.

RECIST 1.1 Tumor Assessment	Size pre-treatment [mm]	Size after 8 x CV8102 injections [mm]
Target Lesions		
Lymph node (axillary left)	26	12
injected lesion → Lymph node (axillary left)	21	10
Soft tissue (abdominal right)	25	19
Non-Target Lesions		
Lymph node (axillary left)	20	8
Pleura (left)	82	71

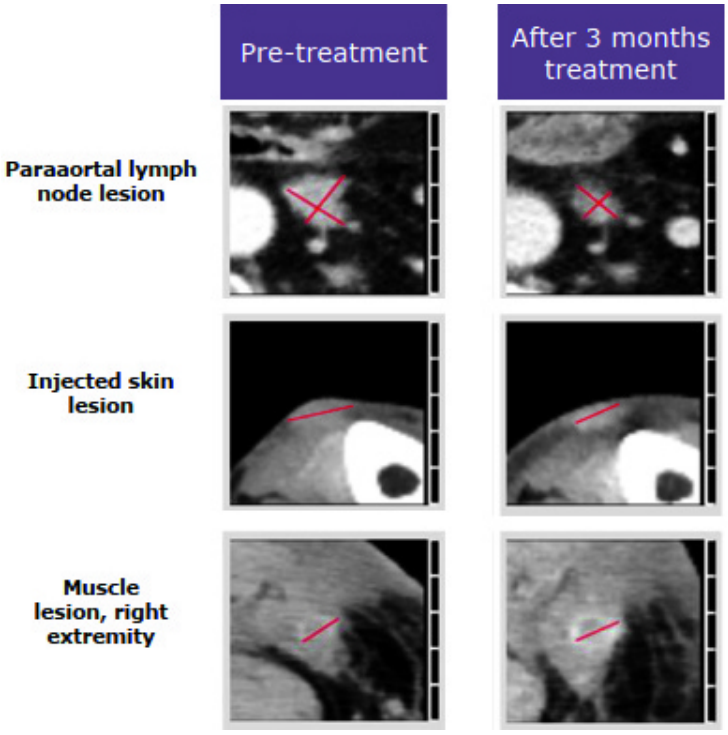




- A 91-year-old male patient with Stage IV HNSCC with large buccal and small lip lesion and a contralateral metastatic cervical lymph node was treated with single agent CV8102 (100 µg) after pretreatments with cetuximab, external beam radiation, and multiple surgeries. The patient experienced prolonged stable disease according to RECIST 1.1 until the end of study after nine months. Whereas the injected buccal lesion remained stable in size, the noninjected contralateral metastatic lymph node showed ongoing regression.



- A 64-year-old male patient with stage IV melanoma (150 µg dose level, single agent CV8102) who had progressed on previous anti-PD-1 antibody treatment experienced stable disease according to RECIST 1.1 for six months, with shrinkage of the injected lesion in the skin, and shrinkage of a noninjected contralateral paraaortic lymph node lesion.



CV8102 with Rabies Vaccine

We completed a Phase 1 clinical trial to investigate the safety and tolerability of intramuscular administered CV8102 and an intramuscular administered combination of CV8102 and rabies vaccine in humans. CV8102 was injected intramuscularly on days 0 and 21 either alone or mixed with fractional doses of the licensed rabies vaccine (Rabipur) as model antigen. The primary objective was to assess the safety and reactogenicity of various dose levels of CV8102 alone or combined with a licensed rabies vaccine in healthy 18 to 40 year-old male volunteers. A secondary objective was to assess the immune-enhancing potential of bedside-mixes of CV8102 with fractional doses of the licensed rabies vaccine by measuring induction of rabies virus neutralizing titers. Fifty-six volunteers received 50 to 100 µg CV8102 alone,

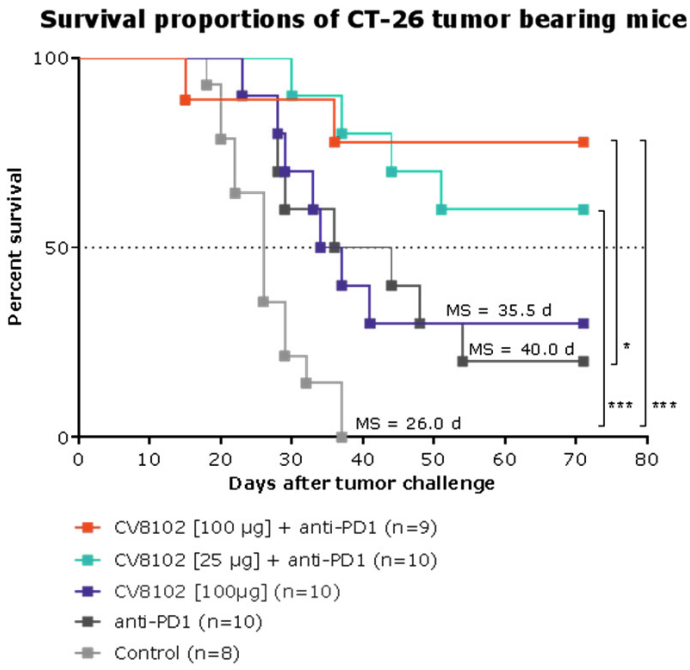
bedside-mixed CV8102 and rabies vaccines, or the rabies vaccine alone. When given alone or mixed with the rabies vaccine, CV8102 caused mostly grade 1 or 2 local or systemic reactogenicity, but no related SAEs. Given 100 µg CV8102 was associated with marked C-reactive protein, or CRP increases, further dose escalation was stopped. Combining 25 to 50 µg of CV8102 with fractional doses of the rabies vaccine significantly improved the kinetics of virus neutralizing titer responses, and 50 µg CV8102 also improved the magnitude of virus neutralizing titer responses to 1/10 of the rabies vaccine but caused severe but self-limiting influenza-like

symptoms in two of 14 subjects. In conclusion, two intramuscular doses of 25- 50 µg CV8102 appeared well tolerated with an acceptable reactogenicity profile while significantly enhancing the immunogenicity of fractional doses of the licensed rabies vaccine.

CV8102 Key Preclinical Data

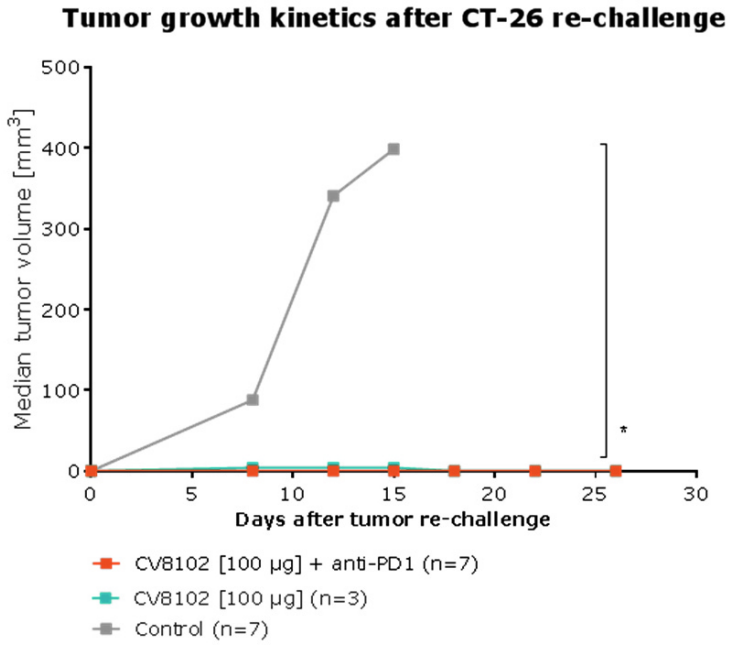
In preclinical tumor models, CV8102 showed dose dependent antitumor activity as single agent and synergistic activity in combination with systemic anti-PD-1 antibodies, including therapeutic activity in the A20 tumor model that did not respond to systemic anti-PD-1 antibody therapy alone.

Synergistic activity observed in CV8102 and anti-PD-1 combination therapy



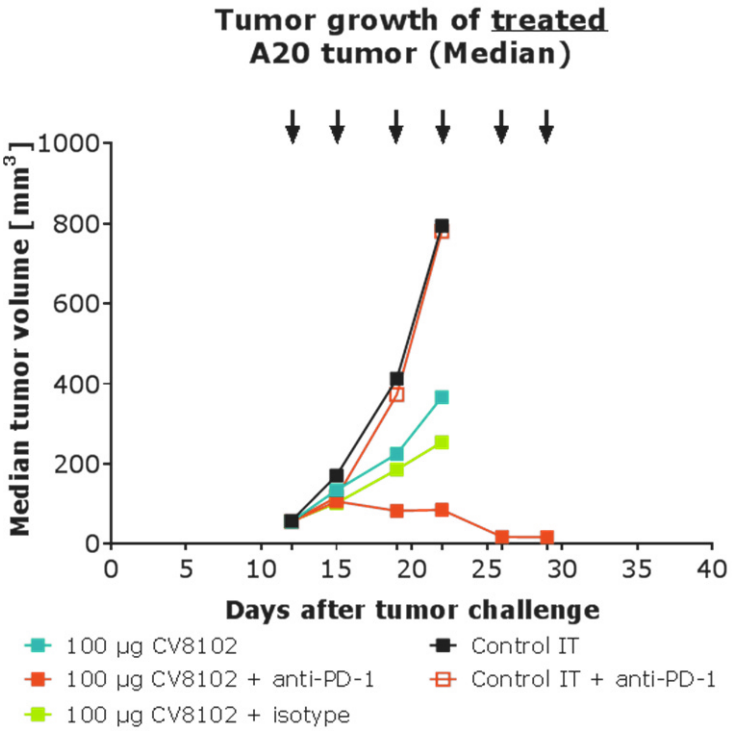
In a Kaplan-Meier curve, the graph above demonstrates the effect of monotherapy CV8102 treatment and combination of CV8102 with anti-PD-1 treatment. In the murine CT26 tumor model, an established colon carcinoma model, treatment led to an increased survival time, an increased proportion of animals surviving, and a memory effect (protective immunity of animals who achieved a complete remission after tumor re-challenge). In this model, the anti-PD-1 monotherapy as well as the CV8102 show limited improvement in survival times, whereas the combination of CV8102 and anti PD-1 resulted in a significant prolongation of survival times.

CV8102 + anti-PD-1 treatment confers protective immunity against tumor re-challenge



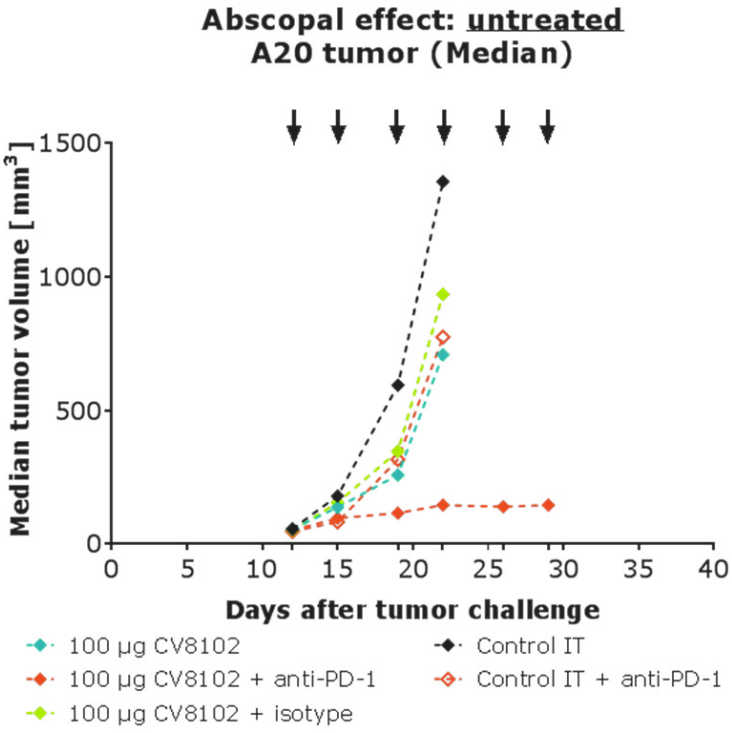
The graph above takes those animals from the previously described experiment that survived and were cured either with CV8102 alone or with combination therapy. The control arm represents animals that did not have any pretreatment. Animals treated with prior CV8102 and CV8102 treatment in combination with anti-PD-1 that were tumor-free following the prior experiment were re-challenged with the same tumor and showed no observed regrowth of the tumor. Those animals that survived and were cured and then re-challenged had a protective immunity against the tumor, which is an effect of the original treatment with CV8102 alone or in combination with anti-PD-1.

CV8102 + anti-PD-1 treatment leads to complete tumor remission in anti-PD-1 resistant A20 tumor model



The graph above represents a study performed in the A20 tumor model, which is non-responsive to anti-PD-1 therapy. The anti-PD-1 monotherapy did not result in any inhibition of tumor growth. Treatment with CV8102 monotherapy showed some inhibition of tumor growth and combination therapy of CV8102 and anti-PD-1 demonstrated a complete remission of the tumor in 50% of the animals.

CV8102 + anti-PD-1 treatment leads to complete remission of abscopal untreated tumors



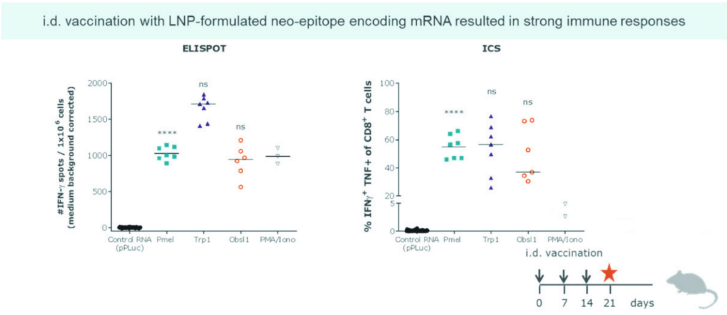
The graph above depicts an experiment that was conducted simultaneously to the prior A20 model experiment in such a way that the animals received tumor injections in both flanks (left and right), but intratumoral treatment occurred only in the left flank. This graph shows data from the untreated flanks and demonstrates the abscopal effect which mirrors that observed in the prior experiment, whereby anti-PD-1 monotherapy has no effect, CV8102 alone exhibits limited improvement in survival times, and the combination of CV8102 and anti-PD-1 results in complete remission in four out of 10 animals.

Discovery of mRNA candidates for intratumoral treatments

We are currently investigating combinations of mRNA encoding different immunostimulatory proteins (e.g. cytokines) with the aim to identify combinations with high therapeutic efficacy in anti-PD-1 refractory preclinical tumor models. We are also working to optimize mRNA design and formulation to optimize protein expression in the tumor tissue. These mRNA treatments are intended for the treatment of PD-1 low responsive or refractory tumors with accessible tumor lesions.

Discovery of new therapeutic cancer vaccine candidates

Our discovery efforts in oncology are also focusing on novel therapeutic cancer vaccines candidates. In preclinical studies, we have demonstrated that LNP formulated mRNA vaccines encoding are able to induce T cell responses against model neoantigens as well as tumor associated self-antigens.



The graphs above demonstrate the induction of antigen-specific T cell responses after intradermal vaccination of mice with LNP-formulated mRNA encoding for selected neoepitopes. Animals vaccinated with LNP-formulated mRNA encoding reporter protein served as negative controls. Stimulation of splenocytes harvested 7 days post last vaccination with respective peptides demonstrated strong induction of antigen specific T cells in Elispot (depicted in the left hand graph) and FACs analysis (depicted in the right hand graph).

BI1361849 (formerly CV9202) for the treatment of Non-Small Cell Lung Cancer, or NSCLC

BI1361849 is a product candidate for a therapeutic vaccine designed to elicit antigen-specific immune responses against tumor-associated antigens frequently overexpressed in patients with NSCLC (namely NY-ESO1, Mage C1, Mage C2, Survivin, 5 T4, and Muc1). We have partnered BI1361849 with Boehringer Ingelheim, who is advancing the product candidate through clinic development. BI1361849 is currently being evaluated in a Phase 1/2 clinical trial in NSCLC in combination with durvalumab, a PD-L1 inhibitor, and tremelimumab, an anti CTLA-4 antibody. The clinical trial is being conducted by the Ludwig Institute for Cancer Research (LICR).

Mechanism of action of BI1361849

BI1361849 acts through two synergistic pathways. Free mRNA molecules encode the protein sequence of the six antigens which are translated into proteins, and protamine-coated mRNA molecules act as a vaccine adjuvant to activate the innate immune system which recruits and activates antigen presenting cells. The antigen-presenting cells display the translated antigens to T-cells and B-cells to elicit an adaptive immune response against such antigens, including activation of cytotoxic T-cells and antibody-producing B-cells. The mRNAs in BI1361849 encode the NSCLC-associated antigens NY-ESO-1, MAGE-C1, MAGE-C2, survivin, 5T4, and MUC-1.

Market Opportunity

Lung cancer is the most common form of cancer worldwide and the most common cause of cancer-related deaths in both men and women. According to ACS, in 2018, there were approximately 2 million new cases of lung cancer worldwide and approximately 1.7 million related deaths. According to ASCO, In the United States, there were approximately 230,000 new cases of lung cancer and an estimated 154,000 deaths from the disease. The deaths from lung cancer account for approximately 25% of all cancer deaths in the United States. NSCLC accounts for approximately 80% to 85% of lung cancer cases.

Surgery is the recommended treatment for early stage NSCLC patients, but 75% of lung cancers are diagnosed at stage III or IV when resection is no longer possible. Targeted therapies are used for metastatic NSCLC with Estimated Glomerular Filtration Rate, or EGFR, c-ros oncogene 1, or ROS1, BRAF and Anaplastic lymphoma kinase, or ALK mutations. However, in up to 50% of advanced NSCLC patients, who are ineligible or resistant to treatment with EGFR or ALK inhibitors, the treatment of choice is a PD-1 / PD-L1 checkpoint inhibitor, because of elevated levels of PD-L1. Despite the availability of multiple therapies, the prognosis remains poor, with overall five-year survival for all patients diagnosed with NSCLC as low as 18%, based on data from the American Lung Association.

Phase 1/2 clinical trial of BI1361849 in combination with durvalumab and tremelimumab

The Ludwig Institute for Cancer Research has initiated a Phase 1/2 clinical trial investigating BI1361849 (former CV9202) in combination with the PD-L1 inhibitor durvalumab and anti-CTLA-4 antibody tremelimumab in patients with advanced NSCLC. The primary endpoint of this trial is safety, with secondary endpoints of objective response rate, progression free survival, duration of response, and overall survival.

This open-label multicenter two-arm study is to evaluate the safety and preliminary efficacy of the addition of a vaccine therapy to 1 or 2 checkpoint inhibitors for NSCLC. The first arm evaluates BI1361849 in combination with durvalumab (anti-PD-1), and the second arm evaluates BI1361849 in combination with both durvalumab (anti-PD-1) and tremelimumab (anti-CTLA4). For each arm of the study, there is a dose evaluation phase in which the recommended combination dose, or RCD, is determined according to a

standard 3 + 3 design. The dose evaluation phase is followed by an expansion phase, in which the cohort at the RCD is expanded to 20 subjects (inclusive of the subjects from the dose evaluation cohort).

Clinical Data

BI1361849 (former CV9202) was investigated in an exploratory, open-label, multicenter Phase 1b trial. The Phase 1b trial evaluated treatment with BI1361849 combined with local radiation in 26 stage IV NSCLC patients with partial response (PR)/stable disease (SD) after first-line standard therapy. The study was conducted across 13 centers in Germany, Austria and Switzerland. Eligible patients were 18 years old or older with histologically or cytologically confirmed stage IV NSCLC and for those with non-squamous cell histology, a confirmed EGFR mutation status. Patients were stratified into three strata:

- Non-squamous NSCLC, EGFR mutation, PR/SD after ≥ 4 cycles of platinum- and pemetrexed-based treatment (n= 16);
- Squamous NSCLC, PR/SD after ≥ 4cycles of platinum-based and non-platinum compound treatment (n= 8); and
- Non-squamous NSCLC, EGFR mutation, PR/SD after ≥ 3 and ≤ 6 months EGFR-tyrosine kinase inhibitor (TKI) treatment (n= 2).

Patients received intradermal BI1361849, local radiation (4 × 5 Gy), then BI1361849 until disease progression requiring the start of systemic second-line treatment or patients experiencing unacceptable toxicity. Strata 1 and 3 also had maintenance pemetrexed or continued EGFR-TKI therapy, respectively. The primary endpoint was evaluation of safety and secondary objectives included assessment of clinical efficacy (every 6 weeks during treatment) and of immune response on Days 1 (baseline), 19 and 61.

The mean number of successful BI1361849 administrations, defined as successful administration of at least 10 of the 12 injections per treatment, was 8.4 (range 2 to 25) with median duration of treatment of 81 days. Study treatment appeared well tolerated with injection site reactions and flu-like symptoms were the most common BI1361849-related adverse events. For the primary endpoint, BI1361849-and/or-radiation-related AEs of >= grade 3 were reported in four (15.6%) of the 26 patients: two patients (12.5%) in stratum 1 (one event each of dyphagia and fatigue), one patient (12.5%) in stratum 2 (fatigue), and one patient (50%) in stratum 3 (pyrexia). Three out of 4 events were related to BI1361849 and one event (dysphagia) was related to study radiation. There were no serious treatment emergent adverse event, or TEAEs related to BI1361849 and no TEAEs leading to death. The following table provides an overview of the TEAEs by stratum.

Overview of treatment emergent adverse events (safety analysis set)

Patients with a least one event, n (%)	Stratum 1 (n=16)	Stratum 2 (n=8)	Stratum 3 (n=2)	Overall (n=26)
TEAE	16 (100.0)	8 (100.0)	2 (100.0)	26 (100.0)
BI1361849- and/or radiation-related AE	16 (100.0)	8 (100.0)	2 (100.0)	26 (100.0)
TEAE related to BI1361849	15 (93.8)	8 (100.0)	2 (100.0)	26 (96.2)
TEAE related to radiation	4 (25.0)	1 (12.5)	0 (50.0)	5 (19.2)
Serious TEAE	7 (43.8)	3 (37.5)	1 (50.0)	11 (42.3)
Serious BI1361849- and/or radiation-related AE	1 (6.3)	0	0	1 (3.8)
Related to BI1361849	0	0	0	0
Related to radiation	1 (6.3)	0	0	1 (3.8)
TEAE toxicity grade ≥ 3[a]	9 (56.3)	4 (50.0)	2 (100.0)	15 (57.7)
BI1361849- and/or radiation-related AE toxicity grade ≥ 3[a]	2 (12.5)	1 (12.5)	1 (50.0)	4 (15.4)
Related to BI1361849	1 (6.3)	1 (12.5)	1 (50.0)	3 (11.5)
Related to radiation	1 (6.3)	0	0	1 (3.8)
Serious BI1361849- and/or radiation-related AE toxicity grade ≥ 3[a]	1 (6.3)	0	0	1 (3.8)

Patients with a least one event, n (%)	Stratum 1 (n=16)	Stratum 2 (n=8)	Stratum 3 (n=2)	Overall (n=26)
Related to BI1361849	0	0	0	0
Related to radiation	1 (6.3)	0	0	1 (3.8)
TEAE leading to discontinuation	4 (25.0)	0	0	4 (15.4)
TEAE toxicity grade ≥ 3 leading to discontinuation	2 (12.5)	0	0	2 (7.7)
TEAE leading to interruption/dose modification	4 (25.0)	0	0	4 (15.4)
TEAE leading to death	0	0	0	0

Abbreviations: AE adverse event, TEAE treatment-emergent adverse event

[a] National Cancer Institute-Common Terminology Criteria for Adverse Events (NCI-CTCAE) toxicity grading

In comparison to baseline, 25 patients evaluable for immunomonitoring revealed increased BI1361849 antigen-specific immune responses in the majority of patients (84%), whereby antigen-specific antibody levels were increased in 80% and functional T cells in 40% of patients, and involvement of multiple antigen specificities was evident in 52% of patients. Additional exploratory, post-hoc analysis demonstrated detectable increase of functional $CD4^+$ and $CD8^+$ T cells to BI1361849 over time. Broadening of the antibody repertoire against antigens not covered by BI1361849 was also observed in 50% of all evaluable patients and in eight of the 14 (57%) analyzable pemetrexed treated patients in stratum 1. This demonstrated that the combination of radiotherapy with active tumor immunotherapeutic BI1361849 can initiate an antigen cascade to broaden the anti-tumor immune response.

Of the 26 patients in the safety set evaluated for efficacy, overall 46% (12 of 26) demonstrated stable disease as best overall response. One patient treated in combination with pemetrexed chemotherapy achieved a confirmed partial response with decreasing measurable tumor size up to the last follow-up visit. Another patient exhibited decreasing target lesion sizes not formally qualifying as PR. Shrinkage of non-irradiated lesions greater than 15% occurred in six patients, five in stratum 1 and one in stratum 2. Median progression free survival was 2.87 months (95% CI; range 1.43-4.27) and median overall survival time from first treatment was 13.95 months (95% CI; range 8.93-20.87).

Best overall response (safety analysis set)

Parameter	Patients with response, n (%) [95% confidence interval]			
	Stratum 1 (n=16)	Stratum 2 (n=8)	Stratum 3 (n=2)	Overall (n=26)
Response (CR + PR) rate	1 (6.3)	0	0	1 (3.8)
	[0.2-30.2]	[0.0-36.9]	[0.0-84.2]	[0.1-19.6]
Best overall response				
CR	0	0	0	0
	[0.0-20.6]	[0.0-36.9]	[0.0-84.2]	[0.0-13.2]
PR	1 (6.3)	0	0	1 (3.8)
	[0.2-30.2]	[0.0-36.9]	[0.0-84.2]	[0.1-19.6]
SD	8 (50.0)	3 (37.5)	1 (50.0)	12 (46.2)
	[24.7-75.3]	[8.5-75.5]	[1.3-98.7]	[26.6-66.6]
PD	7 (43.8)	4 (50.0)	1(50.0)	12 (46.2)
	[19.8-70.1]	[15.7-84.3]	[1.3-98.7]	[26.6-66.6]
NE	0	1 (12.5)	0	1 (3.8)
	[0.0-20.6]	[0.3-52.7]	[0.0-84.2]	[0.1-19.6]

Confirmed response according to Response Evaluation Criteria for Solid Tumors (RECIST) version 1.1

Abbreviations: CR complete response, NE not evaluable, PD progressive disease, PR partial response, SD stable disease

In these initial trials, BI1361849 was administered via conventional needle based intradermal injection, later shown to be a suboptimal mode of injection for the protamine formulated rabies vaccine.

Our preclinical data demonstrated improved antigen expression at the site of injection if the protamine formulated vaccine was injected via a needle free jet device. Based on that data, BI and LICR decided to use needle free injection technique in the LICR trial. Additionally, based on preclinical data showing a synergism of mRNA vaccines and systemic immune checkpoint blockade along with widespread use of PD-L1 inhibitors in advanced NSCLC, BI decided to continue the further development of BI1361849 in combination with immune checkpoint blockade.

RNA-Based Prophylactic Vaccines

CV7202: Rabies Vaccine

CV7202 is our next-generation rabies vaccine encoding the rabies virus glycoprotein, RABV-G protein formulated with LNPs, which have shown to increase immunogenicity in animal models. RABV-G is one of only five proteins encoded by the rabies virus. As a dominant part of the virus surface and its role in virus entry into the host cell, RABV-G is the only target of virus-neutralizing antibodies conferring protection against challenge.

We initiated a Phase 1 clinical trial for CV7202 in the fourth quarter of 2018, which is fully enrolled. Follow-up in this clinical trial is ongoing and data will be collected along the different time points during the study. We will follow all study participants for up to two years after their last vaccination to collect safety data and to monitor persistence of VNT and other immune parameters.

Rabies Disease Background

Rabies is an infectious viral disease that is almost always fatal following the onset of clinical symptoms. In up to 99% of cases, domestic dogs are responsible for rabies virus transmission to humans. Rabies can affect both domestic and wild animals. It is spread to people through bites or scratches, usually via saliva. According to the World Health Organization, rabies remains an important disease, leading to 60,000 human deaths every year worldwide, primarily in Asia and Africa where dog rabies is endemic.

There are commercially available rabies vaccines that are both safe and effective. They can be used to prevent rabies before and for a period of time after exposure to the virus (such as by a dog or bat bite). However, these vaccines require multiple vaccinations both before and after virus exposure. Additional major limitations for the commercially available rabies vaccines are cost and access, particularly in the developing world, as well as supply shortages.

CV7202 Phase 1 Clinical Trial

We initiated a Phase 1 clinical trial for CV7202 in the fourth quarter of 2018. This ongoing non-randomized, open label Phase 1 clinical trial evaluates safety, including reactogenicity, and immunogenicity after 1 and 2 doses of investigational Rabies vaccine CV7202, administered intramuscularly in healthy adults 18 to 40 years of age, at different doses. A control group received Rabipur according to the standard schedule. The primary objective is the assessment of safety and the key secondary endpoint assesses the proportion of subjects with a protective immune response as defined by WHO as rabies-specific serum VNTs ≥0.5 IU/ml.

Key inclusion criteria:

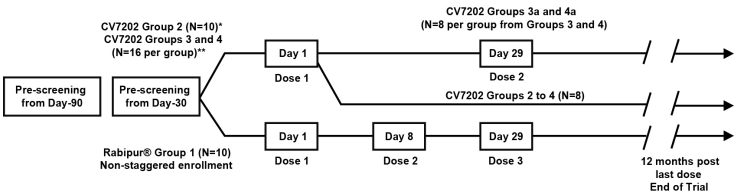
Subjects must satisfy the following criteria at trial entry:

- Healthy male and female subjects aged 18 to 40 years; and
- Physical examination and laboratory results without clinically significant findings and Body Mass Index (BMI) ≥18.0 and ≤32.0 kg/m.^{2}

Key exclusion criteria:

Any trial subject who meets any of the following criteria will not qualify for entry into the trial:

- Use of any investigational or non-registered product (drug or vaccine) other than the trial vaccine within 4 weeks preceding the administration of the trial vaccine, or planned use during the trial period;
- Receipt of any other vaccines within 14 days (for inactivated vaccines) or 28 days (for live vaccines) prior to enrolment in this trial or planned receipt of any vaccine within 28 days of any trial vaccine administration;
- Receipt of any licensed or investigational rabies vaccine prior to the administration of the trial vaccine;
- Administration of immunoglobulins (Igs) and/or any blood products within the 3 months preceding the administration of any dose of the trial vaccine; or
- Known allergy to any component of CV7202 such as type I allergy to beta-lactam antibiotics or Rabipur.



Patient demographics:

As of March 16, 2020, we enrolled a total of 53 subjects in three CV7202 groups, 1µg (n=16), 2µg (n=16) and 5µg (n=10), and one Rabipur group (n=11) as control. In both the CV7202 1µg and 2µg groups, subjects received a single dose of CV7202 on Day 1 (n=8), or 2 doses of CV7202 on Days 1 and 29 (n=8). In the CV7202 5µg group, the 10 subjects received a single dose of CV7202 on Day 1. Of the 11 subjects enrolled in the Rabipur group received, 10 subjects received the licensed 3-dose primary vaccination schedule on Days 1, 8 and 29, respectively.

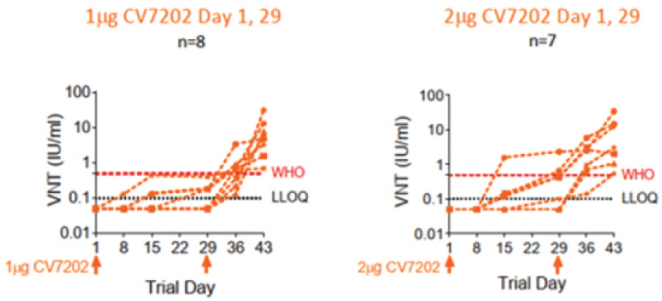
Preliminary safety results:

Based on our preliminary data as of March 2020, a dose-dependent reactogenicity was observed in the trial. Local and systemic events were solicited for 7 days after each vaccination, unsolicited events for 28 days after each vaccination and serious adverse events throughout the entire study. While all subjects in the vaccine and control groups reported at least one solicited AE, the vast majority of solicited AEs were Grade 1 or 2 in intensity and transient in nature. Grade 3 solicited AEs were experienced by none of the subjects in the CV7202 1µg and the Rabipur groups, 3/16 (19%) subjects in the CV7202 2µg group, and 7/10 (70%) subjects in the CV7202 5µg group. Grade 3 solicited local AEs were reported for 1/16 (6%) subjects in the CV7202 2µg and 1/10 (10%) subjects in the CV7202 5µg group. Grade 3 solicited systemic AEs were reported for 3/16 (19%) subjects in the CV7202 2µg group and 6/10 (60%) subjects in the CV7202 5µg group. Unsolicited AE considered as related to the vaccination increased with increasing mRNA content: from 1/8 (13%) subject after each dose in the CV7202 1µg group to 7/10 (70%) subjects in the CV7202 5µg group.

Preliminary immunogenicity results:

Based on our preliminary data as of January 2020, after two doses of 1µg or 2µg CV7202, 28 days apart, all evaluable subjects had virus neutralizing titers, or VNTs, above the ≥0.5IU/mL level considered protective 14 days after Dose 2 (Day 43). Subjects in the CV7202 5 µg group did not receive a second dose of CV7202. Between the CV7202 1µg and 2µg groups, geometric mean titers , or GMTs of rabies-specific VNTs after the first dose administration showed a dose-dependent increase but, in the majority of subjects, remained below the antibody level recommended by the WHO as an adequate response to vaccination (≥0.5IU/mL), considered to be protective. No further dose-dependent increase was observed in the

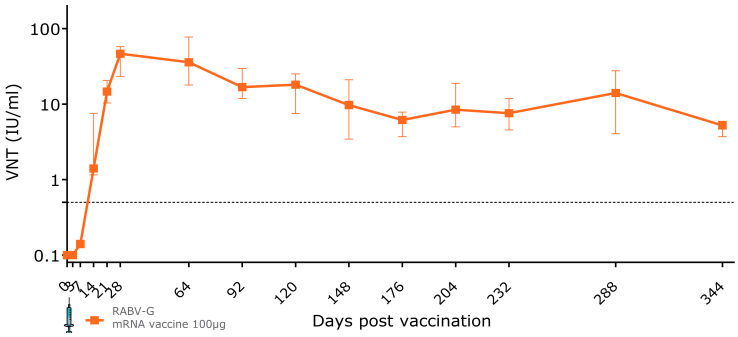
rabies-specific- VNTs following a single dose of 5µg CV7202, potentially confirming the hypothesis that they were partially suppressed by the higher than expected innate immune response. Values less than lower limit of quantification, or LLOQ, are shown as half LLOQ in the figure below.



CV7202 Preclinical Data

In preclinical studies, we have shown that optimized formulation leads to more robust immune responses to multiple antigens and higher VNTs. CV7202 was found to be highly potent in multiple animal studies, and protected against the rabies virus infection in non-human primates. CV7202 leads to rapid generation of neutralizing antibodies that exceed the threshold agreed upon by the WHO for rabies protection. These results, obtained after a single administration in non-human primates, were sustained at high levels through at least 344 days post vaccination.

CV7202 induces rabies-neutralizing antibodies after single administration in non-human primates



COVID-19 Vaccines Program

Coronaviruses are a family of viruses that can lead to respiratory illness, including Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). Coronaviruses are transmitted between animals and people and can evolve into strains not previously identified in humans. On January 7, 2020, a novel coronavirus (2019-nCoV) was identified as the cause of pneumonia cases and deaths in Wuhan, China, and an exponentially increasing number of cases have since then been

found in a growing number of countries worldwide. On March 11, 2020, the World Health Organization designated COVID-19, the disease caused by the novel coronavirus SARS-CoV-2, an international pandemic. The disease has infected over 2 million people around the world. More than 150,000 have died to date.

Upon publication of the sequence of the novel Coronavirus (SARS-CoV-2), we designed and optimized potential antigenic constructs based on the spike (S) protein to elicit high immunogenicity. Our approach is based on encoding a stabilized S-protein and recently we successfully conducted several preclinical studies that we started in January 2020. The results of our preclinical studies suggest that our vaccine candidate against SARS-CoV-2 was active at low dose (2µg) and induces high levels of virus neutralizing antibodies. Based on the results of preclinical studies, we initiated a Phase 1 clinical trial in June 2020, with results expected in the fourth quarter of 2020.

We have been working closely with the European regulatory authorities to advance our program into clinical testing. We are collaborating with CEPI on the development of a vaccine against SARS-CoV-2. CEPI is funding our preparatory work and early clinical studies.

CVnCoV Phase 1 Clinical Trial

We initiated a Phase 1 clinical trial for CVnCoV in June 2020. This is a partially blinded, placebo-controlled, dose-escalation, first in human, clinical trial to evaluate the safety, reactogenicity and immunogenicity after 1 and 2 doses of the investigational SARS-CoV-2 mRNA vaccine CVnCoV administered intramuscularly in healthy adults 18 to 60 years of age. The Phase 1 clinical trial is expected to include 168 healthy adults and target a dose range of 2µg to 8µg. The primary objective is the assessment of safety and the key secondary endpoint assesses the proportion of subjects seroconverting for SARS-CoV-2-neutralizing antibodies, as measured by an activity assay. The trial is expected to include three active clinical sites in Germany and one active clinical site in Belgium.

Key inclusion criteria:

Subjects must satisfy the following criteria at trial entry:

- Healthy male and female subjects aged 18 to 60 years; and
- Physical examination and laboratory results without clinically significant findings according to the investigator's assessment and body mass index (BMI) ≥18.0 and ≤32.0kg/m2.

Key exclusion criteria:

- Use of any investigational or non-registered product (vaccine or drug) other than the trial vaccine within 28 days preceding the administration of the trial vaccine, or planned use during the trial period;
- Receipt of any other vaccines within 14 days (for inactivated vaccines) or 28 days (for live vaccines) prior to enrollment in this trial or planned receipt of any vaccine within 28 days of trial vaccine administration;
- Receipt of any investigational SARS-CoV-2 or other COVID-19 vaccine prior to the administration of the trial vaccine;
- Any known allergy, including allergy to any component of CVnCoV or aminoglycoside antibiotics;
- Acute or currently active SARS-CoV-2 infection as confirmed by reactive PCR within 21 days of first trial vaccine administration;
- Administration of immunoglobulins (Igs) and/or any blood products within the 3 months preceding the administration of any dose of the trial vaccine; or
- History of confirmed COVID-19 disease, severe acute respiratory syndrome (SARS) or Middle East Respiratory Syndrome (MERS) or known exposure to an individual with confirmed COVID-19 disease or SARS-CoV-2 infection within the past 2 weeks.

Preclinical Data

Characterization of our lead vaccine candidate against SARS-CoV-2 was done in vitro and in rodent animal models. The data addressed the overall levels of Spike binding antibodies and VNTs as well as the level of CD4/CD8 positive T cells, recognizing Spike protein and the kinetics of the immunogenicity induction.

As shown in the figure below, 2µg of the SARS-CoV-2 mRNA vaccine candidate induced a balanced immune response with high IgG titers for both IgG1 and IgG2a along with very high VNTs that were at the maximum dilution tested.

SARS-CoV-2 mRNA vaccine candidate was observed to be immunogenic in mice and induced IFN type 1 mediated immune responses

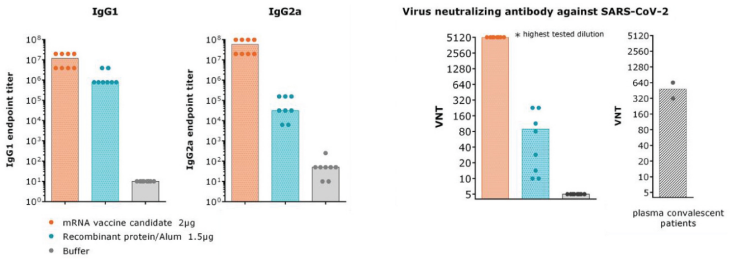


Figure. Mice (n=8) were injected with the SARS-CoV-2 mRNA vaccine candidate (orange columns) or Alum-adjuvanted recombinant full-length Spike protein (extracellular domain) (blue columns) via intramuscular injection on days 0 and 28. On day 49, IgG titers were measured using ELISA (left panels); VNTs are based on cytopathic effect (CPE) measured by microneutralization assay. The human positive control sera from reconvalescent patients is provided in the right panel (grey column). Values from individual animals (dots) and the mean (bars) are reported for each group (buffer control grey column).

Importantly, T cell analysis in the same study showed high percentage of Spike specific CD8 double positive cells as well as CD4 double positive cells, consistent with the immune response elicited by the mRNA vaccine in mice as shown in the figure below.

SARS-CoV-2 mRNA vaccine induced multifunctional (IFNγ± and TNFα±) CD4 and CD8 T cell responses

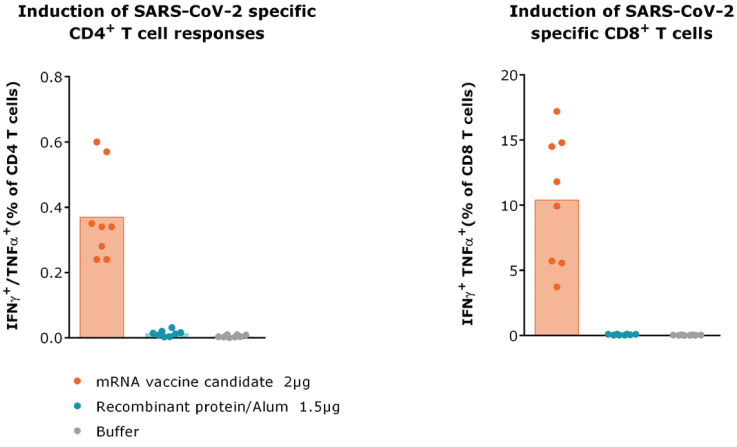


Figure. Mice (n=8) were vaccinated with the SARS-CoV-2 mRNA vaccine (orange columns) or Alum-adjuvanted recombinant full-length Spike protein (extracellular domain) (blue columns) via intramuscular injection on days 0 and 28. On day 49, T cell analysis was performed using FACS. Double positive IFNy and TNFa CD4 and CD8 cells were quantified as percentage of total CD4 or CD8 cell counts, respectively.

One further important aspect for vaccine efficiency is the time of onset of neutralizing antibodies. In mice, the kinetics of VNTs were analyzed and showed that 7 days post second vaccination, VNTs already reached high titers which were at the maximum measured dilution 3 weeks after the second vaccination, as shown in the figure below.

SARS-CoV-2 mRNA vaccine showed rapid onset of neutralizing antibodies after second vaccination

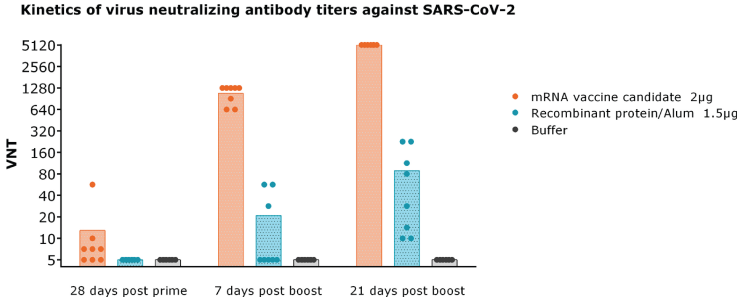


Figure. Mice (n=8) were vaccinated with the SARS-CoV-2 mRNA vaccine (orange columns) or Alum-adjuvanted recombinant full-length Spike protein (extracellular domain) (blue columns) via intramuscular injection on days 0 and 28. VNTs (based on CPE measured by microneutralization assay) were measured as indicated. Values from individual animals (dots) and the mean (bars) are reported for each group (buffer control grey column).

In summary, preclinical studies at a low dose of 2µg for our vaccine candidate against SARS-CoV-2 showed a fast induction of a balanced immune response with high levels of VNTs and T cell responses. VNTs are a major criterion supporting that the vaccine candidate has the potential to induce a strong immunologic response to neutralize SARS-CoV-2.

CV-SSIV: Influenza Vaccine

Disease Overview

Influenza is a highly contagious virus that causes mild to severe respiratory virus that can lead to death. According to the CDC, the burden of illness during the 2018-2019 season was estimated to include approximately 35.5 million people getting sick with influenza, 16.5 million people going to a health care provider for their illness, 490,600 hospitalizations, and 34,200 deaths from influenza in the United States. a The WHO reports that globally there are as many as five million severe influenza cases annually, leading to as many as 650,000 deaths.

Limitations of Current Influenza Vaccines

Influenza viral infections can be prevented by vaccination although there are several limitations associated with current flu vaccines. Flu vaccines are not always effective, primarily because the influenza virus and its associated antigens undergo mutations or changes in its sequence over short periods of time, which is called antigenic drift. Vaccines that are developed for the predominant strain infecting people can be rendered ineffective as the virus mutates as it passes from person to person. The process of developing a standard traditional vaccine typically takes approximately eight months from strain identification to doctor's office availability, increasing the likelihood that a significant pool of viruses circulating will be poorly recognized by antibodies in vaccinated individuals. Additionally, vaccine efficacy tends to wane over time. For these reasons, vaccination of the target population needs to be repeated every year before the start of the next influenza season, putting a significant burden on the health system. Furthermore, only a part of the population targeted to get the yearly shot is vaccinated each year, leaving many individuals unprotected.

Our Approach to Influenza Vaccine

We believe that there is a significant market for a more and broader effective vaccine for influenza that protects over several seasons and that, in case of exceptional changes in the circulating strains, could also be customized to include specific and multiple new strains. We believe that our platform offers the potential for the rapid development of safe and effective vaccines. We believe that the mRNA-based vaccines allows us to address several of the limitations of the currently available seasonal vaccines.

We believe key advantages of our approach to traditional seasonal vaccines include:

- Commercial seasonal vaccines usually contain three to four strains of the virus and may offer limited protection as the virus mutates. Adding more strains or further antigens, which can increase or broaden the level of protection conferred by the vaccine, might be an advantage of an mRNA-based vaccine.
- mRNA-based vaccines offer greater production flexibility to adapt to circulating seasonal strains. An mRNA influenza vaccine can be generally produced in under three months from strain identification to a finished GMP product. This rapid vaccine development process would allow treatment of a larger fraction of patients before too many changes are introduced by viral mutations.
- Traditional egg-produced vaccines rely upon high-yielding production strains and often have to contend with egg-adaptation during passage, neither aspects are an issue for mRNA-based vaccination.

We are also developing a Supra Seasonal Influenza Vaccine, or SSIV. We believe that the initial step towards the development of a SSIV is the development of a multivalent, improved seasonal influenza vaccine. Based on performance of our mRNA next-generation influenza vaccine in preclinical studies, including broadening and persistence of immunity, this multivalent formulation could be considered a first-generation multi-year, supra-seasonal influenza vaccine. The characteristics for the mRNA-based seasonal influenza vaccines are a building block in the development of a SSIV where the induction of long-lasting, potent antibody responses, and the possibility to combine several antigens in one vaccine formulation in the absence of antigenic interference are key pre-requisites.

CV-SSIV Overview

Our CV-SSIV contains a mixture of antigens derived from hemagglutinin, or HA, and neuraminidase, or NA, constructs, all from seasonal strains recommended by the WHO, targeting both Influenza A and B strains. The inclusion of NA supports a vaccine with extended breadth, given NA is more conserved compared to HA, and has the potential to confer protection against drifted seasonal but also pandemic strains in upcoming seasons.

Preclinical data for CV-SSIV

As part of our influenza program, we have evaluated mRNA-based influenza vaccines starting with a monovalent influenza vaccine followed by several seasonal multivalent influenza vaccines. Our preclinical experiments have shown that we can encode for multiple targets in our cocktail mRNA vaccines without experiencing immuno-dominance.

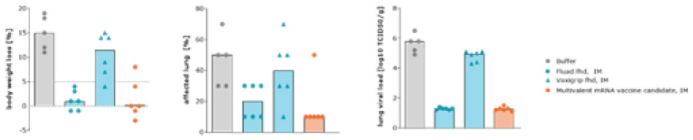
In these preclinical studies, it was demonstrated that our vaccines induced hemagglutinin-inhibition, or HI, titers above the accepted threshold for protective immunity in ferrets and NHPs. The immunogenicity of the seasonal influenza vaccine was further evaluated in ferrets testing the breadth of antibody response against historic seasonal viral strains. The HI titer induced by mRNA vaccination against specific isolates were comparable to Fluad produced for the same season. Fluad is the only licensed adjuvanted seasonal influenza vaccine and has been shown to outperform standard of care split vaccine in older adults and very young children. Retrospective studies of the past season could not show a difference between both types of vaccine.

In immunogenicity studies in ferrets and NHPs, our multivalent influenza vaccine candidate 2, showed no antigenic interference as judged by HI titer due to the addition of more antigens to multivalent

influenza vaccine candidate 1. HI titer against influenza A virus strains were over 1:40 and neutralizing antibody against influenza B virus were detected using a microneutralization assay. Additionally, functional anti-NA antibodies were induced against influenza A strains analyzed using an assay and titers were comparable to Fluad. Overall, the immune response to influenza A virus were comparable to Fluad, whereas the responses to influenza B virus were lower for our multivalent vaccine candidate 2 than for Fluad. We anticipate that this response will be significantly enhanced in humans who are influenza pre-immune.

As shown in the figure below, the seasonal multivalent vaccine candidate 2 was tested in a ferret challenge infection model. Ferrets were vaccinated with influenza mRNA vaccine candidate two delivered using LNPs or the licensed vaccine Vaxigrip (left light blue column) and adjuvanted vaccine Fluad (right light blue column) via needle-based injection on day 0 and 28 (2-dose regimen). Values from individual animals (dots) and the median (bars) are reported for each group (buffer control grey column). Four weeks after the last vaccination, animals were challenged with influenza A via intratracheal route. Four days after infection, animals were euthanized and virology and pathology was investigated in respiratory tissues. Multivalent vaccine candidate 2 induced better protection in the ferret model than the licensed non-adjuvanted split vaccine (Vaxigrip) and showed comparable activity to the adjuvanted vaccine Fluad.

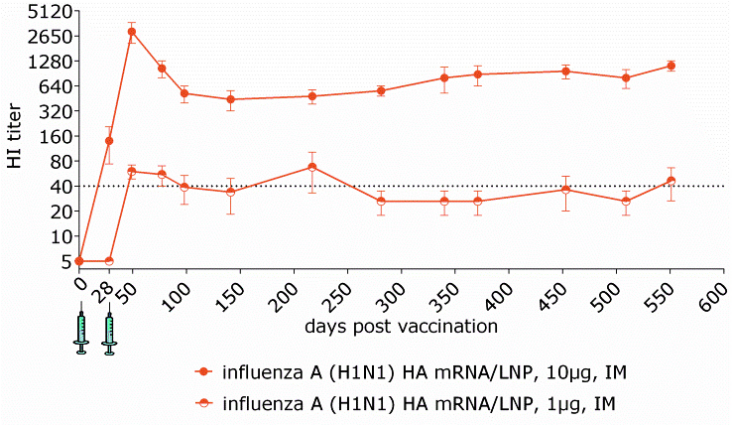
mRNA vaccination candidate protected from weight loss and viral replication comparable to the adjuvanted Influenza vaccine Fluad in ferrets



Ferrets (n=6, female) were vaccinated with a multivalent influenza LNP/mRNA vaccine or the licensed vaccine Vaxigrip and adjuvanted vaccine Fluad®2017/2018 via i.m. needle-based injection on days 0 and 28. Four weeks post last vaccination animals were challenged with 106 TCID50 of influenza A/Netherlands/602/2009 H1N1 via intratracheal route. Four days after infection, animals were euthanized and virology and pathology was investigated: in body weight (A), affected lung tissues (B) and viral titers in the lung (C). Values from individual animals (dots) and the median (bars) are reported for each group.

As shown in the figure below, the longevity of antibody response was evaluated in NHP immunized with a monovalent HA vaccine, Cynomolgus monkeys were vaccinated with 1 or 10 µg LNP-formulated mRNA encoding HA of influenza A via intramuscular needle-based injection on days 0 and 28. Functional antibodies were determined in the serum of the immunized animals at the indicated time points using the HI assay. Our vaccine showed HI titers above the protective threshold (>1:40) for at least 1.5 years following a two-dose primary immunization series.

LNP-formulated influenza A H1N1 HA mRNA vaccine induce high and long lasting functional antibody titers in NHP


5120
2650
1280
640
320
160
80
40
20
10
5
HI titer
0
28
50
100
150
200
250
300
350
400
450
500
550
600
days post vaccination
influenza A (H1N1) HA mRNA/LNP, 10µg, IM
influenza A (H1N1) HA mRNA/LNP, 1µg, IM

Respiratory syncytial virus (RSV) Program

Disease Overview

RSV is a leading cause of respiratory disease globally. The virus causes infections at all ages but young infants have the highest incidence of severe disease. The National Institute of Allergy and Infectious Diseases estimates that by the age of two years, almost all children will have been infected with RSV in the United States. Globally, RSV has been estimated to cause approximately 33 million cases of RSV-related acute lower respiratory tract infections (LRTI) annually in children less than five years of age, with approximately three million cases requiring hospitalization, and approximately 60,000 dying from complications associated with the infection. In addition, RSV infections can be a significant problem for certain immunocompromised adults and high-risk older adults. Adults at highest risk for severe RSV infection include older adults, especially those 65 years and older, adults with chronic heart or lung disease and adults with weakened immune systems. According to the CDC, RSV is responsible for approximately 177,000 hospitalizations and 14,000 deaths annually in people over 65 years of age within the United States. Market research by GlobalData indicates that the RSV market is expected to grow from $418.6 million in 2018 to $5.39 billion by 2028 in the United States, the United Kingdom, France, Germany, Italy, Spain and Japan.

There are no effective RSV vaccines approved to date and the only approved prophylactic treatment is palivizumab, marketed as Synagis in the United States. Synagis is a monoclonal antibody for the prevention of RSV in premature babies or babies with underlying medical conditions of bronchopulmonary dysplasia or congenital heart disease. Synagis's highly restrictive label, combined with the high cost of prophylactic therapy, has limited wider uptake.

Historical Approaches to RSV Vaccines

In 1968, a formalin-inactivated whole RSV vaccine was tested for newly infected and immunized children but was not effective and resulted in vaccine-induced amplification of disease. Since the most severe cases of RSV occur in the first months of life, past approaches have focused on increasing the maternal immune response by developing maternal anti-RSV antibodies. To date, the efforts to develop maternal anti-RSV antibodies through administration of a vaccine have been unsuccessful.

While the reasons for the failure of RSV vaccines to protect against infection remain unclear, the lack of understanding regarding the identity of the natural protective immune response in subjects has challenged the development of an effective RSV vaccine. In certain previous clinical studies, an increase in the immune response has been detected but has not resulted in any further protection against the progression of the RSV infection. Currently, there are several vaccines for RSV in development, including subunit vaccines, attenuated vaccines, and those delivering RSV antigens by recombinant vectors such as vaccinia virus or bovine-based systems.

Our Approach

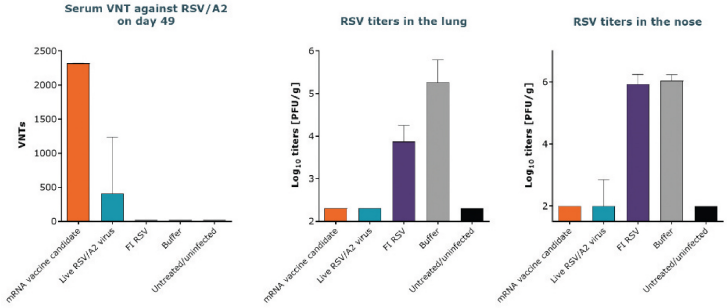
The surface of RSV contains two glycoproteins: the attachment glycoprotein (G) and the fusion glycoprotein (F). Deletion of RSV G leads to a viable but attenuated virus, indicating that RSV G is not essential for viral entry. In contrast, the RSV F protein is essential to the viral replication process, as it facilitates pH-independent fusion of the viral membrane with the host-cell plasma membrane, leading to infection of the host cell. Expression of RSV F on the surface of cells can also cause fusion with neighboring cells, leading to the formation of multinucleated syncytia. The F protein is expected to induce virus neutralization titer against both subtypes of RSV A and B.

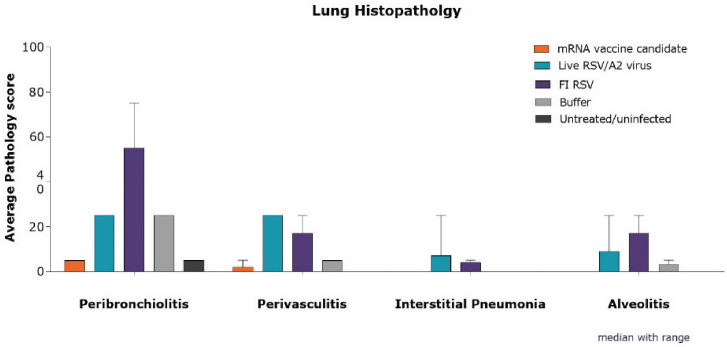
Our approach for the RSV program is based on delivering mRNAs encoding for the RSV F (fusion) protein. This is considered as an advantage over vaccines consisting of the glycoprotein G. Glycoprotein G determines the RSV subtypes and hence, vaccines that aims to protect against all RSV subtypes would need to include a glycoprotein from both RSV A and B each. Therefore, an approach targeting the RSV F as protective antigen has an advantage to target both RSV A and B. Consequently, we have been able to show that our vaccines encoding for RSV F induce high levels of virus neutralizing antibodies, a likely correlate of protection against RSV.

Preclinical Data

In preclinical studies, we showed that the delivery of our mRNA-based vaccines leads to the stimulation of TLR7, thus supporting affinity maturation of antibodies. In addition, we showed that antigen delivery via mRNA mediates correct protein folding and localization. For our RSV vaccine, we also analyzed the potential to minimize worsening immunopathology, a phenomenon also known as vaccine-dependent disease enhancement, or VDE, that may also be relevant for other respiratory viral infections such as for the novel SARS-CoV-2. Our RSV vaccine induces a balanced immune response, thus avoiding the Th_2-biased response associated with enhanced respiratory disease or VDE.

In preclinical studies, we have demonstrated that our vaccines encoding for RSV F induce high levels of virus neutralizing antibodies, a likely correlate of protection against RSV. In a cotton rat challenge model, our RSV vaccine was compared to formalin-inactivated virus for evaluating enhanced respiratory disease and live RSV. Cotton rats vaccinated twice at day 0 and day 28 showed high RSV neutralizing antibody titers in the serum 28, 49 or 63 days post vaccination. Animals were challenged with RSV at day 63 and subjected to histopathologic analysis at day 68. The study showed that our RSV vaccine was able to protect lungs from viral replication and significantly reduced viral titers in the nose, when measured using plaque assay 5 days post RSV challenge. Evaluation of signs of VDE were analyzed by lung histopathology FI virus induced peribronchiolitis in cotton rats, which was not detectable in animals vaccinated with our RSV vaccine.





Cotton rats (n= 5 per group) were vaccinated twice (d0 and d28) as indicated. RSV neutralizing antibody titers in the serum were analyzed 28, 49 or 63 days post vaccination (top panel). Protection was assessed by measuring viral load in lung and nose at day 5

post RSV challenge (top right panel). Lung histopathology was analyzed at day 68 after animals were challenged with RSV at day 63 (lower panel). Upper graphs show titers measured on day 63.

In this study RSV F encoding vaccine induced high levels of virus neutralizing antibodies, a likely correlate of protection. Functional antibody responses for mRNA vaccinated groups were higher than live virus vaccinated groups. Protection in lungs and nose are shown in the top right panel (viral titers via plaque assay 5 days post RSV challenge). FI virus induces peribronchiolitis in cotton rats, which is not detectable in animals vaccinated with mRNA.

Other Prophylactic Vaccines for Infectious Diseases

In partnership with the Bill & Melinda Gates Foundation, we are developing prophylactic vaccines for prevention of other infectious diseases associated with high mortality in the developing world including malaria and rotavirus. Preclinical studies are ongoing, with encouraging results, which could lead to the decision for further clinical development of the candidate vaccines.

Furthermore, we are collaborating on several vaccine projects with CEPI, a public-private initiative to strengthen the vaccine research. This focuses on the development of the mRNA Printer, a mobile, automated production unit for rapid mRNA supply. This innovative platform is being designed to provide a rapid supply of LNP-formulated mRNA vaccine candidates that can target known pathogens (including Lassa fever, yellow fever, and SARS-CoV-2) and prepare for rapid response to new and previously unknown pathogens.

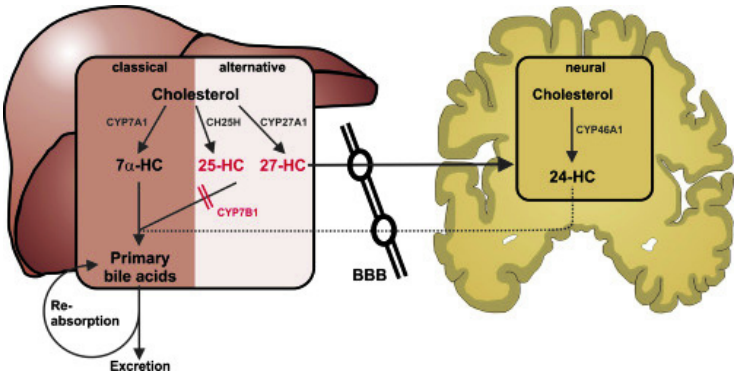
Protein Delivery

Liver and Rare Diseases

mRNA-based protein supplementation offers a therapeutic approach to compensate for lack of proteins in monogenetic diseases caused by loss-of function mutations. It offers a potentially curative treatment option, especially in diseases in which the protein is expressed predominantly in organs that can be reached by intravenous delivery (such as the liver). Despite the success of classical enzyme-replacement therapy in several metabolic disorders, this therapeutic approach is not well suited for treatment of diseases caused by the lack of functional intracellular proteins, especially if the proteins are located in or on intracellular compartments. Additionally, as therapeutic proteins are conventionally manufactured by using human, animal, or even plant cells, the pharmacological and biochemical properties of such recombinant proteins may differ from endogenously expressed enzymes. Cellular localization, folding, and post-translational modifications can especially be critical for the correct function of a therapeutic protein. Delivery of mRNA can overcome these limitations and is likely to result in expression of a functional protein at a physiological cellular location. An example of our rare disease approach is for the treatment of hereditary spastic paraplegia, or HSP.

Hereditary Spastic Paraplegia

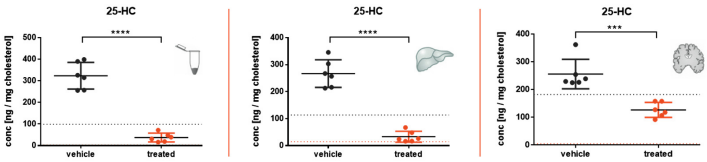
HSP is a group of inherited disorder that are characterized by progressive weakness and spasticity of the legs due to axonal degeneration of the corticospinal tract. Hereditary spastic paraplegia type 5 (SPG5) is caused by autosomal recessive loss-of-function mutations in CYP7B1, a gene encoding for the cytochrome P-450 oxysterol 7-α-hydroxylase, essential for the alternative pathway of bile acid synthesis in liver. Mutations causing SPG5 lead to decreased enzyme activity of CYP7B1 and accumulation of oxysterols in the serum, the liver, and then the central nervous system. The accumulation of hydroxyl cholesterol, or HC, in the brain is what is believed to be the pathologic correlate of this particular disease, which leads to spasms and paraplegia as symptoms. To date, no curative treatment for SPG5 is available. Current clinical treatment strategies for SPG5 are based on the reduction of cholesterol by applying cholesterol-lowering drugs (statins), which consequently lead to a reduction of oxysterols.



Our approach is based on replacement of CYP7B1 by administration of mRNA. We have studied the intravenous application of formulated CYP7B1 mRNA in mice lacking the endogenous *Cyp7b1* gene. Comparable to the human situation in SPG5 patients, a drastic increase of these oxysterols was detected in all three compartments (serum, liver and brain) of knockout mice. Using this *in vivo* model, we were able to demonstrate that a therapeutic approach with mRNA can restore human CYP7B1 protein that exhibits physiological function and eliminates abnormal cholesterol metabolites.

As shown below, we investigated the safety and efficiency of repeated dosing with four consecutive doses of 40 µg LNP-encoded mRNA of CYP7B1 administered intravenously every 5 days. LNP loaded with a non-translating mRNA were applied as control (vehicle). Prior to the administration, serum samples were taken to determine basal oxysterol levels. Two days after the last injection (17 days of treatment), animals were sacrificed, and serum, liver, and brain samples were analyzed. Oxysterol analysis of these samples demonstrated a significant decrease of 25 hydroxy cholesterol, or 25 HC, in the serum and liver. mRNA expression of the human CYP7B1 in the liver led to a reduction of 25 HC in the liver by 8-fold and in serum by approximately 88%. These effects are accompanied by a reduction of the accumulation of 25 HC in the brain by more than 50%. Additionally, repetitive treatment resulted in a significant decrease of 27-HC and 3β-HCA in livers of treated compared to vehicle animals.

In addition, repeat intravenous delivery of CYP7B1 mRNA was found to be well tolerated in this study. Neither the CYP7B1 mRNA nor the restored protein nor the LNP induced liver toxicity. None of the treated animals presented signs of toxic or adverse effects. LNP particles encapsulating non-coding mRNA led to a temporary increase oxysterol levels (25-HC and 27-HC) in liver and serum in the vehicle group, which is expected given cholesterol is an essential component of LNPs.



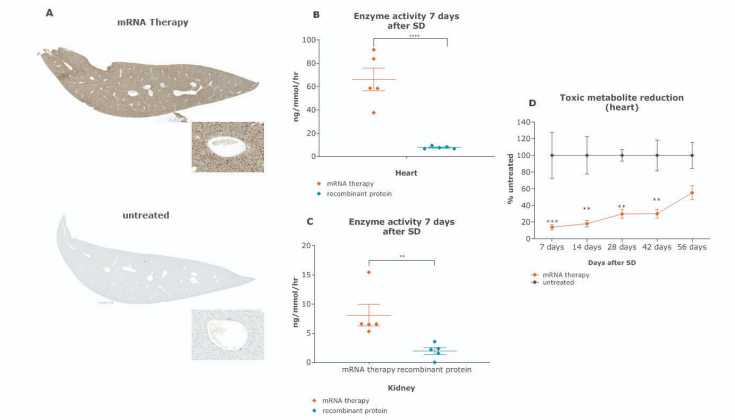
Lysosomal Storage Disorders

We continue to leverage our expertise in liver delivery technology by focusing on inherited rare diseases associated with metabolic disorders of the liver and lysosomal storage diseases. As a group, these diseases are well-defined, single-gene disorders that are amenable to correction by systemic mRNA therapy.

We have conducted preclinical studies in an undisclosed lysosomal storage disease, or LSD, to evaluate LNP delivery of mRNA encoding the deficient enzyme to the liver, production of the enzyme by the liver, and subsequent secretion and systemic distribution of the enzyme to the primary organs affected by the disease. In this specific LSD, the enzyme deficiency results in a progressive accumulation of lipid in cellular lysosomes, which ultimately affect the functioning of the heart and kidneys. Enzyme replacement therapy, or ERT, which involves intravenous administration of recombinant enzyme, has been the standard

of care for this specific LSD. In contrast to ERTs, our LNP mRNA technology specifically and efficiently targets the liver to naturally produce the missing enzyme, which is subsequently secreted into the bloodstream and distributed to the affected organs. In this specific LSD, the liver is not the target organ, but is used to produce the endogenous native enzyme.

As shown below, LNP delivered mRNA therapy produces a high and homogenous expression of the missing enzyme in the livers of knockout mice (Figure A, brownish stain). The endogenously produced enzyme is then secreted into the bloodstream with a better pharmacokinetic profile than the injected recombinant protein. The enzyme is then taken up by the target organs to be treated. In this example, the enzyme is taken up by the heart (Figure B) and kidney (Figure C) and localized into the lysosomes. Our mRNA therapy, through prolonged synthesis and secretion by the liver, leading to higher enzyme activity in the organs compared to the infused recombinant enzyme (Figures B and C). This higher enzyme activity leads to a significant and prolonged reduction of accumulated lipids in the organs of mRNA-treated animals (Figure D).



Liver-Specific Metabolic Diseases

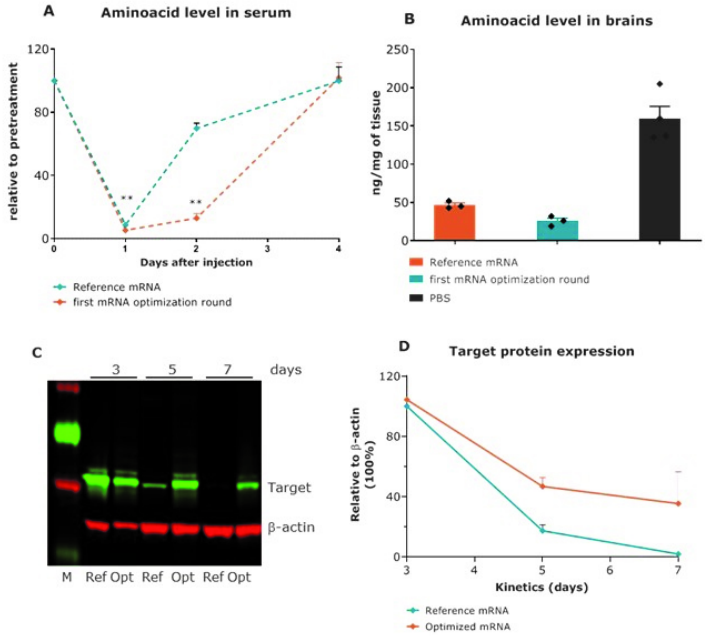
We are applying a similar approach to multiple undisclosed programs focused on inherited liver-specific metabolic disorders of amino acids, nitrogen, and essential nutrients. The goal of these rare disease programs is to restore the specific enzyme or protein that is deficient in the liver by LNP-mediated delivery of mRNA to the liver. As such, the target organ for correction is the liver, and secretion and systemic distribution of the enzyme or protein to other organs is not required for a therapeutic effect.

Our ability to optimize mRNA stability and translation, in combination with optimization of the expressed protein, is an important part of our technical expertise. Using a process of mRNA and protein optimization, we believe that we are able to extend the duration of protein expression to meet a defined target product profile.

One example of this technology is the mRNA therapy that we are developing for a metabolic amino acid disorder. In this inherited disorder, a liver-specific intracellular enzyme is deficient resulting in decreased metabolism of the amino acid. As a result, there is a toxic build-up of the amino acid in the blood, which leads to severe consequences for the central nervous system.

A single intravenous injection of a liver-targeted LNP formulation containing the therapeutic mRNA leads to a marked decrease in the level of the amino acid in the sera of knockdown animals (Figure

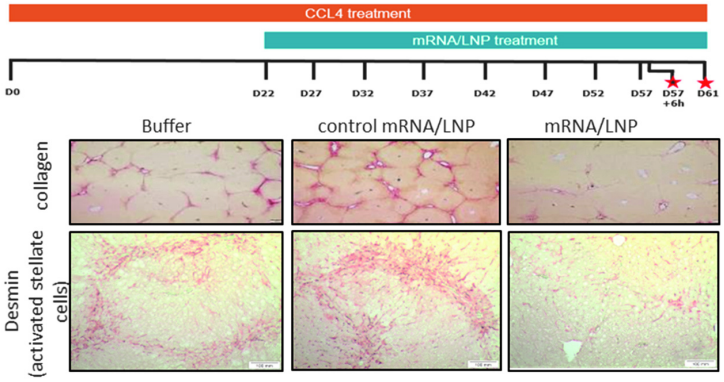
A), but also in the brain (Figure B). To maximize the therapeutic window to reach the desired target product profile, several rounds of mRNA and protein optimization were subsequently performed. Improving the mRNA molecular structure during the first round of optimization prolonged the protein and its therapeutic effect (Figure A) compared to the reference mRNA. Protein optimization (Figures C and D) of the expressed target enzyme increased its expression/stability and/or activity *in vitro*. The combination of both optimization programs resulted in a candidate with improved characteristics before entering into further development.



Fibrotic Liver Diseases

According to published literature, chronic liver diseases cause 2 million deaths a year worldwide. Leveraging efficient liver delivery technology, we are developing our programs focused on treating liver diseases. We have shown that the delivery of liver-specific protein factors, which are down regulated in fibrosis, can resolve liver fibrosis, a key pathological feature of NAFLD, NASH, cirrhosis and hepatocellular carcinoma. Protein factor treatment of liver diseases is uniquely suited to mRNA medicines enabling the expression of intracellular proteins. Moreover, we believe that in this particular case, the LNP technology allows us to deliver mRNA almost exclusively to the target cells, hepatocytes.

In a CCL4 chemically-induced mouse model of liver fibrosis, we delivered eight doses of LNP-mRNA at an interval of 5 days at 2 mg/kg. The figure below illustrates the ability of an mRNA-delivered protein factor to reduce collagen, the main fibrotic material deposited in fibrosis, and eliminate activated stellate cells, the source of collagen (stained red). To confirm the potential activity of this mRNA therapy, we obtained similar data in two other unrelated murine models: a diet-induced model and a knockout mouse model of liver fibrosis. These findings offer preclinical proof of concept for this therapeutic concept to treat acute and chronic liver diseases, as well as diseases of other organs.

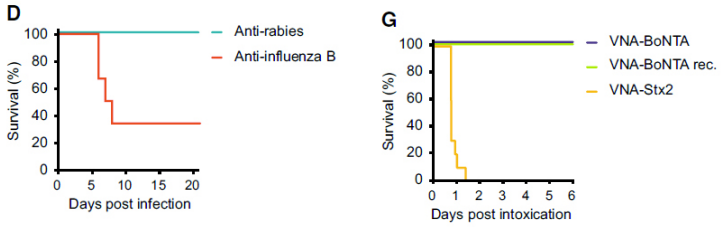


Therapeutic Antibodies

mRNA has potential to promote expression without inducing an adverse immune response against the encoded protein. We have tested various antibodies using different designs to evaluate our platform's potential for prophylactic and therapeutic antibodies.

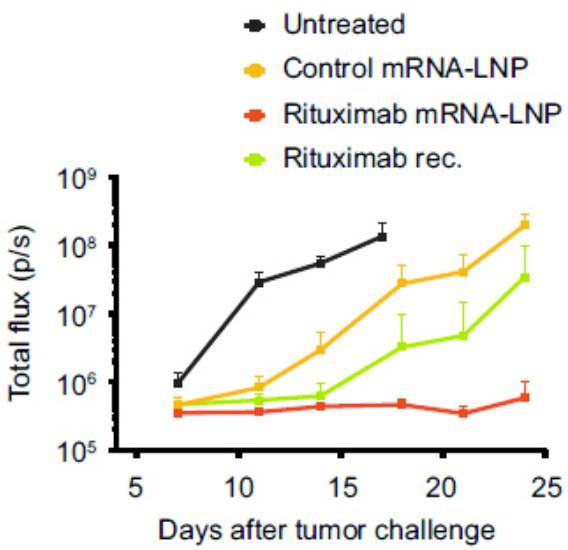
We evaluated the use of mRNA for passive immunization in two indications, rabies and botulism, that can be considered prototypes for anti-pathogen and anti-toxin therapies, respectively. Single injections of mRNA-LNPs were sufficient to establish rapid, strong, and long-lasting serum antibody titers *in vivo*, thereby enabling both prophylactic and therapeutic protection against lethal rabies infection or botulinum intoxication. In both models, the high levels of *in vivo* serum expression conferred full protection in pre- and post-exposure scenarios.

The left side of the below graphic shows that mice expressing the anti-rabies mAb survived, whereas the majority of control animals which received anti-influenza mAb mRNA succumbed. The right side of the below graphic shows that mice treated post-intoxication with VNA-BoNTA mRNA or recombinant VNA-BoNTA also survived.



We have also demonstrated that mRNA-mediated antibody expression may be effective in the field of cancer immunotherapy, where mAbs are widely used in medical practice. In a preclinical study conducted in mice, we compared the efficacy of rituximab-encoding mRNAs to recombinant rituximab. We inoculated mice intravenously with luciferase expressing Raji lymphoma cells and started treatment with 50 µg of mRNA-LNP encoding rituximab and 200 µg of recombinant rituximab at various time points. mRNA-LNPs coding for an irrelevant antibody were used as further control. Control animals revealed strong tumor cell proliferation and had to be euthanized 17 days after inoculation due to severe symptoms. As shown in the

picture below, repeated administration of mRNA-LNP for rituximab strongly decelerated or even abolished tumor cell growth compared to continued tumor growth for recombinant rituximab.

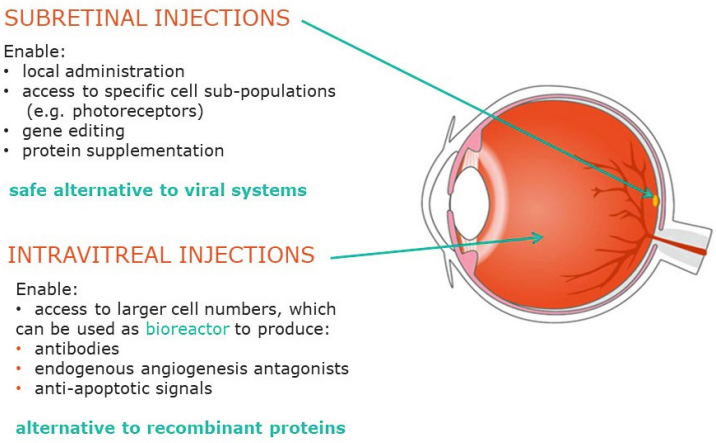


Eye Diseases

With the development of the CVCM delivery system, we were able to begin exploring the treatment of eye and lung diseases with mRNA therapy. We have strategic collaborations with SERI for the development of mRNA-based treatments for currently undisclosed eye indications. We believe that the treatment of eye diseases with mRNA therapy represents an excellent opportunity for the mRNA approach for the following reasons:

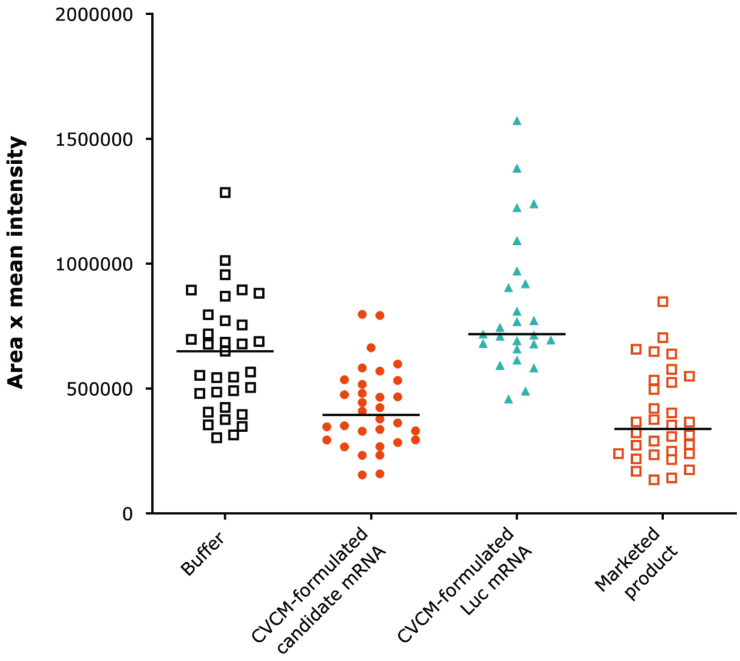
- Therapeutic protein can be produced directly and locally within the target tissue;
- Local treatment in the eye requires lower mRNA doses, thereby minimizing systemic exposure;
- Enables production of endogenous proteins to stop or prevent pathological processes locally in the eye, such as neo-vascularization or apoptosis;
- Enables expression of multi-domain intracellular or transmembrane proteins in key cells within the eye overcoming limitations of recombinant proteins;
- No concern with potential side-effects typical for viral gene vector;
- No mRNA construct size restrictions as with viral gene vectors; and
- The eye is an immune-privileged organ.

Our proprietary CVCM delivery system allows for different routes of delivery, include subretinal and intravitreal injections, of our mRNA-based medicines for the treatment of different eye diseases. The subretinal route provides access to specific cell subpopulations such as photoreceptors, while the intravitreal route allows access to larger cell populations which can be used as a local bioreactor to produce therapeutic proteins in the eye.



In vivo studies showed that intravitreal injection of CVCM-based mRNA formulations expressed high levels of fluorescent protein in both rat and rabbit eyes. This route of administration might potentially allow the expression of secreted therapeutic proteins within the eye. Similar expression of fluorescent protein was achieved following intraretinal injection of CVCM-formulated mRNA in rats.

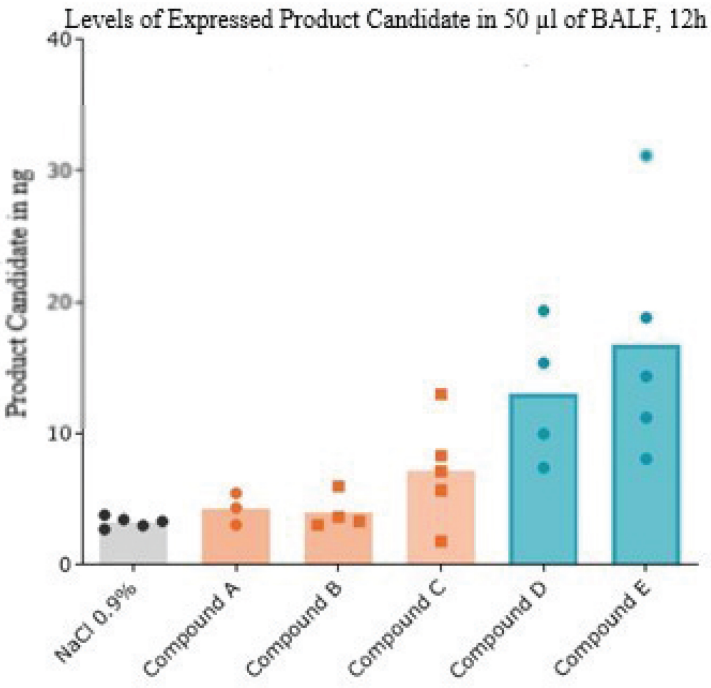
To further optimize the CVCM delivery system for ocular administration, formulations containing mRNA encoding product candidates were tested in a rat model. The animal model has been used in the development of therapeutics to treat retinal diseases. Multiple intravitreal injections of the CVCM-based mRNA formulations were well-tolerated. As shown below, administration of CVCM formulated with mRNA encoding for product candidates at a 5 µg dose showed comparable inhibitory activity to currently marketed products at the applicable labeled dose.



Based on the positive preclinical data demonstrating efficient delivery of mRNA to the eye using the CVCM delivery system, the agreement and collaboration with SERI moved ahead. We believe that the clinical and research expertise in eye diseases at SERI would allow us to fully leverage our mRNA and CVCM delivery technology in the discovery and validation of eye disease targets amenable to mRNA treatment. In collaboration with SERI, a high priority rare eye condition has been identified for development. Multiple therapeutic targets have been identified for this condition and mRNAs have been generated and are currently being tested in preclinical studies.

Lung Diseases

The CVCM delivery system is also well suited for the delivery of mRNA to the lung administered as either an aerosol or a dry powder formulation. Proof-of-concept *in vivo* animal studies showed that CVCM mRNA formulations, administrated using the intrapulmonary route, were able to transfect airway epithelial cells and produce functional therapeutic proteins in the lung. Levels of product candidate were determined in broncho-alveolar lavage fluid (BALF) collected 12 hours after instilling different CVCM-based mRNA formulations encoding for the target protein. As shown in the below graphic, Compounds A through E showed increased levels of expressed product candidates in the murine lung compared to a control (NaCl).



Our agreement with Yale University leverages Yale's leadership in lung discovery research with our technical capability to deliver mRNA to the lung, where it would express therapeutic proteins. The goal is to discover of novel molecular targets in pulmonary diseases that could potentially be treated with mRNA therapy. With the Yale investigators, we have identified a high priority pulmonary disease indication to pursue together with a novel therapeutic target for the treatment of the disease. Additional studies will explore new mRNA therapeutic targets to treat the disease.

Competition

We participate in an industry that is characterized by a rapidly growing understanding of disease biology, quickly changing technologies, strong emphasis on proprietary products, and a multitude of companies involved in the creation, development and commercialization of novel therapeutics. These companies are highly sophisticated and often collaborate strategically with each other.

We are developing a broad portfolio product candidates that, coupled with our capabilities across mRNA technology, development and manufacturing, we believe position us at the forefront of targeted immune active and immune silent mRNA-based medicines. However, we compete with a wide range of

pharmaceutical companies, biotechnology companies, academic institutions and other research organizations for novel therapeutic targets, new technologies, talent, financial resources, intellectual property rights and collaboration opportunities. As such, many of our competitors and potential competitors have substantially greater scientific, research and product development capabilities as well as greater financial, manufacturing, marketing and human resources than we do. In addition, there is intense competition to establish clinical trial sites and register patients for clinical trials. Many specialized biotechnology firms have formed collaborations with large, established companies to support the research, development and commercialization of products that may be competitive with ours. Accordingly, our competitors may be more successful than we may be in developing, commercializing and achieving widespread market acceptance. In addition, our competitors' products may be more effective or more effectively marketed and sold than any treatment we or our development partners may commercialize and may render our product candidates obsolete or noncompetitive before we can recover the expenses related to developing and commercializing any of our product candidates.

There are additional companies that are working on potential mRNA medicines. Companies with clinical programs with mRNA include BioNTech, Moderna, eTheRNA Immunotherapies, Translate Bio, GlaxoSmithKline Sanofi, AstraZeneca and Merck & Co. and those with preclinical programs include Arcturus Therapeutics, Ethris and Genevant Sciences. Specifically, the oncology therapeutics landscape in general is highly competitive and includes large and specialty pharmaceutical and biotechnology companies, academic research institutions and governmental agencies and public and private research institutions. It includes both competition from marketed therapies as well as potential new therapeutics in development. We may compete with products with different mechanisms of action as well as against established standards of care. We expect our intratumoral immunotherapy candidates for the treatment of solid tumors to face direct competition from companies such as Moderna and BioNTech in collaboration with Sanofi in addition to several non-mRNA based approaches.

Collaborations

We have entered into various licensing and commercialization agreements, including the following agreements with respect to product candidates:

Genmab Collaboration and License Agreement

In December 2019, we entered into the Genmab Agreement to research and develop up to four potential differentiated mRNA-based antibody products, to be selected by Genmab, based on the combination of our proprietary RNAntibody technology with Genmab's proprietary antibody technology for the treatment of human diseases. Pursuant to the Genmab Agreement we granted Genmab an exclusive, worldwide, sublicensable (subject to certain conditions) license under our mRNA technology for the development, manufacture and commercialization of an mRNA antibody product designed to express a certain Genmab proprietary antibody, which we refer to as the Genmab First Program. The parties will collaborate on research to identify an initial product candidate under the Genmab First Program. We additionally granted Genmab an exclusive, worldwide, sublicensable license under our mRNA technology for the research and preclinical development of up to four additional mRNA antibody product concepts and an option to obtain an exclusive, worldwide, sublicensable (subject to certain conditions) license to develop, manufacture and commercialize product candidates for up to three of such product concepts. We have the option to share in the costs and profits in connection with the development, manufacture and commercialization of one of the additional mRNA antibody product concepts under predefined terms and conditions.

We may not, directly or indirectly, offer any rights to a third party under the technology we license to Genmab for the product concepts and targets being developed under the Genmab Agreement or conduct or participate in the development, manufacture or commercialization of any antibody product that is directed at a target being developed under the Genmab Agreement. For the Genmab First Program, these obligations will last for the duration of the Genmab Agreement. For the additional product concepts certain time limitations apply to the above obligations. Genmab may not develop or commercialize any mRNA-based single antibody product or monoclonal recombinant antibody that is based on the Genmab First Program outside of the scope of the Genmab Agreement.

In partial consideration for entering into the Genmab Agreement, Genmab was required to pay us an upfront fee of $10 million and made a €20 million equity investment. Genmab additionally will be obligated to pay us a $0.5 million reservation fee upon the selection of each additional product concept for development and $5 million upon selection of a product from the Genmab First Program for further development and commercialization. Genmab is additionally required to pay us up to $30 million in option exercise fees. If Genmab exercises any of its options to obtain commercial licenses for the additional mRNA antibody concepts, Genmab would fund all research and would develop and commercialize any resulting product candidates. We are additionally eligible to receive up to between $275 million and $368 million in development, regulatory and commercial milestone payments for each product, depending on the specific product concept. In addition, we are eligible to receive a mid single-digit to low teens percentage tiered royalty on aggregate net sales of licensed products, on a per product basis and subject to certain customary reductions. Genmab's royalty obligation continues on a country-by-country and product-by-product basis until the later of the expiration of the last-to-expire valid claim in the licensed patents in such country covering such licensed product, expiration of regulatory exclusivity for such product in such country or ten years from the date of the first commercial sale of such product. If Genmab grants a sublicense to the Genmab First Program product before a certain milestone event, Genmab must pay us a one-time $10 million payment. We are responsible for a portion of the overall costs for development with respect to the Genmab First Program product until submission of an IND within an agreed budget, and Genmab will otherwise reimburse us for costs incurred in performing certain development activities in connection with the Genmab Agreement. We are responsible for any payments to third parties related to the LNP technology we license to Genmab for use in relation to the Genmab First Program and a portion of such payments with respect to LNP technology used in the additional product concepts. In the event we exercise our right to share in the development, manufacture and commercialization of a product, we must pay Genmab a one-time payment of $3 million and refund any option fee paid by Genmab with respect to such product. As of May 31, 2020, we have received approximately $0.1 million in development cost reimbursements and we have not received any reservation, product selection, option exercise or sublicense fees or milestone or royalty payments.

We are required to use commercially reasonable efforts to perform our obligations under the research and development plans established in connection with the Genmab Agreement. Genmab is required to use commercially reasonable efforts to identify and develop the Genmab First Program product and each additional product Genmab adds to the development program under the Genmab Agreement, and to further develop the Genmab First Program product and each optioned product to marketing authorization and to commercialize each product for which it obtains regulatory approval. We and Genmab are required to make available to the other party all preclinical development data for each program under development under the Genmab Agreement until filing of an IND for such program. Following IND filing for a product, we and Genmab will establish a collaboration committee where Genmab will share the status, progress and results of the development of the respective product.

The term of the Genmab Agreement will continue until the expiration of the royalty term, unless terminated earlier by either party. The Genmab Agreement may be terminated upon written notice by either party upon the other party's material breach or default of any of its obligations following a cure period. Genmab may terminate the Genmab Agreement for convenience after a certain notice period. Upon expiration of the Genmab Agreement, the license rights we granted to Genmab under the Genmab Agreement will become fully paid-up, perpetual and nonexclusive. In the event of termination for our material breach, we will grant Genmab an exclusive (even to us), worldwide and sublicensable license to exploit any product identified prior to termination, subject to Genmab's continued milestone and royalty obligations. In the event of termination by us for Genmab's material breach, or Genmab's termination for convenience, the licenses granted to Genmab will automatically terminate. Additionally, at our request, Genmab will grant us a nonexclusive, royalty-free, sublicensable, perpetual and worldwide license under certain Genmab intellectual property that is created under the Genmab Agreement and that is required to develop, manufacture and commercialize our own mRNA antibody products targeting the collaboration targets under the Genmab Agreement prior to termination. Such license would not include any license to Genmab background intellectual property or the specific products or antibodies developed by Genmab.

Arcturus Development and Option Agreement

In January 2018, we entered into the Arcturus Agreement, pursuant to which Arcturus granted us the right to reserve a certain number of targets and an irrevocable offer to obtain a license to a certain

number of such reserved targets to develop, manufacture and commercialize products containing Arcturus's LNP technology (LMD technology) and mRNA constructs intended to express such targets. The Arcturus Agreement was amended in May 2018, September 2018 and July 2019. As of May 31, 2020, we have not accepted the offer with respect to any targets.

Under the Arcturus Agreement, Arcturus is responsible for the LNP chemistry and formulation and characterization work and we are responsible for mRNA construct development.

Both parties will undertake certain allocated preclinical studies. Each party is required to use diligent efforts to perform its obligations under the work plans established in connection with the Arcturus Agreement and Arcturus is required to use diligent efforts to manufacture and supply us with certain formulated products. The Arcturus Agreement provides for the establishment of a joint development committee for the discussion of development efforts under the Arcturus Agreement.

We agreed to pay Arcturus an upfront fee of $5 million in connection with the Arcturus Agreement and must pay an extension fee of $1 million if we exercise our option to extend the initial term of the Arcturus Agreement beyond July 2023. We are further required to reimburse Arcturus for certain costs incurred in connection with development activities and provide certain FTE funding. We are additionally required to pay up to an aggregate of $5 million in connection with our acceptance of the irrevocable offer to obtain licenses for further development and commercialization of selected targets. Under each license agreement to be entered into in connection with our selection of targets, we will additionally be required to make certain royalty payments, which are not in excess of 10%, subject to certain customary reductions, on a country-by-country and a product-by-product basis until the later of the expiration of the last-to-expire valid patent in such country covering such licensed product, expiration of regulatory exclusivity for such product in such country or ten years from the date of the first commercial sale of such product in such country. We additionally must pay Arcturus up to $23 million in development, regulatory and commercial milestone payments in connection with each license agreement we enter into under the Arcturus Agreement. As of May 31, 2020, we have made payments totaling approximately $5.3 million to Arcturus reimbursing Arcturus for development costs and in connection with our FTE funding obligations and we have not accepted the irrevocable offer with respect to any target and therefore have not paid any acceptance fees or made any milestone or royalty payments to Arcturus.

Under the Arcturus Agreement, Arcturus granted us a worldwide, nonexclusive license under its LNP technology for research and preclinical development. We granted Arcturus a worldwide, nonexclusive license under our mRNA technology solely to enable Arcturus to perform development activities in connection with the Arcturus Agreement.

The Arcturus Agreement will expire in July 2023 unless earlier terminated or extended for an additional 18 month term. We have the right to terminate the Arcturus Agreement in full or on a target-by-target basis in the event of a material breach by Arcturus following a cure period. We additionally have the right to terminate the Arcturus Agreement for convenience following a certain notice period and for change of control of Arcturus. In the event we terminate for Arcturus's breach, for convenience or for Arcturus's change of control, Arcturus will transfer all deliverables created under the Arcturus Agreement to us and all licenses granted under the Arcturus Agreement will terminate. In the event we terminate for Arcturus's breach, Arcturus will transfer any technology and provide licenses as reasonably necessary for us to complete work contemplated under any work plan relating to the terminated target and the acceptance fee relating to such target and payments due under any associated license agreement will be reduced by a certain percentage. Arcturus has the right to terminate the Arcturus Agreement in the event of a material breach by us following a cure period, in which event all licenses granted under the Arcturus Agreement will terminate. Termination of the Arcturus Agreement shall not affect any then existing license agreements between us and Arcturus.

Acuitas Development and Option Agreement

In April 2016, we entered into the Acuitas Agreement pursuant to which Acuitas granted us the right to reserve a certain number of vaccine and other targets and an option to obtain a license to a certain number of such reserved targets to develop, manufacture and commercialize products containing Acuitas's

LNP technology and mRNA constructs intended to express such targets. As of May 31, 2020 we have exercised our option to obtain a nonexclusive license to nine targets.

Under the Acuitas Agreement, Acuitas is responsible for the LNP chemistry and formulation and characterization work, and we are responsible for mRNA construct development. Both parties will undertake certain allocated preclinical studies. Each party is required to use diligent efforts to perform its obligations under the work plans established in connection with the Acuitas Agreement. Acuitas is further required to use diligent efforts to manufacture and supply us with certain formulated products. The Acuitas Agreement provides for the establishment of a joint development committee for the discussion of development efforts under the Acuitas Agreement. We are required to reimburse Acuitas for certain costs incurred in connection with development activities and certain FTE costs.

We are further required to pay Acuitas annual target reservation and maintenance fees of up to approximately $1.1 million if we reserve the maximum number of targets permitted under the Acuitas Agreement. We are additionally required to pay an option exercise fee ranging from $50,000 to $300,000 upon each exercise of our option under the Acuitas Agreement, subject to certain additional fees ranging from $10,000 to $40,000 for the exercise of our option for certain other vaccine targets. Under each license agreement we enter into in connection with our exercise of our option, we will additionally be required to make low single-digit percentage tiered royalty payments, subject to certain customary reductions, on a country-by-country and a product-by-product basis until the later of the expiration of the last-to-expire licensed patent in such country covering such licensed product, expiration of regulatory exclusivity for such product in such country or ten years from the date of the first commercial sale of such product in such country. Under each such license we additionally must pay up to between approximately $3.6 million and $8.1 million in development, regulatory and commercial milestone payments, depending on whether the license is exclusive or nonexclusive and the number of options exercised to date. As of May 31, 2020, we have paid Acuitas approximately $2.3 million in reservation and option exercise fees and have made payments totaling approximately $5.1 million reimbursing Acuitas for development costs and LNP batches and in connection with our FTE funding obligations. Payments made under the license agreements entered into in connection with our exercise of our option under the Acuitas Agreement are described below.

Under the Acuitas Agreement, Acuitas granted us a worldwide, nonexclusive license under its LNP technology for us to perform development activities and we granted Acuitas a worldwide, nonexclusive license under our mRNA technology solely to enable Acuitas to perform development activities in connection with the Acuitas Agreement.

The Acuitas Agreement will expire in April 2021 unless earlier terminated or extended. Both parties have the right to terminate the Acuitas Agreement in whole or on a program-by-program basis in the event of a material breach by the other party following a cure period. We additionally have the right to terminate the Acuitas Agreement for convenience following a certain notice period or for Acuitas's change of control. In the event of termination for any reason, Acuitas will transfer all deliverables created under the Acuitas Agreement to us and in the event we terminate for reasons other than for Acuitas's material breach, we must make any payments owed to Acuitas up to the time of termination. In the event we terminate for Acuitas's material breach or for Acuitas's change of control, Acuitas will transfer any technology and provide licenses as reasonably necessary for us to complete work contemplated under the Acuitas Agreement and, in the case of termination for Acuitas's material breach, Acuitas must refund to us any target reservation and maintenance fees for the remainder of the contract year in which such termination is effective.

Acuitas Nonexclusive License Agreements

For each option we have exercised under the Acuitas Agreement, we have entered into a nonexclusive license agreement with Acuitas with respect to such optioned product, all based on the same form agreement, which we collectively refer to as the Acuitas License Agreements. Under the Acuitas License Agreements, Acuitas grants us a nonexclusive, non-transferable, sublicensable (subject to certain conditions) worldwide license under Acuitas's LNP technology to develop, manufacture and commercialize licensed products directed to the optioned targets. We may convert the nonexclusive licenses to exclusive licenses subject to certain additional financial obligations.

We must pay Acuitas up to between approximately $3.6 and $5.1 million in development, regulatory and commercial milestone payments under each Acuitas License Agreement upon the occurrence of certain milestone events. We additionally are obligated to pay Acuitas annual fees ranging from $5,000 to $10,000 for any additional protein targeted by a vaccine product licensed under an Acuitas License Agreement after a certain milestone event. We are further required to pay Acuitas a low single-digit tiered percentage royalty on net sales of licensed products, subject to certain potential customary reductions. Our royalty obligations continue under each Acuitas License Agreement on a country-by-country and product-by-product basis until the later of the expiration of the last-to-expire licensed patent claim covering such licensed product in such country, expiration of any regulatory exclusivity period for such product in such country and ten years following the first commercial sale of such product in such country. As of May 31, 2020, we have made $100,000 in milestone payments to Acuitas with respect to the license agreement relating to Rabies RAV-G and have not made any royalty payments.

Each Acuitas License Agreement will continue on a product-by-product and a country-by-country basis until there are no more payments owed to Acuitas for such product in such country. Either party may terminate an Acuitas License Agreement in the event of a material breach by the other party following a cure period. We additionally have the right to terminate the Acuitas License Agreements for convenience following a certain notice period. Upon expiration of an Acuitas License Agreement, the licenses granted to us under such Acuitas License Agreement will become fully paid-up and will remain in effect. In the event of our termination of an Acuitas License Agreement for Acuitas's material breach, the rights and licenses granted to us under such agreement will become perpetual and irrevocable. Alternatively, instead of exercising our right to terminate in the event of Acuitas's material breach, we may elect to instead continue the license but reduce our milestone and royalty payment obligations to Acuitas by a certain percentage. In the event of termination of an Acuitas License Agreement by us for convenience or by Acuitas for our material breach, the licenses granted under such agreement will terminate, except that we will have the right to sell off any remaining inventories of licensed products for a certain period of time.

CRISPR Therapeutics Development and License Agreement

In November 2017, we entered into the CRISPR Therapeutics Agreement, pursuant to which we will develop novel Cas9 mRNA constructs for use in gene editing therapeutics. Under the terms of the CRISPR Therapeutics Agreement, we granted CRISPR Therapeutics a worldwide, exclusive (even to us), sublicensable (subject to certain conditions) license under certain intellectual property rights that are reasonably necessary or useful to develop, manufacture or commercialize products comprising Cas9 mRNA constructs, and under any patents controlled by us that arise from inventions discovered under the CRISPR Therapeutics Agreement to develop, manufacture and commercialize three of CRISPR Therapeutics' *in vivo* gene-editing programs for certain diseases. CRISPR Therapeutics granted us an exclusive (even as to CRISPR Therapeutics), worldwide, cost-free sublicense to manufacture products comprising Cas9 mRNA constructs for CRISPR Therapeutics.

CRISPR Therapeutics was required to pay us an upfront one-time technology access fee of $3 million and we are eligible to receive up to $179 million in development and commercial milestone payments as well as mid single-digit percentage royalties from CRISPR Therapeutics on the net sales of licensed products on a product-by-product and country-by-country basis, subject to certain potential customary reductions. CRISPR Therapeutics' royalty obligations continue on a product-by-product and country-by-country basis until the later of the date when there are no valid patent claims under our licensed patents covering such licensed product in such country, the date when regulatory exclusivity for such licensed product in such country expires and ten years following the date of first commercial sale of such licensed product in such country. CRISPR Therapeutics is additionally required to reimburse us for our FTE costs and reasonable out-of-pocket expenses incurred performing development activities under the CRISPR Therapeutics Agreement. In the event CRISPR Therapeutics exercises its right to sublicense under the agreement, CRISPR Therapeutics must pay us a low teens to mid-twenties percentage of any non-royalty sublicense income, depending on the timing of the sublicense and whether the sublicense is granted through an affiliate of CRISPR Therapeutics. As of May 31, 2020, we have received approximately €0.5 million in payments for the supply of materials and FTE cost and development reimbursements and no milestone, royalty or sublicense fee payments.

We are required to use commercially reasonable efforts to perform our development obligations under the CRISPR Therapeutics Agreement and to supply certain materials to CRISPR Therapeutics. CRISPR Therapeutics is required to use commercially reasonable efforts to perform its obligations under the development plan and to develop and commercialize licensed products. We and CRISPR are required to keep the other party informed regarding the progress and results of performance of all development activities under the CRISPR Therapeutics Agreement.

The term of the CRISPR Therapeutics Agreement will continue on a product-by-product and country-by-country basis, until the last-to-expire royalty term expires in such country for such product, unless terminated earlier by either party. The CRISPR Therapeutics Agreement may be terminated (i) by CRISPR Therapeutics for convenience following a certain notice period (ii) by us if CRISPR Therapeutics or any of its affiliates, either directly or indirectly, challenges or assists a third party to challenge the licensed patent rights or in the event CRISPR Therapeutics undergoes a change of control or (iii) by either party in the event of the other party's material breach following a cure period (including on a program-by-program basis) or in the event of the other party's insolvency. Upon expiration, the license granted to CRISPR Therapeutics converts into a fully paid-up, royalty-free, perpetual and irrevocable license. Upon termination, the licenses granted to CRISPR Therapeutics will terminate and, in the case of termination for CRISPR Therapeutics' material breach or insolvency or for convenience by CRISPR Therapeutics, CRISPR Therapeutics must transfer all Cas9 mRNA constructs and related data to us.

Boehringer Ingelheim Exclusive Collaboration and License Agreement

In August 2014, we entered into the Boehringer Agreement with Boehringer Ingelheim whereby we granted Boehringer Ingelheim an exclusive, worldwide, sublicensable (subject to certain conditions) license under certain of our intellectual property for the development and commercialization of our investigational therapeutic mRNA vaccine BI 1361849 (former CV9202) and products containing such vaccine for all uses for cancer in humans. We additionally granted Boehringer Ingelheim an option to obtain an additional exclusive license for no additional fee to develop and commercialize an additional vaccine derived from BI 1361849 (former CV9202) for all uses for cancer in humans, which option right expires in August 2024. As of May 31, 2020, Boehringer Ingelheim has not exercised its option right. The Boehringer Agreement was amended in June 2015, August 2016 and August 2019.

Under the collaboration, Boehringer Ingelheim agreed to start clinical investigation of BI 1361849 (former CV9202) in at least two different lung cancer settings: in combination with afatinib in patients with advanced or metastatic epidermal growth factor mutated non-small cell lung cancer, or NSCLC, and in combination with chemo-radiation therapy in patients with unresectable stage III NSCLC. This clinical development plan was later revised due to the establishment of checkpoint blocking antibody treatments as a new standard-of-care option for the treatment of advanced NSCLC and due to demonstrated synergy between mRNA vaccines and checkpoint blocking antibodies in preclinical models. BI 1361849 (former CV9202) is currently in Phase 1/2 of clinical investigation in combination with two checkpoint blocking antibodies, Durvalumab, a PD-L1 antibody, and Tremelimumab, a CTLA4 antibody, both by Medimmune, in a trial sponsored by the Ludwig Institute for Cancer Research.

Boehringer Ingelheim is obligated to use commercially reasonable efforts to progress the development and commercialization of BI 1361849 (former CV9202). We are required to use commercially reasonable efforts to progress certain research and development activities in respect of the manufacturing of BI 1361849 (former CV9202). We are required to provide all BI 1361849 (former CV9202) required for nonclinical and clinical development and for commercialization. In the event we fail to meet certain manufacturing benchmarks, Boehringer Ingelheim will have the right to assume the manufacture of BI 1361849 (former CV9202). The Boehringer Agreement provides for the creation of a joint steering committee which is responsible for the review of development plans, the monitoring of development activities and the exchange of development data and other technical information. With certain limited exceptions, Boehringer Ingelheim is responsible for all regulatory matters provided that we have the right and obligation to review and comment on all regulatory filings to the extent such filings relate to BI 1361849 (former CV9202). In the event Boehringer Ingelheim or its affiliates or sublicensees commence clinical trials or commercialization of any mRNA-based protamine-complex vaccine targeting any of the indications for which Boehringer Ingelheim is developing BI 1361849 (former CV9202), we have the right to convert the exclusive license

granted to Boehringer Ingelheim under the Boehringer Agreement to a nonexclusive license and Boehringer Ingelheim will be required to grant us a nonexclusive license to any intellectual property developed under the Boehringer Agreement, subject to certain exceptions, for the development, manufacture and commercialization of BI 1361849 (former CV9202).

Under the terms of the Boehringer Agreement, Boehringer Ingelheim was required to pay us an upfront payment of €30 million and an additional upfront option fee of €5 million. As of May 31, 2020, we have received €7 million in milestone payments and can further achieve development, regulatory and commercial milestone payments of up to €423 million. In addition, Boehringer Ingelheim agreed to pay us royalties in the low teens on net sales, subject to certain potential customary reductions. Boehringer Ingelheim's royalty obligations continue on a product-by-product and country-by-country basis in certain major markets until the latest of the date when there are no valid patent claims under our licensed patents covering such licensed product in such country, the date when regulatory exclusivity for such licensed product in the applicable country expires and twelve years following the date of the first commercial sale of such licensed product in such country if such country is designated as a major market or fifteen years following the date of the first commercial sale of such licensed product in any non-major market country if such country is not designated as a major-market country. We are responsible for any payment obligations arising under certain existing third-party license agreements and costs we incur in relation to the research and development of BI 1361849 (former CV9202) manufacturing technology. Boehringer Ingelheim is responsible for all other development and commercialization costs and is required to reimburse us for any such costs we may incur. As of May 31, 2020, Boehringer Ingelheim has made payments to us for a net amount of approximately €7.4 million for the supply of materials and reimbursing us for development costs. We have received no royalty payments.

Boehringer Ingelheim solely owns any intellectual property arising out of the collaboration that is both only dependent upon or covered by Boehringer Ingelheim's preexisting intellectual property and does not relate to the development or manufacture of BI 1361849 (former CV9202) or other RNA-based products owned or in-licensed by us, as well as any intellectual property that is solely directed to the composition of matter, the formulation or use of BI 1361849 (former CV9202) and not applicable to any other vaccine. We own any intellectual property arising out of the collaboration that is dependent upon or covered by our preexisting intellectual property and not Boehringer Ingelheim's preexisting intellectual property, and is not solely directed to the composition of matter, the formulation or use of BI 1361849 (former CV9202), as well as any intellectual property that is directed to the development or manufacture of BI 1361849 (former CV9202) or other RNA-based products owned or in-licensed by us. All other intellectual property developed under the Boehringer Agreement is jointly owned by us and Boehringer Ingelheim. Boehringer Ingelheim grants us a fully paid-up, irrevocable, perpetual, sublicensable and transferable license under any intellectual property developed under the Boehringer Agreement and owned by Boehringer Ingelheim for the manufacture of BI 1361849 (former CV9202), the exploitation of any product other than BI 1361849 (former CV9202) and for any use other than uses for cancer in humans. We grant Boehringer Ingelheim a cost-free, fully paid-up, nonexclusive, irrevocable, perpetual, sublicensable and transferable license under intellectual property developed under the Boehringer Agreement and assigned to us by Boehringer Ingelheim for exploitation outside of the scope of the Boehringer Agreement. Upon the occurrence of a certain milestone event, we must assign to Boehringer Ingelheim certain patent rights that relate specifically to BI 1361849 (former CV9202) and Boehringer Ingelheim will grant us an exclusive, irrevocable, perpetual, cost-free, sublicensable and transferable license to use such patent rights for the manufacture of BI 1361849 (former CV9202), the exploitation of any product other than BI 1361849 (former CV9202) and for any use other than uses for cancer in humans.

The term of the Boehringer Agreement will continue on a country-by-country and product-by-product basis until the expiration of the last to expire royalty term, unless terminated earlier by either party. Boehringer Ingelheim may terminate the Boehringer Agreement for convenience following a certain notice period. Either party may terminate the Boehringer Agreement upon the other's material breach, following a cure period. In addition, we may terminate the Boehringer Agreement if Boehringer Ingelheim or any of its affiliates, directly or indirectly, challenges or assists a third party to challenge the validity of licensed patent rights. Upon expiration of the Boehringer Agreement, Boehringer Ingelheim will retain the license granted to it under the Boehringer Agreement on an exclusive, irrevocable, perpetual, fully paid and royalty-free basis, with such license converting to a nonexclusive license after the later of a certain period following expiration

of the Boehringer Agreement or such time as we no longer supply to Boehringer Ingelheim a certain percentage of its demand for BI 1361849 (former CV9202). Following expiration we are required to reasonably consider continuing to supply Boehringer Ingelheim with BI 1361849 (former CV9202) but in the event we cannot agree on the terms of such supply, we will be required to grant Boehringer Ingelheim a license to manufacture BI 1361849 (former CV9202) and provide technology transfer assistance in exchange for a €5 million fee. Upon termination of the Boehringer Agreement, the rights and licenses granted by us to Boehringer Ingelheim will revert back to us, provided that Boehringer Ingelheim has the right to sell off existing inventory of BI 1361849 (former CV9202) for a certain period. In the event of our material breach, Boehringer Ingelheim may elect to terminate the Boehringer Agreement, in which case we must reimburse Boehringer Ingelheim for all wind down expenses of ongoing clinical trials, or continue to exercise its rights and obligations under the Boehringer Agreement, receive damages from us determined in a dispute resolution proceeding and continue paying us milestone and royalty payments. In the event of termination by Boehringer Ingelheim for convenience or by us for Boehringer Ingelheim's patent challenge or material breach, Boehringer Ingelheim must assign to us all regulatory approvals or applications and grant us a non-exclusive, cost-free, perpetual and worldwide license to intellectual property held by Boehringer Ingeheim that has been used in the development, manufacture or commercialization of BI 1361849 (former CV9202) or any other product developed under the Boehringer Agreement.

Bill & Melinda Gates Foundation Partnership

In May 2014, we entered into a grant agreement with the Bill & Melinda Gates Foundation for the development of a vaccine for rotaviruses. Under the terms of the grant, the Bill & Melinda Gates Foundation will provide up to approximately $2.5 million in funding and we are required to perform certain activities specified in a project collaboration plan. As of May 31, 2020, we have received approximately $2.0 million in funding under the agreement. We own all intellectual property created using grant funding; however, we must make any Bill & Melinda Gates Foundation-funded products available at an affordable price in a list of clearly defined low and lower middle-income countries. The term of the rotavirus agreement continues until October 2021. Both parties have the right to terminate the agreement for convenience following a notice period or in the event of the other party's material breach following a cure period. Our global access commitments survive termination or expiration of the agreement.

In March 2015, the Bill & Melinda Gates Foundation made an equity investment of $40 million to support continued development of our RNA technology platform and the construction of an industrial scale cGMP production facility, and we entered into the Global Access Commitments Agreement with the Bill & Melinda Gates Foundation in February 2015 pursuant to which we are required to take certain actions to support the Bill & Melinda Gates Foundation's mission. In particular, we are required to conduct development activities for up to three concurrent projects to be proposed by the Bill & Melinda Gates Foundation, subject to our right to reject proposed projects where we believe there is a reasonable likelihood of a material adverse effect on us. The costs of such projects will be allocated on a project-by-project basis in proportion to the allocation of the expected benefits. All intellectual property developed in connection with such projects will be owned by us.

Under the terms of the Global Access Commitments Agreement, any Bill & Melinda Gates Foundation funded products will be made available by us at an affordable price in a list of clearly defined low and lower middle-income countries, while we will be able to market such products in developed countries on our own or through licensees. In addition, the new manufacturing facility will have dedicated capacity to focus on products resulting from Bill & Melinda Gates Foundation-related projects for distribution in such low and lower middle-income countries.

Our global access commitments are perpetual, however, our obligation to commence new development programs expires in February 2025. In the event that we commit a material breach of the Global Access Agreement, following a cure period, we must grant the Bill & Melinda Gates Foundation a nonexclusive, perpetual, irrevocable, fully paid-up, royalty-free license under any intellectual property controlled by us covering any Bill & Melinda Gates Foundation-funded products to develop, manufacture and commercialize such products in low and lower middle-income countries, and the Bill & Melinda Gates Foundation will have certain withdrawal rights with respect to its equity investment in us.

In November 2016 in connection with and subject to the terms of the Global Access Agreement, we were awarded a grant for up to approximately $0.9 million in funding from the Bill & Melinda Gates Foundation for the development of a vaccine for picornaviruses. As of May 31, 2020, we have received approximately $0.7 million in funding under the grant agreement. We granted the Bill & Melinda Gates Foundation a nonexclusive, perpetual, irrevocable, worldwide, royalty-free, fully paid-up, sublicensable license to make, use, sell, offer to sell, import, distribute, copy, modify, create derivative works, publicly perform and display any products developed using grant funding; however, in the event we demonstrate to the satisfaction of the Bill & Melinda Gates Foundation that we are able to meet its global access requirements, such license will be modified or terminated. The term of the picornavirus grant continues until January 2021; however, our global access commitments survive.

In November 2017, also in connection with and subject to the terms of the Global Access Agreement, we were awarded two additional grants for up to approximately $1.9 million and $1.5 million from the Bill & Melinda Gates Foundation for the development of a universal influenza vaccine and a malaria vaccine respectively. As of May 31, 2020, we have received approximately $1.5 million and $0.8 million respectively in funding under each grant agreement. The programs will leverage our advanced RNActive® prophylactic vaccine technology to develop mRNA-based universal influenza and malaria vaccines. The malaria grant agreement continues until December 2021 and the universal influenza grant agreement continues until June 2021, unless terminated earlier by the Bill & Melinda Gates Foundation.

The Bill & Melinda Gates Foundation can terminate any of the three grant agreements entered into in connection with the Global Access Agreement early if it is not reasonably satisfied with our progress on a specific project, there are significant changes to our leadership or another issue arises which threatens a specific project's success, there is a change in our control or tax status, or we fail to comply with the grant agreement. Our global access commitments survive termination or expiration. Any grant funds that have not been used for, or committed to, the underlying project upon expiration or termination of a grant agreement must be returned to the Bill & Melinda Gates Foundation.

Coalition for Epidemic Preparedness Innovations Framework Partnering Agreement

In February 2019, we entered into the CEPI Agreement to develop our RNA Printer using certain intellectual property controlled by us covering the development and manufacture of mRNA products as well as certain additional intellectual property licensed to us. In connection with the CEPI Agreement we have entered into work orders for the preclinical development of a Lassa virus vaccine, a yellow fever vaccine and our rabies virus vaccine. In addition, we entered into a work package for the preclinical development and a Phase 1 clinical trial for a SARS-CoV-2 vaccine.

We are required to use reasonable efforts to achieve certain development milestones and are responsible for conducting certain clinical trials. We are required to share clinical trial data with CEPI, subject to the terms of specific work packages entered into in connection with the CEPI Agreement. In the event of an infectious disease outbreak, where such outbreak can be addressed by a Lassa virus, SARS-CoV-2 or future vaccine developed under the CEPI Agreement, we must manufacture such vaccine for use in the area affected by the outbreak on economic terms that satisfy CEPI's equitable access guidelines or otherwise allow CEPI or a third party to supply such vaccine in the affected area. For the initial term of the CEPI Agreement and for a certain period thereafter, in the event of an outbreak that cannot be addressed by a vaccine already developed under the CEPI Agreement, CEPI may request, and we may agree, that we will develop a product targeted against such outbreak or we will assist CEPI to develop a candidate product against such outbreak. In the event we decline to enter into such a development agreement, we will grant CEPI the right to develop and stockpile such vaccines under certain of our background intellectual property and intellectual property developed under the CEPI Agreement. We are additionally required to use reasonable efforts, at CEPI's request, to submit certain optimized antigen nucleotide sequences for up to three specified pathogens in order for CEPI to start its own product development program. We have a right of first refusal to manufacture any pharmaceutical products developed by CEPI using the antigen nucleotide sequences we provide. In certain scenarios, including if we fail to provide Lassa virus, SARS-CoV-2 or future vaccines developed under the CEPI Agreement at prices that comply with CEPI's equitable access guidelines, we must grant CEPI a license under certain of our background intellectual property and intellectual property developed under the CEPI Agreement to, among other things, develop our automation

solution for use in treating such infectious diseases and to develop, manufacture and market such pharmaceutical products for use in geographic areas where there is a disease outbreak.

We are required to grant certain approved manufacturers all necessary rights to use certain of our preexisting intellectual property and intellectual property developed under the CEPI Agreement to further develop our automation solution and manufacture products for the treatment of certain diseases in geographic areas where there is an outbreak on economic terms that satisfy CEPI's equitable access guidelines. We must provide all necessary commercially reasonable support to such approved manufacturers to facilitate such efforts.

CEPI agreed to contribute up to approximately $34 million in funding for projects undertaken under the CEPI Agreement and an additional $15.3 million in connection with development of the SARS-CoV-2 vaccine. In the event of our commercial use of the pharmaceutical products developed under the CEPI Agreement, we must notify CEPI and agree in good faith how such commercial benefits are to be equitably managed between the parties. As of May 31, 2020, we have received approximately €20.5 million in funding for projects undertaken under the CEPI Agreement.

We solely own all intellectual property developed under the CEPI Agreement but are required to obtain CEPI's consent prior to exploiting any intellectual property developed under the CEPI Agreement if such exploitation is in conflict with or goes against CEPI's mission or policies.

The CEPI Agreement will continue until February 2022 unless earlier terminated. Either party may terminate the CEPI Agreement if the other party commits a material breach or in the event of the other party's insolvency following a cure period. CEPI has the right to terminate the CEPI Agreement immediately upon written notice in the event we take any action incompatible with CEPI's mission, we and CEPI are unable to reach agreement on a development or marketing plan or on a project lead, we undergo a change of control, we are unable to achieve certain milestones or certain material safety or quality issues arise. In the event that CEPI terminates the CEPI Agreement, we will grant CEPI a license under our background intellectual property and intellectual property developed under the CEPI Agreement to, among other things, develop and use our RNA Printer for use in treating certain infectious diseases and to manufacture products developed under the CEPI Agreement. In the event we terminate the CEPI Agreement for CEPI's material breach, CEPI must make all outstanding payments due to us under any work package relating to expenditures that we have already committed. Regardless of the cause of termination, our obligations in the event of an infectious disease outbreak will terminate and we must transfer any vaccines developed under the CEPI Agreement as well as all regulatory applications and regulatory approvals relating to such vaccines to CEPI and we retain the right to continue using intellectual property developed under the CEPI Agreement for any purpose. In certain situations, we may be required to return funding provided by CEPI. See note 3 to our financial statements contained elsewhere in this prospectus for further information on the terms of the funding provided by CEPI.

Tesla Grohmann Development and Intellectual Property Agreement

In November 2015, we entered into the Tesla Grohmann Agreement with Tesla Grohmann pursuant to which Tesla Grohmann agreed to design, develop and manufacture certain automated manufacturing machines on our behalf. We are obligated to pay Tesla Grohmann a fee for each machine delivered by Tesla Grohmann and up to $50 million to $60 million in commercial milestone payments as well as certain development costs under each associated work order. As of May 31, 2020 we have paid Tesla Grohmann approximately €5 million to €6 million in development costs under various work orders and we have not paid any fees for machines provided under the Tesla Grohmann Agreement or made any milestone payments.

The parties jointly own any intellectual property developed under the Tesla Grohmann Agreement and Tesla Grohmann granted us a nonexclusive, royalty-free, perpetual, irrevocable as to existing machines, worldwide license to use, sublicense and distribute Tesla Grohmann background intellectual property that is incorporated into any machine developed under the Tesla Grohmann Agreement and an exclusive (only with respect to the machines, and until a certain period after the first commercial use of a machine, after which the license shall be nonexclusive), royalty-free, perpetual, irrevocable as to existing machines, worldwide license under Tesla Grohmann's interest in any jointly owned intellectual property. We granted Tesla

Grohmann a nonexclusive, non-transferable, no-charge license during the term of the Tesla Grohmann Agreement under our background intellectual property for Tesla Grohmann's performance of its obligations under the Tesla Grohmann Agreement and a nonexclusive, royalty-free, perpetual, irrevocable as to existing machines, worldwide license under our interest in any jointly owned intellectual property to perform its obligations under the Tesla Grohmann Agreement and for applications and uses unrelated to the machines developed under the Tesla Grohmann Agreement.

The Tesla Grohmann Agreement continues on a machine-by-machine basis until ten years after the first commercial use of such machine. Either party may terminate any work order entered into in connection with the Tesla Grohmann Agreement for convenience upon written notice to the other party and either party may terminate a work order for the other party's material breach following a cure period, or for the other party's insolvency. In the event Tesla Grohmann terminates a work order for convenience or we terminate for Tesla Grohmann's material breach or insolvency, Tesla Grohmann must grant us a nonexclusive, fully paid-up, worldwide, irrevocable, perpetual, transferable and sublicensable license under Tesla Grohmann background intellectual property and Tesla Grohmann's interest in intellectual property developed under the Tesla Grohmann Agreement for us to complete, either on our own or with another supplier, the work under such terminated work order. In the event we terminate for convenience, we must pay Tesla Grohmann a termination fee. In the event Tesla Grohmann terminates for our material breach or insolvency, we must pay Tesla Grohmann a termination fee and grant Tesla Grohmann a nonexclusive, fully paid-up, sublicensable, worldwide irrevocable and perpetual license under our background intellectual property and our interest in the intellectual property developed under the Tesla Grohmann Agreement to manufacture machines relevant to the applicable work order.

Sponsored Collaboration Agreements

Yale Collaborative Research Agreement

In July 2019, we entered into a Collaborative Research Agreement, which we refer to as the Yale Agreement, for research in mRNA-based pulmonary therapeutic candidates with Yale University, or Yale. Under the Yale Agreement, Yale will perform discovery research on targets related to pulmonary diseases and present therapeutic candidates to us for preclinical and subsequent clinical development. We are required to reimburse Yale for approximately $0.8 million in costs incurred in connection with research activities conducted under the Yale Agreement and for certain patent prosecution and maintenance costs. As of May 31, 2020, we have provided approximately $0.4 million in funding to Yale under the Yale Agreement.

Each party will solely own inventions it solely develops and will jointly own jointly developed inventions. Yale is required to grant us an exclusive license under Yale's interest in any intellectual property developed under the Yale Agreement, subject to Yale's retained right to use such intellectual property for academic purposes. Under any such license agreement, we will be required to pay Yale up to approximately $2.7 million in milestone payments, an annual maintenance fee of between $10,000 and $60,000 until the first commercial sale of a licensed product and a low single-digit percentage royalty on net sales on a product-by-product and country-by-country basis until the later of the expiration of the last to expire claim covering such product in such country or ten years after the first commercial sale of such product in such country. Yale additionally granted us an exclusive option to negotiate an exclusive or nonexclusive license to certain background intellectual property.

The Yale Agreement will continue until June 2021, unless extended by mutual agreement or earlier terminated. We have the right to terminate the Yale Agreement for convenience following a certain notice period. Both parties have the right to terminate the Yale Agreement for the other party's material breach following a cure period. If we terminate the Yale Agreement without reimbursing Yale for its research costs, Yale will have no obligation to grant us a license to intellectual property developed under the Yale Agreement.

Schepens Institute Research Agreement

In March 2019, we entered into a Sponsored Research Agreement, which we refer to as the Schepens Agreement, with SERI, pursuant to which SERI agreed to perform certain research activities for mRNA-based eye therapy candidates. Under the Schepens Agreement, SERI granted us an exclusive option

to initiate negotiations for an exclusive or nonexclusive license to SERI's interest in any inventions developed under the Schepens Agreement. SERI additionally granted us an exclusive option to negotiate an exclusive license to certain background intellectual property. Under any such background intellectual property license, we will be required to pay SERI a $30,000 upfront payment, up to approximately $2.6 million in milestone payments, and a low single-digit percentage royalty on net sales subject to certain minimum annual payments. We are required to provide $1 million in funding to SERI in multiple payments during the term of the Schepens Agreement. As of May 31, 2020, we have provided approximately $0.8 million in funding to SERI under the Schepens Agreement.

Each party will solely own inventions it solely develops and will jointly own jointly developed inventions. We are responsible for all patent prosecution costs and if we elect not to cover the prosecution costs for SERI's interest in intellectual property developed under the Schepens Agreement, SERI will have the right to license such inventions to third parties and we will have no rights in such inventions.

The Schepens Agreement continues until July 2021, unless extended by mutual agreement or earlier terminated. Both parties have the right to terminate the Schepens Agreement for the other party's material breach following a cure period and SERI has the right to terminate in the event of our insolvency. We additionally have the right to terminate the Schepens Agreement for convenience following a notice period. In the event SERI terminates for our material breach or insolvency or we terminate for convenience, we must reimburse SERI for all costs incurred to date and provide certain additional funding for a three-month period. In the event we terminate for SERI's material breach, we must reimburse SERI for all noncancellable commitments.

Intellectual Property

Our commercial success depends in part on our ability to obtain and maintain proprietary or intellectual property protection for our product candidates and our core technologies and other know-how, defend and enforce our patents, preserve the confidentiality of our trade secrets, operate our business without infringing, misappropriating or otherwise violating the intellectual property or proprietary rights of third parties and prevent third parties from infringing, misappropriating or otherwise violating our proprietary or intellectual property rights. We seek to protect our proprietary and intellectual property position by, among other methods, seeking and maintaining patents in the U.S. and other major markets. We also rely on trade secrets and know-how to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection, which we generally seek to protect through contractual obligations with third parties.

Patents

As of May 31, 2020, we own approximately 49 issued U.S. patents, 119 pending U.S. patent applications, 644 issued foreign patents (including 50 European patents, which have been validated in various European countries resulting in a total of approximately 506 national patents in European countries), 393 pending foreign patent applications (including 79 pending European patent applications) and 16 pending Patent Cooperation Treaty, or PCT, patent applications, including three pending U.S. patent applications, 22 foreign patent applications and two PCT patent applications that are jointly owned with third parties. These patents include claims relating to our RNAoptimizer technology platform, CV8102, BI 1361849 (former CV9202), CV7202, CV-SSIV, our SARS-CoV-2 vaccine and our CVCM delivery system, as described further below.

RNAoptimizer

As of May 31, 2020 we own 17 issued U.S. patents, 15 pending U.S. patent applications, 68 issued foreign patents, including in Europe, Canada, China, Japan, the Republic of Korea, Singapore, Russia, Mexico and Australia, and 126 pending foreign patent applications and one PCT patent application relating to our RNAoptimizer technology, including patents and patent applications relating to ORF optimization, UTR optimization, protein optimization and formulation. Our RNAoptimizer technology is used in our BI 1361849 (former CV9202), CV7202, CV-SSIV and SARS-CoV-2 product candidates. The issued patents are expected to expire between 2022 and 2034, excluding any additional term for patent term

adjustments or patent term extensions. If granted, the pending patent applications would be expected to expire between 2022 and 2039, excluding any additional term for patent term adjustments or patent term extensions.

CV8102

As of May 31, 2020 we own four issued U.S. patents, three pending U.S. patent applications, 31 issued foreign patents, including in Europe, Canada, China, Japan, the Republic of Korea, Singapore, Russia, Mexico and Australia, and 28 pending foreign patent applications relating to our CV8102 product candidate. The issued patents are expected to expire between 2028 and 2036, excluding any additional term for patent term adjustments or patent term extensions. If granted, the pending applications would be expected to expire between 2029 and 2037, excluding any additional term for patent term adjustments or patent term extensions.

BI 1361849 (former CV9202)

As of May 31, 2020 we own 11 issued U.S. patents, nine pending U.S. patent applications, 56 issued foreign patents, including in Europe, Canada, China, Japan, the Republic of Korea, Singapore, Russia, Mexico and Australia, and 71 pending foreign patent applications relating to our BI 1361849 (former CV9202) product candidate. The issued patents are expected to expire between 2022 and 2034, excluding any additional term for patent term adjustments or patent term extensions. If granted, the pending patent applications would be expected to expire between 2022 and 2034, excluding any additional term for patent term adjustments or patent term extensions.

CV7202

As of May 31, 2020 we own five issued U.S. patents, five pending U.S. patent applications, 17 issued foreign patents, including in Europe, Canada, China, Japan, the Republic of Korea, Singapore, Russia, Mexico and Australia, and 30 pending foreign patent applications relating to our CV7202 product candidate. The issued patents are expected to expire between 2022 and 2031, excluding any additional term for patent term adjustments or patent term extensions. If granted, the pending patent applications would be expected to expire between 2022 and 2037, excluding any additional term for patent term adjustments or patent term extensions.

CV-SSIV

As of May 31, 2020 we own six issued U.S. patents, ten pending U.S. patent applications, 22 issued foreign patents, including in Europe, Canada, China, Japan, the Republic of Korea, Singapore, Russia, Mexico and Australia and 36 pending foreign patent applications relating to our CV-SSIV product candidate. The issued patents are expected to expire between 2022 and 2033, excluding any additional term for patent term adjustments or patent term extensions. If granted, the pending patent applications would be expected to expire between 2022 and 2038, excluding any additional term for patent term adjustments or patent term extensions.

SARS-CoV-2 vaccine

As of May 31, 2020 we own five issued U.S. patents, three pending U.S. patent applications, 17 issued foreign patents, including in Europe, Canada, China, Japan, the Republic of Korea, Singapore, Russia, Mexico and Australia, and 23 pending foreign patent applications and three PCT patent applications relating to our SARS-CoV-2 product candidate. The issued patents are expected to expire between 2022 and 2031, excluding any additional term for patent term adjustments or patent term extensions. If granted, the pending patent applications would be expected to expire between 2022 and 2040, excluding any additional term for patent term adjustments or patent term extensions.

CVCM delivery system

As of May 31, 2020 we own three issued U.S. patents, two pending U.S. patent applications, 11 issued foreign patents, including in Europe, Canada, China, Japan, the Republic of Korea, Singapore,

Russia, Mexico and Australia, and 12 pending foreign patent applications relating to our proprietary CVCM delivery system. The issued patents are expected to expire in 2029, excluding any additional term for patent term adjustments or patent term extensions. If granted, the pending applications would be expected to expire between 2029 and 2037, excluding any additional term for patent term adjustments or patent term extensions.

The term of individual patents depends upon the legal term for patents in the countries in which they are obtained. In most countries in which we have filed patent applications, including the U.S., the patent term is 20 years from the earliest filing date of a non-provisional patent application. In the U.S., a patent's term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the USPTO in examining and granting a patent, or may be shortened if a patent is terminally disclaimed over an earlier filed patent. The term of a patent that covers a drug or biological product may also be eligible for patent term extension when FDA approval is granted for a portion of the term effectively lost as a result of the FDA regulatory review period, subject to certain limitations and provided statutory and regulatory requirements are met. For more information on patent term extension, see "Business — Government Regulation — Patent Term Restoration and Extension."

As with other biotechnology and pharmaceutical companies, our ability to maintain and solidify our proprietary and intellectual property position for our product candidates will depend on our success in obtaining effective patent claims and enforcing those claims if granted. However, our owned and licensed pending patent applications, and any patent applications that we may in the future file or license from third parties may not result in the issuance of patents. We also cannot predict the breadth of claims that may be allowed or enforced in our patents. Any issued patents that we may receive in the future may be challenged, invalidated, narrowed, held unenforceable, infringed or circumvented. In addition, because of the extensive time required for clinical development and regulatory review of a product candidate we may develop, it is possible that, before any of our product candidates can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby limiting the protection such patent would afford the respective product and any competitive advantage such patent may provide. See "Risk Factors — Risks Related to Our Intellectual Property Rights."

Trademarks

As of May 31, 2020, we own trademark registrations or registration applications for CureVac, and the CureVac logo in the U.S. and in certain foreign jurisdictions including Europe.

Trade Secrets and Proprietary Information

In addition to patents, we rely upon unpatented trade secrets and know-how and continuing technological innovation to develop and maintain our competitive position. However, trade secrets and know-how can be difficult to protect. We seek to protect our proprietary information, in part, by executing confidentiality agreements with our collaborators and scientific advisors, and non-competition, non-solicitation, confidentiality, and invention assignment agreements with our employees, consultants, and independent contractors. We have also executed agreements requiring assignment of inventions with selected scientific advisors and collaborators. The confidentiality agreements we enter into are designed to protect our proprietary information and the agreements or clauses requiring assignment of inventions to us are designed to grant us ownership of technologies that are developed through our relationship with the respective counterparty. We cannot guarantee, however, that we have executed such agreements with all applicable counterparties, such agreements will not be breached, or that these agreements will afford us adequate protection of our intellectual property and proprietary rights. See "Risk Factors — Risks Related to Our Intellectual Property Rights."

Government Regulation

Government authorities in the United States, at the federal, state and local level, in other countries and jurisdictions and in the European Union, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, post-approval monitoring and reporting, and import and export of pharmaceutical products, including biological products. In addition, some jurisdictions regulate the

pricing of pharmaceutical products. The processes for obtaining marketing approvals in the United States and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations and other requirements of regulatory authorities, require the expenditure of substantial time and financial resources.

Patent Term Restoration and Extension

Depending upon the timing, duration and specifics of FDA approval of product candidates, some of a sponsor's U.S. patents may be eligible for limited patent term extension under the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period generally is one-half the time between the effective date of an IND and the submission date of a BLA less any time the sponsor did not act with due diligence during the period, plus the time between the submission date of a BLA and the approval of that application less any time the sponsor did not act with due diligence during the period. Only one patent applicable to an approved biologic product is eligible for the extension, only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended, and the application for the extension must be submitted prior to the expiration of the patent. Moreover, a given patent may only be extended once based on a single product. The USPTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. Similar provisions are available in Europe and other foreign jurisdictions to extend the term of a patent that covers an approved drug. In the future, if and when our products receive FDA approval, we expect to apply for patent term extensions on patents covering those products, however there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with our assessment of whether such extensions should be granted, and if granted, the length of such extensions. For more information regarding the risks related to our intellectual property, see "Risk Factors — Risks Related to Our Intellectual Property Rights."

Regulation and Procedures Governing Approval of Biological Products in the United States

In the United States, we expect our product candidates will be regulated as biological products, or biologics, under the Public Health Service Act, or PHSA, and the Federal Food, Drug, and Cosmetic Act, or FDCA, and their implementing regulations, and other federal, state, local and foreign statutes and regulations. The failure to comply with the applicable U.S. requirements at any time during the product development process, including during nonclinical testing, clinical testing, the approval process or post-approval process, may subject an applicant to delays in the conduct of a study or regulatory review and approval, and/or to administrative or judicial sanctions and adverse publicity. Sanctions may include, but are not limited to, the U.S. Food and Drug Administration, or FDA's, refusal to allow an applicant to proceed with clinical testing, refusal to approve pending applications, withdrawal of an approval, warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, debarment, disgorgement of profits and civil or criminal investigations and penalties brought by the FDA or the Department of Justice or other governmental entities.

An applicant seeking approval to market and distribute a new biologic in the United States generally must satisfactorily complete each of the following steps:

- nonclinical laboratory tests, animal studies and formulation studies all performed in accordance with applicable regulations, including the FDA's Good Laboratory Practice, or GLP, regulations;
- submission to the FDA of an IND application for human clinical testing, which must become effective before human clinical trials may begin;
- approval by an Institutional Review Board, or IRB, or ethics committee representing each clinical site before each clinical trial may be initiated;
- performance of adequate and well-controlled human clinical trials to establish the safety, potency and purity of the product candidate for each proposed indication, in accordance with applicable regulations, including with GCP regulations;

- after completion of all pivotal clinical trials, preparation and submission to the FDA of a BLA requesting authorization to market the product candidate for one or more proposed indications ;
- satisfactory completion of an FDA advisory committee review, if applicable;
- a determination by the FDA within 60 days of its receipt of a BLA to file the application for review;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities, including those of third parties, at which the product, or components thereof, are produced to assess compliance with cGMP requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, safety, strength, quality and purity;
- satisfactory completion of any FDA audits of the clinical study sites to assure compliance with GCPs, and the integrity of clinical data in support of the BLA;
- payment of user fees and securing FDA approval of the BLA; and
- compliance with any post-approval requirements, including the potential requirement to implement a REMS and to conduct any postapproval studies required by the FDA.

Nonclinical Studies and Investigational New Drug Application

Before testing any biologic product candidate in humans, the product candidate must undergo nonclinical testing. Nonclinical tests include laboratory evaluations of product chemistry, formulation and stability, as well as animal studies to evaluate the potential for activity and toxicity. The conduct of the nonclinical tests and formulation of the compounds for testing must comply with federal regulations and requirements. The results of the nonclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, are submitted to the FDA as part of an IND or similar application in other jurisdictions. An IND is a request for authorization from the FDA to administer an investigational new drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol(s) for clinical studies. The IND also includes results of animal and in vitro studies assessing the toxicology, pharmacokinetics, pharmacology, and pharmacodynamic characteristics of the product; chemistry, manufacturing, and controls information; and any available human data or literature to support the use of the investigational product. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless within the 30-day time period, the FDA raises concerns or questions about the product or conduct of the proposed clinical trial, including concerns that human research subjects will be exposed to unreasonable health risks, and places the trial on a clinical hold. In that case, the IND sponsor and the FDA must resolve any outstanding FDA concerns before the clinical trial can begin.

As a result, submission of the IND may result in the FDA not allowing the trial to commence or not be conducted on the terms originally specified by the sponsor in the IND. In addition, the FDA may raise concerns or questions at any time after the IND has become effective, and may impose a clinical hold even after clinical studies have initiated. If the FDA imposes a clinical hold, trials may not recommence without FDA authorization and then only under terms authorized by the FDA. A clinical hold issued by the FDA may therefore delay either a proposed clinical study or cause suspension of an ongoing study, until all outstanding concerns have been adequately addressed and the FDA has notified the company that investigation may proceed. This could cause significant difficulties in completing planned clinical trials in a timely manner.

Human Clinical Trials in Support of a BLA

Clinical trials involve the administration of the investigational product candidate to healthy volunteers or patients with the disease to be treated under the supervision of a qualified principal investigator in accordance with GCP requirements. Clinical trials are conducted under study protocols detailing, among other things, the objectives of the study, inclusion and exclusion criteria, the parameters to be used in monitoring safety, dosing procedures and the effectiveness criteria to be evaluated. A separate protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND.

A sponsor who wishes to conduct a clinical trial outside the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND. If a foreign clinical trial is not conducted under an IND, the sponsor may submit data from the clinical trial to the FDA in support of the BLA so long as the clinical trial is well-designed and well-conducted in accordance with GCP, including review and approval by an independent ethics committee, and the FDA is able to validate the study data through an onsite inspection, if necessary.

Further, each clinical trial must be reviewed and approved by an IRB either centrally or individually at each institution at which the clinical trial will be conducted. The IRB will consider, among other things, clinical trial design, patient informed consent, ethical factors and the safety of human subjects. An IRB must operate in compliance with FDA regulations. The FDA, IRB, or the clinical trial sponsor may suspend or discontinue a clinical trial at any time for various reasons, including a finding that the clinical trial is not being conducted in accordance with FDA requirements, the trial is unlikely to meet its stated objectives or that the subjects or patients are being exposed to an unacceptable health risk. Clinical testing also must satisfy extensive GCP rules, including the requirements for informed consent. The IRB also approves the form and content of the informed consent that must be signed by each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group may recommend continuation of the study as planned, changes in study conduct, or cessation of the study at designated check points based on access to certain data from the study.

Clinical trials typically are conducted in three sequential phases, but the phases may overlap or be combined. Additional studies may be required after approval.

- Phase 1 clinical trials are initially conducted in a limited population to test the product candidate for safety, including adverse effects, dose tolerance, absorption, metabolism, distribution, excretion and pharmacodynamics in healthy humans or, on occasion, in patients, such as in the case of some products for severe or life-threatening diseases as cancer, especially when the product may be too inherently toxic to ethically administer to healthy volunteers.
- Phase 2 clinical trials are generally conducted in a limited patient population to identify possible adverse effects and safety risks, preliminarily evaluate the efficacy of the product candidate for specific targeted indications and determine dose tolerance and optimal dosage. Multiple Phase 2 clinical trials may be conducted by the sponsor to obtain information prior to beginning larger Phase 3 clinical trials.
- Phase 3 clinical trials proceed if the Phase 2 clinical trials demonstrate that a certain dose or dose range of the product candidate is potentially effective and has an acceptable safety profile. Phase 3 clinical trials are undertaken within an expanded patient population, often at geographically dispersed clinical trial sites, to gather additional information about safety and effectiveness necessary to evaluate the overall benefit-risk relationship of the investigational product and to provide an adequate basis for physician labeling and product approval.

In some cases, the FDA may approve a BLA for a product candidate but require the sponsor to conduct additional clinical trials to further assess the product candidate's safety and effectiveness after approval. Such post-approval trials are typically referred to as Phase 4 clinical trials (or Phase 4). These studies may be used to gain additional experience from the treatment of patients in the intended therapeutic indication and to document a clinical benefit in the case of biologics approved under accelerated approval regulations. Failure to exhibit due diligence with regard to conducting required Phase 4 clinical trials could result in withdrawal of approval for products. Concurrent with clinical trials, companies may complete additional animal studies and develop additional information about the biological characteristics of the product candidate.

During all phases of clinical development, regulatory agencies require extensive monitoring and auditing of all clinical activities, clinical data, and clinical trial investigators. Annual progress reports detailing the results of the clinical trials must be submitted to the FDA. Written IND safety reports must be promptly submitted to the FDA and the investigators for serious and unexpected adverse events, any findings from other trials, tests in laboratory animals or in vitro testing that suggest a significant risk for

human subjects, or any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor must submit an IND safety report within 15 calendar days after the sponsor determines that the information qualifies for reporting. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information. The FDA or the sponsor or its data safety monitoring board may suspend a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the biological candidate has been associated with unexpected serious harm to patients.

There are also requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries. Sponsors of clinical trials of FDA-regulated products, including biologics, are required to register and disclose certain clinical trial information, which is publicly available at www.clinicaltrials.gov. Information related to the product, patient population, phase of investigation, trial sites and investigators, and other aspects of the clinical trial is then made public as part of the registration. Sponsors are also obligated to discuss the results of their clinical trials after completion. Disclosure of the results of these trials can be delayed until the new product or new indication being studied has been approved.

Review and Approval of a BLA

The results of product candidate development, nonclinical testing and clinical trials, including negative or ambiguous results as well as positive findings, are submitted to the FDA as part of a BLA requesting a license to market the product for one or more indications. The BLA must contain extensive chemistry manufacturing and controls information and detailed information on the composition of the product and proposed labeling. Data can come from company-sponsored clinical studies intended to test the safety and effectiveness of a use of the product, or from a number of alternative sources, including studies initiated by investigators. The submission of a BLA requires payment of a substantial user fee to the FDA, and the sponsor of an approved BLA is also subject to annual program fees. The FDA adjusts the Prescription Drug User Fee Act, or PDUFA, user fees on an annual basis. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on BLAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

In addition, under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA must contain data to assess the safety and effectiveness of the biological product candidate for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The Food and Drug Administration Safety and Innovation Act, or FDASIA, requires that a sponsor who is planning to submit a marketing application for a drug or biological product that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial Pediatric Study Plan, or PSP, within sixty days after an end-of-Phase 2 meeting or as may be agreed between the sponsor and FDA. Unless otherwise required by regulation, PREA does not apply to any biological product for an indication for which orphan designation has been granted.

The FDA has 60 days after submission of the application to conduct an initial review to determine whether the BLA is sufficient to accept for filing based on the agency's threshold determination that it is substantially complete so as to permit substantive review. Once the submission has been accepted for filing, the FDA begins an in-depth review of the application. Under the goals and policies agreed to by the FDA under PDUFA, the FDA aims to complete its initial review of a standard application and respond to the applicant within ten months of the 60-day filing date, and for a priority review application within six months. The FDA does not always meet its PDUFA goal dates for standard and priority BLAs, and its review goals are subject to change from time to time. The review process may often be significantly extended by FDA requests for additional information or clarification. The review process and the PDUFA goal date may also be extended by three months if the FDA requests or if the applicant otherwise provides additional information or clarification regarding information already provided in the submission within the last three months before the PDUFA goal date.

The FDA reviews a BLA to determine, among other things, whether the proposed product is safe and potent, or effective, for its intended use, and has an acceptable purity profile, and whether the product is being manufactured in accordance with cGMP requirements to assure and preserve the product's identity, safety, strength, quality, potency and purity. The FDA may convene an advisory committee to provide clinical insight on application review questions. Before approving a BLA, the FDA will typically inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure compliance with cGCP. If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

On the basis of the FDA's evaluation of the application and accompanying information, including the results of the inspection of the manufacturing facilities and any FDA audits of clinical trial sites to assure compliance with GCPs, the FDA may issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. If the application is not approved, the FDA may issue a complete response letter indicating that the review cycle is complete and the application is not ready for approval. A complete response letter will describe the deficiencies that must be addressed in order to secure final approval of the application, and when possible, will outline recommended actions the sponsor might take to obtain approval of the application. If a complete response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application. The FDA may also request additional information or clarification.

Sponsors that receive a complete response letter who elect to address the deficiencies may submit to the FDA information that represents a complete response to the issues identified by the FDA in the response letter. Such resubmissions are classified under PDUFA as either Class 1 or Class 2, based on the information submitted by an applicant in response to an action letter. Under the goals and policies agreed to by the FDA under PDUFA, the FDA aims to review and act on a Class 1 resubmission with two months of receipt and, with respect to a Class 2 resubmission, within six months of receipt. The FDA will not approve an application until issues identified in the complete response letter have been addressed. The FDA may delay or refuse approval of a BLA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If the FDA approves a new product, it may limit the approved indications for use of the product, or limit the approval to specific dosages. It may also require development of adequate controls or specifications and that certain contraindications, warnings or precautions be included in the product labeling. In addition, the FDA may call for post-approval studies, including Phase 4 clinical trials, to further assess the product's safety after approval and may limit further marketing of the product based on the results of these post-marketing studies. The agency may also require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms, including REMS, to help ensure that the benefits of the product outweigh the potential risks. REMS can include medication guides, communication plans for healthcare professionals, and elements to assure safe use, or ETASU. ETASU can include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring and the use of patent registries. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS; the FDA will not approve the BLA without a REMS, if required. The FDA may prevent or limit further marketing of a product based on the results of post-market studies or surveillance programs. After approval, many types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further testing requirements and FDA review and approval. Once approved, the FDA may withdraw the product approval if compliance with pre- and post-marketing regulatory standards is not maintained or if problems occur after the product reaches the marketplace. In addition, new government requirements, including those resulting

from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our products under development.

Expedited Development and Review Programs

The FDA has a number of programs intended to expedite the development and/or review of new products intended for serious or life-threatening diseases or conditions. These programs include fast track designation, breakthrough therapy designation, priority review, and accelerated approval.

The FDA may issue a fast track designation to a product candidate if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. Fast track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a new biologic may request that the FDA designate the biologic as a fast track product at any time during the clinical development of the product. For fast track products, sponsors may have greater interactions with the FDA during product development. A fast track product may also be eligible for rolling review, where the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA. However, the FDA's PDUFA goal for reviewing a BLA fast track application does not begin until the last section of the application is submitted. Fast track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

A product may be designated as a breakthrough therapy if it is intended, either alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The FDA may take certain actions with respect to breakthrough therapies, including holding meetings with the sponsor throughout the development process; providing timely advice to the product sponsor regarding development and approval; involving more senior staff in the review process; assigning a cross-disciplinary project lead for the review team; and taking other steps to facilitate the design of clinical trials in an efficient manner. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product, including involvement of senior managers.

Any marketing application for a biologic submitted to the FDA for approval, including a product with a fast track designation and/or breakthrough therapy designation, may be eligible for other types of FDA programs intended to expedite the FDA review and approval process, such as priority review and accelerated approval. The FDA may designate a product for priority review if it is a product that treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness. The FDA determines, on a case-by-case basis, whether the proposed product represents a significant improvement when compared with other available therapies. Significant improvement may be illustrated by evidence of increased effectiveness in the treatment of a condition, elimination or substantial reduction of a treatment-limiting product reaction, documented enhancement of patient compliance that may lead to improvement in serious outcomes and evidence of safety and effectiveness in a new subpopulation. A priority review is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA's goal for taking action on an original BLA from ten months to six months from the 60-day filing date.

The FDA may grant accelerated approval to a product for a serious or life-threatening condition that provides meaningful therapeutic advantage to patients over existing treatments based upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit. The FDA may also grant accelerated approval for such a condition when the product has an effect on an intermediate clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality, or IMM, and that is reasonably likely to predict an effect on IMM or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of

alternative treatments. Products granted accelerated approval must meet the same statutory standards for safety and effectiveness as those granted traditional approval.

For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. An intermediate clinical endpoint is a measurement of a therapeutic effect that is considered reasonably likely to predict the clinical benefit of a product, such as an effect on IMM. The FDA has stated that although it has limited experience with accelerated approvals based on intermediate clinical endpoints, such endpoints generally may support accelerated approval where the therapeutic effect measured by the endpoint is not itself a clinical benefit and basis for traditional approval, if there is a basis for concluding that the therapeutic effect is reasonably likely to predict the ultimate clinical benefit of a product.

The accelerated approval pathway is most often used in settings in which the course of a disease is long and an extended period of time is required to measure the intended clinical benefit of a product. Thus, accelerated approval has been used extensively in the development and approval of products for treatment of a variety of cancers in which the goal of therapy is generally to improve survival or decrease morbidity and the duration of the typical disease course requires lengthy and sometimes large trials to demonstrate a clinical or survival benefit.

The accelerated approval pathway is usually contingent on a sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the product's clinical benefit. As a result, a product candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of Phase 4 or post-approval clinical trials to confirm the effect on the clinical endpoint. Failure to conduct required post-approval studies, or to confirm a clinical benefit during post-marketing studies, may lead the FDA to withdraw the product from the market on an expedited basis. All promotional materials for product candidates approved under accelerated regulations are subject to prior review by the FDA.

Fast track designation, priority review, accelerated approval, and breakthrough therapy designation may expedite the development or approval process, but do not change the standards for approval. Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

Post-Approval Regulation

If regulatory approval for marketing of a product or for a new indication for an existing product is obtained, the sponsor will be required to comply with rigorous and extensive post-approval regulatory requirements as well as any post-approval requirements that the FDA has imposed on the particular product as part of the approval process. The sponsor will be required, among other things, to report certain adverse reactions and production problems to the FDA, provide updated safety and efficacy information and comply with requirements concerning advertising, promotional labeling, product sampling and distribution. Manufacturers and certain of their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with ongoing regulatory requirements, including cGMP regulations, which impose certain procedural and documentation requirements upon manufacturers. Accordingly, the BLA-holder and its third-party manufacturers must continue to expend time, money and effort in the areas of production and quality control to maintain compliance with cGMP regulations and other regulatory requirements. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements upon us and any third-party manufacturers that we or our partners may decide to use. In addition, changes to the manufacturing process or facility are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented, and other types of changes to the approved product, such as adding new indications and additional labeling claims, are also subject to further FDA review and approval.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market study requirements or clinical trial requirements to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, untitled letters or warning letters or holds on post-approval clinical trials;
- adverse publicity;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions, fines, debarment, disgorgement of profits or the imposition of civil or criminal penalties.

The FDA closely regulates marketing, labeling, advertising and promotion of products that are placed on the market. Pharmaceutical products may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict marketing authorization holders' communications on the subject of off-label use of their products.

Orphan Drug Designation

Orphan drug designation in the United States is designed to encourage sponsors to develop products intended for rare diseases or conditions. In the United States, a rare disease or condition is statutorily defined as a disease or condition that affects fewer than 200,000 individuals in the United States or that affects more than 200,000 individuals in the United States but for which there is no reasonable expectation that the cost of developing and making available the product for the disease or condition will be recovered from sales of the product in the United States.

Orphan drug designation qualifies a company for certain financial incentives, including tax advantages, waiver of the BLA application user fee and, if the product receives the first FDA approval for the indication for which it has orphan designation, market exclusivity. Orphan product exclusivity means that the FDA may not approve any other applications, including a full BLA, to market the same biologic for the same indication for seven years from the approval of the BLA, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or if the FDA finds that the holder of the orphan drug exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. An application for designation as an orphan product can be made any time prior to the filing of an application for approval to market the product.

In addition, a sponsor of a product that is otherwise the same product as an already approved orphan drug may seek and obtain orphan drug designation for the subsequent product for the same rare disease or condition if it can present a plausible hypothesis that its product may be clinically superior to the

first product. More than one sponsor may receive orphan drug designation for the same product for the same rare disease or condition, but each sponsor seeking orphan drug designation must file a complete request for designation.

The period of exclusivity begins on the date that the marketing application is approved by the FDA and applies only to the indication for which the product has been designated. The FDA may approve a second application for the same product for a different use or a second application for a clinically superior version of the product for the same use. The FDA cannot, however, approve the same product made by another manufacturer for the same indication during the market exclusivity period unless it has the consent of the sponsor, the manufacturer makes a showing of clinical superiority over the product with orphan exclusivity, or the sponsor is unable to provide sufficient quantities.

An orphan-designated product may not receive orphan exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. In addition, orphan exclusivity in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Orphan product designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

Biosimilars and Exclusivity

The BPCIA (under the Affordable Care Act) created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. The FDA has issued several guidance documents outlining an approach to review and approval of biosimilars.

Biosimilarity, which requires that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product must demonstrate that it can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biologic and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic. However, complexities associated with the larger, and often more complex, structures of biological products, as well as the processes by which such products are manufactured, pose significant hurdles to implementation of the abbreviated approval pathway that are still being worked out by the FDA.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing that applicant's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of its product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. At this juncture, it is unclear whether products deemed "interchangeable" by the FDA will, in fact, be readily substituted by pharmacies, which are governed by state pharmacy law.

A biological product can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

The BPCIA is complex and continues to be interpreted and implemented by the FDA. In addition, government proposals have sought to reduce the 12-year reference product exclusivity period. Other aspects

of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. As a result, the ultimate impact, implementation, and impact of the BPCIA is subject to significant uncertainty.

Regulation and Procedures Governing Approval of Medicinal Products in the European Union

In order to market any product outside of the United States, a company also must comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of products. Whether or not it obtains FDA approval for a product, an applicant will need to obtain the necessary approvals by the comparable foreign regulatory authorities before it can initiate clinical trials or marketing of the product in those countries or jurisdictions. Specifically, the process governing approval of medicinal products in the European Union generally follows the same lines as in the United States. It entails satisfactory completion of pharmaceutical development, nonclinical studies and adequate and well-controlled clinical trials to establish the safety and efficacy of the medicinal product for each proposed indication.

Clinical Trial Approval

Pursuant to the currently applicable Clinical Trials Directive 2001/20/EC and the Directive 2005/28/EC on GCP, a system for the approval of clinical trials in the European Union has been implemented through national legislation of the Member States. Under this system, an applicant must obtain approval from the competent national authority of each European Union Member State in which the clinical trial is to be conducted. Furthermore, the applicant may only start a clinical trial at a specific study site after the local competent ethics committee has issued a favorable opinion. In April 2014, the European Union adopted a new Clinical Trials Regulation (EU) No 536/2014, which is set to replace the current Clinical Trials Directive 2001/20 This new legislation, which will be directly applicable in all member states, aims at simplifying and streamlining the approval of clinical trials in the European Union by allowing for a streamlined application procedure via a single-entry point and strictly defined deadlines for the assessment of clinical trial applications. The Regulation harmonizes the assessment and supervision processes for clinical trials throughout the European Union, via a Clinical Trials Information System, or CTIS, which will contain the centralized European Union portal and database for clinical trials foreseen by the Regulation. The EMA will set up and maintain CTIS, in collaboration with the competent national authority of each European Union Member Sate and the European Commission. The Clinical Trials Regulation will only become applicable six months after the European Commission confirms the full functionality of CTIS. Such a confirmation will only occur once CTIS is audited. The CTIS audit is currently planned for December 2020.

Marketing Authorization

To obtain a marketing authorization for a product under the European Union regulatory system, an applicant must obtain Marketing Authorization (MA). There are two types of MAs:

- The Community MA, which is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the European Medicines Agency, or EMA, and which is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, advanced therapy medicinal products (such as gene therapies, somatic cell therapies and tissue engineered products), and medicinal products that contain a new active substance indicated for the treatment of AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the EU. Under the Centralized Procedure the maximum time frame for the evaluation of a marketing authorization application is 210 days (excluding clock stops, when additional written or oral information is to be provided by the applicant in response to questions asked by the CHMP). Accelerated evaluation might be granted by the CHMP in exceptional cases, when the authorization of a medicinal product is of major

interest from the point of view of public health and in particular from the viewpoint of therapeutic innovation. Under the accelerated procedure the standard 210-day review period is reduced to 150 days.

- National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in other Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure.

An MA may be granted only to an applicant established in the European Union. Regulation 1901/2006 on Medicinal Products for Pediatric Use provides that prior to obtaining a marketing authorization in the European Union in the centralized procedure, an applicant must demonstrate compliance with all measures included in an EMA-approved Pediatric Investigation Plan covering all subsets of the pediatric population, unless the EMA has granted a product-specific waiver, class waiver, or a deferral for one or more of the measures included in the Pediatric Investigation Plan.

The European Union also provides opportunities for market exclusivity. For example, in the European Union, upon receiving marketing authorization, new chemical entities generally receive eight years of data exclusivity and an additional two years of market exclusivity. If granted, data exclusivity prevents regulatory authorities in the European Union from referencing the innovator's data to assess a generic or biosimilar application. During the additional two-year period of market exclusivity, a generic or biosimilar marketing authorization can be submitted, and the innovator's data may be referenced, but no generic or biosimilar product can be marketed until the expiration of the market exclusivity. However, there is no guarantee that a product will be considered by the European Union's regulatory authorities to be a new chemical entity, and products may not qualify for data exclusivity.

Periods of Authorization and Renewals

A marketing authorization is valid for five years, in principle, and it may be renewed after five years on the basis of a reevaluation of the risk-benefit balance by the EMA or by the competent authority of the authorizing Member State. To that end, the marketing authorization holder must provide the EMA or the competent authority with a consolidated version of the file in respect of quality, safety and efficacy, including all variations introduced since the marketing authorization was granted, at least nine months before the marketing authorization ceases to be valid. Once renewed, the marketing authorization is valid for an unlimited period, unless the European Commission or the competent authority decides, on justified grounds relating to pharmacovigilance, to proceed with one additional five-year renewal period. Any authorization that is not followed by the placement of the product on the European Union market (in the case of the centralized procedure) or on the market of the authorizing Member State within three years after authorization ceases to be valid.

Regulatory Requirements after Marketing Authorization

Following approval, the holder of the marketing authorization is required to comply with a range of requirements applicable to the manufacturing, marketing, promotion and sale of the medicinal product. These include compliance with the European Union's stringent pharmacovigilance or safety reporting rules, pursuant to which post-authorization studies and additional monitoring obligations can be imposed. In addition, the manufacturing of authorized products, for which a separate manufacturer's license is mandatory, must also be conducted in strict compliance with the EMA's cGMP requirements and comparable requirements of other regulatory bodies in the European Union, which mandate the methods, facilities and controls used in manufacturing, processing and packing of products to assure their safety and identity. Finally, the marketing and promotion of authorized products, including industry-sponsored continuing medical education and advertising directed toward the prescribers of products and/or the general public, are strictly regulated in the European Union under Directive 2001/83.

Orphan Drug Designation and Exclusivity

Regulation 141/2000 and Regulation 847/2000 provide that a product can be designated as an orphan drug by the European Commission if its sponsor can establish: that the product is intended for the diagnosis, prevention or treatment of (1) a life-threatening or chronically debilitating condition affecting not more than five in ten thousand persons in the European Union when the application is made, or (2) a life-threatening, seriously debilitating or serious and chronic condition in the European Union and that without incentives it is unlikely that the marketing of the product in the European Union would generate sufficient return to justify the necessary investment. For either of these conditions, the applicant must demonstrate that there exists no satisfactory method of diagnosis, prevention, or treatment of the condition in question that has been authorized in the European Union or, if such method exists, the product has to be of significant benefit compared to products available for the condition.

An orphan drug designation provides a number of benefits, including fee reductions, regulatory assistance and the possibility to apply for a centralized European Union marketing authorization. Orphan drugs also benefit from a 10-year period of market exclusivity. During this market exclusivity period, neither the EMA nor the European Commission or the Member States can accept an application or grant a marketing authorization for a "similar medicinal product." A "similar medicinal product" is defined as a medicinal product containing a similar active substance or substances as contained in an authorized orphan medicinal product, and which is intended for the same therapeutic indication. The market exclusivity period for the authorized therapeutic indication may, however, be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan drug designation because, for example, the product is sufficiently profitable not to justify market exclusivity. Additionally, marketing authorization may be granted to a similar product for the same indication at any time if the second applicant can establish that its product, although similar, is safer, more effective or otherwise clinically superior, the applicant consents to a second orphan medicinal product application, or applicant cannot supply enough orphan medicinal product.

Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we may obtain regulatory approval. Even if our product candidates are approved for marketing, sales of such product candidates will depend, in part, on the extent to which third-party payors, including government health programs in the United States (such as Medicare and Medicaid), commercial health insurers, and managed care organizations, provide coverage and establish adequate reimbursement levels for such product candidates. In the United States, the Member States of the European Union and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Reimbursement rules and levels are not harmonized in the European Union and therefore differ from Member State to Member State. Patients are unlikely to use any product candidates we may develop unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of such product candidates. The process for determining whether a payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors are increasingly challenging the price and examining the medical necessity and cost effectiveness of medical products and services and imposing controls to manage costs.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, and the cost of these studies would be in addition to the costs required to obtain FDA or other comparable marketing approvals. Even after pharmacogenomic studies are conducted, product candidates may not be considered medically necessary or cost effective. A decision by a third-party payor not to cover any product candidates we may develop could reduce physician utilization of such product candidates once approved and have a material adverse effect on our sales, results of operations and financial condition. Additionally, a payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. For example, the payor may require co-payments that patients find unacceptably high. Further, one payor's determination to provide coverage for

a product does not assure that such coverage will continue or that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor. Third-party reimbursement and coverage may not be adequate to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development. The insurance coverage and reimbursement status of newly approved products for orphan diseases is particularly uncertain, and failure to obtain or maintain adequate coverage and reimbursement for any such product candidates could limit a company's ability to generate revenue.

The containment of healthcare costs also has become a priority of federal, state and foreign governments as well as other third-party payors such as statutory health insurance funds and the prices of pharmaceuticals have been a focus in this effort. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit a company's revenue from the sale of any approved products. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which a company or its collaborators receive marketing approval, less favorable coverage policies and reimbursement rates may be implemented or coverage may be ended in the future.

Outside the United States, we will face challenges in ensuring obtaining adequate coverage and payment for any product candidates we may develop. Pricing of prescription pharmaceuticals is subject to governmental control in many countries. Pricing negotiations with governmental authorities or other third-party payors such as statutory health insurance funds can extend well beyond the receipt of regulatory marketing approval for a product and may require us to conduct a clinical trial that compares the cost effectiveness of any product candidates we may develop to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in our commercialization efforts.

In the European Union, pricing and reimbursement schemes vary widely from country to country. Some countries provide that products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost effectiveness of a particular product candidate to currently available therapies (so-called health technology assessments) in order to obtain reimbursement or pricing approval. For example, the European Union provides options for its Member States to restrict the range of products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. European Union Member States may approve a specific price for a product or may instead adopt a system of direct or indirect controls on the profitability of the company placing the product on the market. Other Member States allow companies to fix their own prices for products, but monitor and control prescription volumes and issue guidance to physicians to limit prescriptions. Recently, many countries in the European Union have increased the amount of discounts required on pharmaceuticals and these efforts could continue as countries attempt to manage healthcare expenditures, especially in light of the severe fiscal and debt crises experienced by many countries in the European Union. The downward pressure on healthcare costs in general, particularly prescription products, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various European Union Member States and parallel trade (arbitrage between low-priced and high-priced Member States) can further reduce prices. Special pricing and reimbursement rules may apply to orphan drugs. Inclusion of orphan drugs in reimbursement systems tend to focus on the medical usefulness, need, quality and economic benefits to patients and the healthcare system as for any product. Acceptance of any medicinal product for reimbursement may come with cost, use and often volume restrictions, which again can vary by country. In addition, results based rules of reimbursement may apply. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products, if approved in those countries.

Healthcare Laws and Regulations

Healthcare providers and third-party payors play a primary role in the recommendation and prescription of pharmaceutical products that are granted marketing approval. Our current and future

arrangements with providers, researchers, consultants, third-party payors and customers are subject to broadly applicable federal and state fraud and abuse, anti-kickback, false claims, physician payment transparency and other healthcare laws and regulations that may constrain our business and/or financial arrangements. Restrictions under applicable federal and state healthcare laws and regulations include, without limitation, the following:

- the U.S. federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, receiving, offering, or paying remuneration, directly or indirectly, in-cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made, in whole or in part, under a federal healthcare program such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or a specific intent to violate it in order to have committed a violation;
- the federal civil and criminal false claims laws, including the civil False Claims Act, and civil monetary penalties laws, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false, fictitious, or fraudulent or knowingly making, using, or causing to be made or used a false record or statement to avoid, decrease, or conceal an obligation to pay money to the federal government. Moreover, the government may assert that a claim that includes items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal laws that prohibit, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or a specific intent to violate it in order to have committed a violation;
- the federal transparency requirements known as the federal Physician Payments Sunshine Act, under the Affordable Care Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies to report annually to the CMS, within the HHS, information related to payments and other transfers of value made by that entity to physicians (as defined by statute), certain other health care providers beginning in 2022, and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- federal government price reporting laws, which require us to calculate and report complex pricing metrics to government programs and which may be used in the calculation of reimbursement and/or discounts on marketed products;
- the Foreign Corrupt Practices Act, a U.S. law which regulates certain financial relationships with foreign government officials (which could include, for example, certain medical professionals); and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to healthcare items or services that are reimbursed by non-governmental third-party payors, including private insurers; and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring pharmaceutical manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures and pricing information.

Violations of these laws can subject us to criminal, civil and administrative sanctions including monetary penalties, damages, fines, disgorgement, individual imprisonment and exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to

resolve allegations of noncompliance with these laws, reputational harm, and we may be required to curtail or restructure our operations. Moreover, we expect that there will continue to be federal and state laws and regulations, proposed and implemented, that could impact our future operations and business.

Data Privacy and Security Laws

We may be subject to, or our marketing activities may be limited by HIPAA and its implementing regulations, which established uniform standards for certain covered entities (healthcare providers, health plans and healthcare clearinghouses) governing the conduct of certain electronic healthcare transactions and protecting the security and privacy of protected health information, including, among other requirements, mandatory contractual terms and technical safeguards to protect the privacy, security and transmission of protected health information and notification to affected individuals and regulatory authorities in the event of certain breaches of security of protected health information. The American Recovery and Reinvestment Act of 2009, commonly referred to as the economic stimulus package, included sweeping expansion of HIPAA's privacy and security standards called the Health Information Technology for Economic and Clinical Health Act, or HITECH, which became effective on February 17, 2010. Among other things, the HITECH makes HIPAA's privacy and security standards directly applicable to business associates, or independent contractors or agents of covered entities, that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorney's fees and costs associated with pursuing federal civil actions.

Even when HIPAA does not apply, failing to take appropriate steps to keep consumers' personal information secure can constitute unfair acts or practices in or affecting commerce and be construed as a violation of Section 5(a) of the Federal Trade Commission Act, or the FTCA, 15 U.S.C § 45(a). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Individually identifiable health information is considered sensitive data that merits stronger safeguards and the FTC's guidance for appropriately securing consumers' personal information is similar to what is required by the HIPAA Security Rule.

State laws may be more stringent, broader in scope or offer greater individual rights with respect to protected health information, or PHI, than HIPAA, and state laws may differ from each other, which may complicate compliance efforts. By way of example, the California Consumer Privacy Act, or CCPA, effective January 1, 2020, gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability. In addition, other states may choose to adopt more stringent privacy legislation, which could increase our potential liability and compliance costs and adversely affect our business.

In the European Union and the United Kingdom, we may be subject to strict data protection regulations, in particular with regard to health data of individuals pursuant to Art. 4 Nr. 15 of the GDPR, effective since May 25, 2018. The GDPR, together with national legislation, regulations and guidelines of the European Union member states and the United Kingdom governing the processing of personal data, impose strict obligations with respect to, and restrictions on, the collection, use, retention, protection, disclosure, transfer and processing of personal data. In particular, the GDPR includes obligations and restrictions concerning the consent and rights of data subjects, the transfer of personal data to countries outside the European Union or the United Kingdom, security breach notifications, and other requirements concerning the security and confidentiality of personal data. The GDPR imposes special requirements concerning the protection of special categories of personal data which include health and genetic information of data subjects. These special categories of data may only be processed under certain circumstances, including if the data subject consented to such processing or if (i) processing is necessary in order to protect vital interests of the data subject or of another natural person, in so far as the data subject is unable to

provide consent for physical or legal reasons; (ii) the data concerned have manifestly been made public by the data subject; (iii) processing is necessary in order to assert, exercise or defend legal claims; or (iv) processing is necessary for the purposes of scientific research and any additional requirements under applicable data protection laws, including national legislation, regulations and guidelines, are met.

Therefore, we may be subject to and our marketing activities may be limited by the regulations regarding the data protection of individuals according to the GDPR, the German Federal Data Protection Act and other applicable data protection laws. These regulations could also restrict the transfer of data from European Union member states and the United Kingdom to the U.S. The general transfer of personal data outside of the European Union and the United Kingdom is prohibited unless the conditions laid out in Art. 44 et. seq. of the GDPR are fulfilled and an adequate level of data protection can be ensured. Currently the U.S. is not considered to be a country with an adequate level of data protection and further contractual arrangements must be adopted to permit the international transfer of personal data to the U.S. European data protection authorities may interpret the GDPR and national laws differently and impose additional requirements, which contributes to the complexity of processing personal data in or from the European Union or United Kingdom. Guidance on implementation and compliance practices is regularly updated or otherwise revised. The GDPR has increased our responsibility and liability in relation to personal data that we process and we may be required to put in place additional mechanisms ensuring compliance with the relevant data protection regimes. Separately, Brexit could also lead to further legislative and regulatory changes and increase our compliance costs. In particular, the United Kingdom has transposed the GDPR into domestic law with a United Kingdom version of the GDPR taking effect in January 2021 (after the end of the transitional period) which could expose us to two parallel regimes each of which potentially authorizes fines for certain violations up to the greater of either 4% of the total global annual turnover of the preceeding financial year or €20 million. For more information regarding the risks related to data security and privacy, see “Risk Factors — Risks Related to Our Business and Industry.”

Our Employees

As of December 31, 2019, we had 454 total employees worldwide, 360 of whom were full-time, 116 of whom hold Ph.D. or M.D. degrees, 147 of whom were engaged directly or indirectly in production, 214 of whom were engaged in research and development activities, 29 of whom were engaged in clinical and regulatory activities, 9 of whom were engaged in marketing and sales activities, and 55 of whom were engaged in management, business development or marketing, finance, human resources or administrative support. Of our 454 total employees, 439 work in Germany and 15 work in the United States. We consider our relationship with our employees to be good. We are not subject to collective bargaining agreements or similar labor contracts and do not have a workers’ council.

Facilities

Our headquarters are in Tübingen, Germany, Friedrich-Miescher-Strasse 15, where we occupy approximately 123,000 square feet of office and laboratory space under a sub-lease agreement entered into with CureVac Real Estate GmbH that started on June 6, 2018. The fixed-term 15-year lease payment period began on March 1, 2020. We also occupy approximately 53,000 square feet of additional office and laboratory space in Tübingen, Germany, Paul-Ehrlich-Strasse 15, under sub-lease agreements also entered into with CureVac Real Estate GmbH, that started on February 1, 2018.

Since 2006, we have operated a manufacturing facility in Tübingen, Germany, the first worldwide GMP-compliant RNA production plant with two multi-product suites. This facility contains approximately 16,145 square feet of laboratory space, including 2,800 square feet of GMP facilities and is dedicated to provide supplies for early clinical development (Phase 1 and 2 of clinical trials). In addition, we have established a third in-house production suit (GMP III) with an up-scaled manufacturing process, which was certified in December 2019. We currently occupy 2,800 square feet of GMP III facility for the production of mRNA. Our GMP III facility is intended to provide supplies for our late-stage clinical studies and anticipated early market supply. These manufacturing facilities are located in Tübingen, Germany, Paul-Ehrlich-Strasse 15 and are leased via the above mentioned sub-lease agreements entered into with CureVac Real Estate GmbH.

We are also constructing a new manufacturing facility, designed for the development of a GMP production process on a large industrial scale, from starting material to formulation, for future market

supply (GMP IV). This GMP IV facility, which is intended to produce IMPs that serve our future late stage clinical trials and market supply, is expected to be approximately 86,000 square feet. Currently, we have completed the shell of the GMP IV facility and expect to open it in July 2022.

In addition, we lease land and buildings for our offices. We lease an aggregate of approximately 210,000 square feet, in Germany and the United States. The following table summarizes information with respect to the principal facilities leased by us:

Location	Area (Approximate Sq. Feet)
Germany:	
Tübingen	189,000
Frankfurt am Main	8,600
Total	197,600
United States:	
Boston	12,900
Total	12,900
Total	210,500

Our leases expire on various dates from 2021 to 2035. The lease in Boston, United States, is held by our U.S. subsidiary, CureVac Inc.

Environmental Issues

To the best of our knowledge, currently there are no foreign, federal, state or local environmental laws, rules or regulations that will materially affect our results of operations or our position with respect to our competitors. However, we can provide no assurance of the effect that any possible future environmental laws will have on our operating results.

Legal Proceedings

From time to time, we are subject to various legal proceedings and claims that arise in the ordinary course of our business activities. Although the results of litigation and claims cannot be predicted with certainty, as of the date of this prospectus, we do not believe we are party to any claim or litigation, the outcome of which, if determined adversely to us, would individually or in the aggregate be reasonably expected to have a material adverse effect on our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

MANAGEMENT

Unless otherwise noted, this section presents information about our management upon the consummation of the offering and after giving effect to the corporate reorganization. See "Corporate Reorganization."

Board Structure

We have a two-tier board structure consisting of a management board (*bestuur*) and a separate supervisory board (*raad van commissarissen*). There are no family relationships among any of our managing directors and supervisory directors.

Management Board

Our management board is expected to be composed of five members, who we refer to as our managing directors (and who, together with our interim chief development officer, we consider to be our executive officers). Following the closing of this offering, each managing director of CureVac N.V. will hold office for the term set by our general meeting (as set forth in the table below), except in the case of his or her earlier death, resignation or removal. Our managing directors do not have a retirement age requirement under our articles of association. The current members of the management board of CureVac AG are expected to be appointed as managing directors of CureVac N.V. prior to the closing of this offering.

Our managing directors are responsible for the management and representation of our company. We have a strong centralized management team led by Dr. Ingmar Hoerr, our CEO and co-founder. Our senior management has an average of 17 years of experience in the biopharmaceutical industry. Many of the members of our management team have worked together as a team for many years.

The following table lists our current managing directors (with the exception of Bernd Winterhalter[(1)]) — all of whom we consider executive officers — as well as their ages, term served, the year of expiration of their term as managing directors of CureVac N.V. and position:

Name	Age	Term Served	Year in which Term Expires	Position
Ingmar Hoerr, PhD, MBA	51	3/2020 – Present	2021	Chief Executive Officer
Florian von der Mülbe, PhD, MBA	47	9/2015 – Present	2021	Chief Production Officer
Mariola Fotin-Mleczek, PhD	53	9/2015 – Present	2021	Chief Technology Officer
Franz-Werner Haas, LLD, LLM	50	9/2015 – Present	2021	Chief Operating Officer
Pierre Kemula, B.Sc.	46	11/2016 – Present	2021	Chief Financial Officer
Bernd Winterhalter, MD, PhD[(1)]	61	6/2018 – Present	Not Defined	Chief Development Officer (Interim)

(1) We consider Mr. Winterhalter an executive officer and a member of our senior management team but he is not registered in Germany as a member of our management board and will not be appointed as a member of the management board of CureVac N.V. upon the closing of this offering. He serves as our interim chief development officer under a consulting agreement that specifies his service is indefinite and may be terminated by either party with four weeks' notice.

The following is a brief summary of the prior business experience and principal business activities performed outside of CureVac of our managing directors. Unless otherwise indicated, the current business addresses for each managing director is Friedrich-Miescher-Strasse 15, 72076 Tübingen, Germany.

Ingmar Hoerr, PhD, MBA is our chief executive officer since 2020. Dr. Hoerr founded CureVac in 2000 together with Florian von der Mülbe and other colleagues in Tübingen. He was elected in 2018 as our chairman of the supervisory board, a position in which he served until his transition to the management board in March 2020, and initially served as our CEO and head of business development from 2000 until 2018. He currently advises the European Commission as member of the High Level Group of Innovators in

developing a European Innovation Council and is juror of the founder prize WEconomy. He recently served on the Founding Board of Agency of Disruptive Innovations initiated by the German ministers Karliczek and Altmaier and is a member of the Board of Trustees of the Max Planck Institute for Biological Cybernetics, Developmental Biology and the Friedrich Miescher Laboratory in Tuebingen. Dr. Hoerr received his PhD from the University of Tübingen and his MBA from Danube University, Krems, Austria.

Florian von der Mülbe, PhD, MBA is our chief production officer since October 2018 and managing director of CureVac Real Estate GmbH since February 2017. Dr. von der Mülbe founded CureVac in 2000 together with Dr. Hoerr. Prior to his current position as chief production officer, Dr. von der Mülbe served as our chief operating officer, accountable for a variety of internal functions such as IT, project management, quality, including technical development and manufacturing, where he established the first GMP production for mRNA worldwide. He started his professional career as a trainee at Roche AG. Dr. von der Mülbe is trained in biochemistry and business administration, and he received his Ph.D. in biochemistry from Tübingen University and an MBA from the European School of Business in Reutlingen.

Mariola Fotin-Mleczek, PhD, is our chief technology officer since October 2018. She joined CureVac in May 2006 and was responsible for the development and preclinical testing of mRNA technology applied in different therapeutic areas such as: oncology, infectious diseases and protein therapy. Her scientific expertise includes immunology, cell biology, signal transduction, apoptosis and mechanism of cellular uptake. Dr. Fotin-Mleczek was trained in biology at the University of Stuttgart. She is the inventor of multiple mRNA technology-related key patents and she authored more than 30 scientific publications with a focus on mRNA technology.

Franz-Werner Haas, LLD, LLM is our chief operating officer since 2018. Mr. Haas was our chief corporate officer from 2012 until 2018. He is responsible for our HR, IP, and Legal and Operations functions. Before joining CureVac, he was Vice President of Operations and Chief Compliance Officer of SYGNIS Pharma AG from May 2005 until March 2012, where he was responsible for the execution of M&A and capital market transactions. Mr. Haas started his professional career as an Assistant to the Executive Board of a privately held international commercial and service enterprise before assuming several management positions in the life science industry, including Vice President and General Counsel of LION bioscience from 2002 until December 2004. Mr. Haas also served as the General Counsel of Sirona Dental Systems from January 2005 to May 2005. He studied law at the University of Saarbruecken, K.U. Leuven and also holds an LLM from the University of Edinburgh.

Pierre Kemula, B.Sc. is our chief financial officer since 2016. Previously, he was the chief financial officer of Pixium Vision from 2014 until 2016, where he successfully contributed to the listing of the company on Euronext in Paris, and Vice President of Corporate Finance, Treasury and Financial Markets, as well as Director of Investor Relations, Vice-President of Investor Relations and Investor Relations Officer at Ipsen from 2008 until 2014. Earlier in his career, Mr. Kemula worked with major strategy consulting firms (Roland Berger, Bossard Consultants and Gemini Consulting). He holds a Bachelor of Science in Management Sciences from the London School of Economics (LSE) in the United Kingdom.

Bernd Winterhalter, MD, PhD is our interim chief development officer since December 2019. He has served as a consultant and interim manager of CureVac since June 2018. Previously, Dr. Winterhalter was the executive medical director of Bristol-Myers Squibb for European markets, Turkey and Russia from 2012 until 2018 and executive medical director for Germany from 2004 until 2011, where he successfully contributed to the clinical development and market introduction of 15 new products in multiple therapeutic areas, as well as Vice President Medical and Science and Health Economics at Pharmacia (Pfizer) in Germany from 1997 to 2003. Earlier in his career, Dr. Winterhalter worked as ward physician at the department of internal medicine I (medical oncology and hematology) at the university hospital Albert Ludwigs University Freiburg. He is a board certified specialist of internal medicine since 1993 and holds a Ph.D. and an MD degree from Albert Ludwigs University in Freiburg.

Supervisory Board

We are currently reviewing the composition of our supervisory board and our corporate governance practices in light of this offering and applicable requirements of the DCGC, SEC and Nasdaq. In subsequent filings with the SEC, we will update any relevant disclosure herein as appropriate.

Our supervisory board is expected to be composed of up to eight members. Following the closing of this offering, each supervisory director will hold office for the term set by our general meeting (as set forth in the table below), except in the case of his earlier death, resignation or removal. Our supervisory directors do not have a retirement age requirement under our articles of association. The current members of the supervisory board of CureVac AG are expected to be appointed as supervisory directors of CureVac N.V. upon the closing of this offering.

The following table sets forth the names and functions of our current supervisory directors, their ages, term served and the year of expiration of their term as supervisory directors of CureVac N.V.:

Name	Age	Term Served	Year in which Term Expires	Functions
Baron Jean Stéphenne, MSc, MBA	70	8/2015 – Present	20	Chairman
Ralf Clemens, MD, PhD	67	8/2015 – Present	20	Supervisory Director
Mathias Hothum, PhD	53	8/2015 – Present	20	Supervisory Director
Hans Christoph Tanner, PhD	68	8/2015 – Present	20	Supervisory Director
Friedrich von Bohlen und Halbach, PhD	58	8/2015 – Present	20	Supervisory Director
Timothy M. Wright, MD	64	6/2019 – Present	20	Supervisory Director
Craig A. Tooman, MBA	54	6/2019 – Present	20	Supervisory Director

The following is a brief summary of the prior business experience and principal business activities performed outside of CureVac of our supervisory directors. Unless otherwise indicated, the current business addresses for each of the our supervisory directors is Friedrich-Miescher-Strasse 15, 72076 Tübingen, Germany.

Baron Jean Stéphenne, MSc, MBA has served as a supervisory director since 2016. Since 2018 Mr. Stéphenne serves as the Chairman of the board at Bone Therapeutics. Mr. Stéphenne was the CEO of GSK Biologicals from 1989 until 2012 and the President of GSK Biologicals from 2002 until 2012, where he was instrumental in building one of the world's leading vaccine companies. In 1974 Mr. Stéphenne joined SmithKline-Rit, as engineer in biology in research and development. He also served as the President of UWE (Union Wallonne des Entreprises) from 1997 until 2000. Mr. Stéphenne was the chairman of BESIX Group S.A./N.V. and TiGenix N.V., IBA Wallonia Foreign Trade and Investment Agency, Henogen S.A., Aseptic Technologies. He was also a director of Fortis bank, GBL and Bone Therapeutics.

Ralf Clemens, MD, PhD has served as a supervisory director since 2016. Dr. Clemens is principal and founder of Grid Europe Ltd. Consulting (Global Research in Infectious Diseases) since 2015. Dr. Clemens has been working in the pharmaceutical industry since 1988 in various senior scientific and business positions. He led the global vaccine development at Novartis from 2006 until 2012. Prior to this position, Dr. Clemens served as a Senior Vice President and Head of Development for the Global Vaccine Business Unit at Takeda Pharmaceuticals International, Inc. from 2012 until 2014 and as the Head of GSK Biologicals' vaccine development and Latin American business strategy from 1992 until 2006. During these years, Mr. Clemens developed and brought to licensure more than 25 different vaccines globally. He currently serves as a Member of the Board of Trustees of the International Vaccine Institute IVI in Seoul, Korea and as external scientific advisor to the Bill & Melinda Gates Foundation. He is a member of the Selection Committee of GHIT Tokyo, Japan and a member of the Scientific Committee of CEPI, Oslo, Norway. He graduated with an M.D. from the University of Mainz, Germany and holds an executive business degree from the Wharton Business School.

Mathias Hothum, PhD has served as a supervisory director since 2016. Dr. Hothum is the managing director of dievini Hopp BioTech holding GmbH & Co. KG, or dievini. dievini manages the biotech investments of SAP co-founder Dietmar Hopp. For the past 25 years, Dr. Hothum has worked as a health economist in the healthcare, health services and life sciences sectors. Dr. Hothum specializes in financing, pricing, reimbursement and in the evaluation of mid-sized companies, as well as of publicly owned/market-listed companies. He is the owner and founder of HMM-Consulting. Furthermore, Dr. Hothum serves as a

supervisory director of a few biotech companies, including Heidelberg Pharma AG, Apogenix GmbH, Cytonet GmbH, Novaliq GmbH, Molecular Health GmbH and Joimax GmbH. He received his Ph.D. in economics from the University of Magdeburg and degree in Economics from the University of Mannheim.

Hans Christoph Tanner, PhD has served as a supervisory director since 2016. Since 2015 Dr. Tanner is the chief financial officer and head of investor relations of Cassiopea S.p.A. He served as Cosmo Pharmaceuticals N.V.'s chief financial officer from 2006 until 2016, head of investor relations from 2006 until 2017 and head of transactions office from 2017-2020. Dr. Tanner has also served as a board member of Cosmo Pharmaceuticals N.V. since 2006, where in 2020 he became a Non-Executive Director. Dr. Tanner is also a member of the supervisory board or advisory board (Beirat) of DKSH AG, Paion AG since 2017, Qvanteq AG since 2011, and Joimax GmbH since 2003. He received his Ph.D. in economics and a diploma as an economist from the University of St. Gallen. From 1998 to 2001 he was a partner of Dr. Ernst Mueller-Moehl and co-founder of the 20 Minuten group of newspapers and founded A&A Active Investor, a SIX listed investment company. From 1992 to 1998 Dr. Tanner was the head of corporate finance & capital markets of UBS in Zurich and from 1976 to 1991 he had various functions in the Corporate Banking Department of UBS in Zurich, Madrid and Los Angeles.

Friedrich von Bohlen und Halbach, PhD has served as a supervisory director since 2016. Dr. von Bohlen und Halbach is the managing partner and co-founder of dievini. dievini manages the life science activities and investments of Dietmar Hopp, co-founder of SAP, and his family. Between 1992 to 1997 he held various positions at Fresenius AG, FAG Kugelfischer KGaA and WASAG Chemie AG. In 1997, Dr. von Bohlen und Halbach founded LION bioscience, AG and served as its CEO until 2003. He is chairman of the Board of Apogenix AG and Novaliq GmbH, and board member of AC Immune SA, CureVac AG, immatics biotechnologies GmbH, Heidelberg Pharma AG and Co-Chair of the Evaluation Board of the Wyss Translational Center Zurich. Friedrich is also co-founder and managing director of Molecular Health GmbH. Dr. von Bohlen und Halbach received his Ph.D. in neurobiology from the Swiss Federal Institute of Technology (ETH) in Zurich and a diploma in biochemistry from the University of Zurich.

Timothy M. Wright, MD has served as a supervisory director since 2019. Since 2019 Dr. Wright is a General Partner at TIME BioVentures, and has also served as director of Schrodinger since 2015. Dr. Wright served as the Chief Research and Development Officer for Regulus Therapeutics from 2016 until 2019. Prior to Regulus, he served as Executive Vice President of Translational Science at California Institute for Biomedical Research Between from 2015 until 2016. Between 2004 to 2014, Dr. Wright held positions of increasing importance at Novartis and Novartis Institute for Biomedical Research, culminating as Global Head of Pharma Development. He also served in roles of increasing importance at Pfizer, ultimately as Senior Director, Clinical Sciences / Clinical Exploratory Head — Inflammation between 2001 until 2004. Dr. Wright was Assistant Professor, Associate Professor with tenure, Chief of Rheumatology and Clinical Immunology, and Director of the UPMC Arthritis Institute at the University of Pittsburgh from 1991 until 2001. From 1983 to 1991, Dr. Wright was a postdoctoral fellow, Instructor and Assistant Professor at the Johns Hopkins University School of Medicine. Dr. Wright received a B.A. in Biology from the University of Delaware and an M.D. from the Johns Hopkins University School of Medicine, where he also completed post-doctoral training.

Craig A. Tooman, MBA has served as a supervisory director since 2019. Since September of 2019, Mr. Tooman has served as the COO/CFO of Vyome Therapeutics, Inc. Prior to this, he was the President, CEO and Board Director at Aratana Therapeutics Inc. and led the merger of Aratana with Elanco Animal Health in July of 2019. He has served at Aratana since 2013. From 2012 to 2014, Mr. Tooman served as the Chief Executive Officer and Treasurer of Avanzar Medical, Inc., a company focused on oncology. He also founded Stockbourne LLC in 2011 and remains a Principal. Mr. Tooman served as the Chief Financial Officer and Senior Vice President of Finance at Ikaria, Inc. from 2010 until 2011. Before that, he served as the Executive Vice President of Finance and Chief Financial Officer of Enzon Pharmaceuticals Inc. from 2005 until 2010. and played a key role in the merger with Sigma Tau. Mr. Tooman was the Senior Vice President of Strategic Planning and Corporate Communications of ILEX Oncology Inc., and led the integration of the company with the Genzyme Corporation in 2004. Prior to this, he served in senior positions of increasing responsibility, including Vice President of Investor Relations, at Pharmacia Corporation and its predecessor company, Pharmacia & Upjohn. He received a Master of Business Administration degree in finance from the University of Chicago and a Bachelor of Arts degree in economics from Kalamazoo College.

Committees

Audit Committee

The audit committee, which is expected to consist of , and , will assist the supervisory board in overseeing our accounting and financial reporting processes and the audits of our financial statements. In addition, the audit committee will be responsible for the appointment, compensation, retention and oversight of the work of our independent registered public accounting firm. Our supervisory board has determined that satisfies the "independence" requirements set forth in Rule 10A-3 under the Exchange Act and qualifies as an "audit committee financial expert," as such term is defined in the rules of the SEC. The composition of our audit committee is consistent with the best practice provisions of the DCGC.

We intend to rely on the phase-in rules of the SEC and Nasdaq with respect to the independence of our audit committee. These rules require that all members of our audit committee must meet the independence standard for audit committee membership within one year of the effectiveness of the registration statement of which this prospectus forms a part. The audit committee will be governed by a charter that complies with applicable Nasdaq rules, which charter will be posted on our website prior to the listing of our common shares on Nasdaq.

Compensation Committee

The compensation committee is expected to consist of and . The compensation committee will assist the supervisory board in determining compensation for our executive officers and our managing directors and supervisory directors. The composition of our compensation committee is consistent with the best practice provisions of the DCGC.

Under SEC and Nasdaq rules, there are heightened independence standards for members of the compensation committee, including a prohibition against the receipt of any compensation from us other than standard director fees. As permitted by the listing requirements of Nasdaq, we will opt out of Nasdaq Listing Rule 5605(d), which requires that a compensation committee consist entirely of independent supervisory directors. The compensation committee will be governed by a charter that will be posted on our website prior to the listing of our common shares on Nasdaq.

Nomination and Corporate Governance Committee

The nomination and corporate governance committee is expected to consist of and . The nomination and corporate governance committee will assist our supervisory board in identifying individuals qualified to become our managing directors or supervisory directors consistent with criteria established by us and in developing our code of business conduct and ethics. The composition of our nomination and corporate governance committee is consistent with the best practice provisions of the DCGC.

As permitted by the listing requirements of Nasdaq, we will opt out of Nasdaq Listing Rule 5605(e), which requires independent director oversight of director nominations. The nominating and corporate governance committee will be governed by a charter that will be posted on our website prior to the listing of our common shares on Nasdaq.

Remuneration and Other Benefits to Supervisory and Managing Directors for the Year Ended December 31, 2019

As a foreign private issuer, in accordance with Nasdaq listing requirements, we will comply with home country compensation requirements and certain exemptions thereunder rather than complying with Nasdaq compensation requirements. Dutch law does not provide for limitations with respect to the aggregate annual compensation paid to our managing directors or supervisory directors, provided that such compensation is consistent with our compensation policy. Such compensation policy requires approval by our general meeting. The supervisory board determines the remuneration of individual managing directors with due observance of the compensation policy. A proposal with respect to remuneration schemes in the

form of shares or rights to shares in which managing directors may participate is subject to approval by our general meeting. Such a proposal must set out at least the maximum number of shares or rights to subscribe for shares to be granted to the managing directors and the criteria for granting or amendment. The compensation for our supervisory directors is set by the general meeting.

Our compensation policy will authorize our supervisory board to determine the amount, level and structure of the compensation packages of our managing directors at the recommendation of our compensation committee. These compensation packages may consist of a mix of fixed and variable compensation components, including base salary, short-term incentives, long-term incentives, fringe benefits, severance pay and pension arrangements, as determined by our supervisory board.

Supervisory Board

Compensation of Supervisory Directors

For the year ended December 31, 2019, the aggregate compensation accrued or paid to our supervisory directors for services in all capacities was €510,276. The following table sets forth the aggregate compensation and benefits provided to our supervisory board members in the year ended December 31, 2019.

Name	Fixed Compensation (€)	Attendance Fees (€)	Total Compensation (€)
Baron Jean Stéphenne	82,500		82,500
Ralf Clemens	55,000	27,500	82,500
Mathias Hothum	55,000		55,000
Hans Cristoph Tanner	55,000	27,500	82,500
Friedrich von Bohlen und Halbach	55,000		55,000
Ingmar Hoerr[1]	110,000		110,000
Timothy M. Wright	21,389		21,388
Craig A. Tooman	21,389		21,388

(1) On March 10, 2020, the service agreement with Daniel Menichella (the former CEO) was discontinued. He was succeeded on the management board by Dr. Hoerr on that same day.

Share Ownership of Supervisory Directors

The following table sets forth the share ownership of our supervisory directors as of December 31, 2019.

Name	Number of Shares	Percentage of Shares Outstanding	Voting Rights
Baron Jean Stéphenne	—	—	—
Ralf Clemens	—	—	—
Mathias Hothum	—	—	—
Hans Cristoph Tanner	1,414	0.20%	[2]
Friedrich von Bohlen und Halbach	1,818	0.24%	[3]
Ingmar Hoerr[1]	8,485	1.14%	[4]
Timothy M. Wright	—	—	—
Craig A. Tooman	—	—	—

(1) On March 10, 2020, the service agreement with Daniel Menichella (the former CEO) was discontinued. He was succeeded on the management board by Dr. Hoerr on that same day. Of his 8,485 shares, 85 are Series A shares and 8,400 are Series C shares.

(2) Dr. Tanner holds Series A shares, each of which carries one vote per share.

(3) Dr. Halbach holds Series A shares, each of which carries one vote per share.

(4) Dr. Hoerr holds Series A shares and Series C shares, each of which carries one vote per share.

Option Ownership of Supervisory Directors

The following table sets forth the option ownership of our supervisory directors as of December 31, 2019.

Name	Number of Options	Title	Amount of Securities (€)	Exercise Price (€)	Purchase Price (€)	Expiration Date
Baron Jean Stéphenne	—	—	—	—	—	—
Ralf Clemens	—	—	—	—	—	—
Mathias Hothum	—	—	—	—	—	—
Hans Cristoph Tanner	—	—	—	—	—	—
Friedrich von Bohlen und Halbach	—	—	—	—	—	—
Ingmar Hoerr[1]	2,776	Share Option Awards	2,776	1.00	2,776	12/31/2021
Timothy M. Wright	—	—	—	—	—	—
Craig A. Tooman	—	—	—	—	—	—

(1) On March 10, 2020, the service agreement with Daniel Menichella (the former CEO) was discontinued. He was succeeded on the management board by Dr. Hoerr on that same day.

Management Board

Compensation of Managing Directors

For the year ended December 31, 2019, the aggregate compensation accrued or paid to our managing directors for services in all capacities was €3,314,153 (including an approximate conversion of Mr. Menichella's and Mr. Voliotis's compensation from USD to euros and excluding the severance payment to Mr. Voliotis) . The following table sets forth the compensation and benefits provided to our management board in the year ended December 31, 2019.

Name	Salary (€)	Bonus (€)[3]	All Other Compensation[4] (€)	Total Compensation (€)
Daniel L. Menichella[1][2]	508,455[3]	206,250	37,098	751,803
Florian von der Mülbe	250,000	84,375	25,634	360,009
Mariola Fotin-Mleczek	210,000	70,875	12,977	293,852
Franz-Werner Haas	247,000	111,150	25,442	383,592
Pierre Kemula[5]	250,000	84,375	146,103	480,478
Bernd Winterhalter[6]	—	—	333,601	333,601
Dimitris Voliotis[7][2]	425,208	168,760	—	593,958
Ulrike Gnad-Vogt[8]	187,500	63,281	9,732	260,513

(1) On March 10, 2020, the service agreement with Daniel Menichella (the former CEO) was discontinued. He was succeeded on the management board by Dr. Hoerr on that same day.

(2) Compensation is expressed in USD. Mr. Menichella also holds 29,053 options. See note 9.4 to our consolidated financial statements, contained elsewhere in this prospectus, for further information on Mr. Menichella's options.

(3) This amount represents the annual variable payment received based on a percentage of yearly gross remuneration for reaching certain targets agreed upon with the supervisory board.

(4) All other compensation includes other monetary benefits and contributions to social security insurance, if any.

(5) Mr. Kemula also holds 5,000 Beteiligungspunkte (virtual shares). See note 9.2 to our consolidated financial statements, contained elsewhere in this prospectus, for further information on Mr. Kemula's award.

(6) We consider Mr. Winterhalter an executive officer and a member of our senior management team but he is not registered in Germany as a member of our management board and will not be appointed as a member of the management board of CureVac N.V. upon the closing of this offering. He serves as our interim chief development officer under a consulting agreement dated as of

December 14, 2019 that specifies his service is indefinite and may be terminated by either party with four weeks' notice. Amount included in his total compensation column includes reimbursement for travel and out-of-pocket expenses.

(7) Mr. Voliotis commenced employment effective January 28, 2019 and resigned from our management board effective December 2019, with his actual employment ending on January 11, 2020. The amount shown as bonus payment does not include the severance payment made to him in 2020.

(8) Ms. Gnad-Vogt resigned from our management board effective September 30, 2019.

We did not provide pension, retirement or similar benefits to our managing directors and supervisory directors board in the year ended December 31, 2019.

Share Ownership of Managing Directors

The following table sets forth the share ownership of our managing directors as of December 31, 2019.

Name	Number of Shares	Percentage of Shares Outstanding	Voting Rights
Daniel L. Menichella[1]	—	—	—
Florian von der Mülbe	6,162[2]	0.83%	[3]
Mariola Fotin-Mleczek	—	—	—
Franz-Werner Haas	—	—	—
Pierre Kemula	—	—	—
Bernd Winterhalter[4]	—	—	—
Dimitris Voliotis	—	—	—
Ulrike Gnad-Vogt	—	—	—

(1) On March 10, 2020, the service agreement with Daniel Menichella (the former CEO) was discontinued. He was succeeded on the management board by Dr. Hoerr on that same day.

(2) Of such shares, 62 are Series A shares and 6,100 are Series C shares.

(3) Mr. Mülbe holds both Series A and Series C shares, each of which carries one vote per share.

(4) We consider Mr. Winterhalter an executive officer and a member of our senior management team but he is not registered in Germany as a member of our management board and will not be appointed as a member of the management board of CureVac N.V. upon the closing of this offering. He serves as our interim chief development officer under a consulting agreement dated as of December 14, 2019 that specifies his service is indefinite and may be terminated by either party with four weeks' notice. Amount included in his total compensation column includes reimbursement for travel and out of pocket expenses.

Option Ownership of Managing Directors

The following table sets forth the option ownership of our managing directors as of December 31, 2019.

Name	Number of Options	Title	Amount of Securities (€)	Exercise Price (€)	Purchase Price (€)	Expiration Date
Daniel Menichella[1]	—	—	—	—	—	—
Florian von der Mülbe	2,017	Share Option Awards	2,017	1.00	2,017	12/31/2021
Mariola Fotin-Mleczek	—	—	—	—	—	—
Franz-Werner Haas	—	—	—	—	—	—
Pierre Kemula	—	—	—	—	—	—
Bernd Winterhalter[2]	—	—	—	—	—	—
Dimitris Voliotis	—	—	—	—	—	—
Ulrike Gnad-Vogt	—	—	—	—	—	—

(1) On March 10, 2020, the service agreement with Daniel Menichella (the former CEO) was discontinued. He was succeeded on the management board by Dr. Hoerr on that same day. Under the terms of the Menichella Employment Agreement, Mr. Menichella is entitled to receive up to 29,053 options. See note 9.4 to our consolidated financial statements, contained elsewhere in this prospectus, for further information on Mr. Menichella's options.

(2) We consider Mr. Winterhalter an executive officer and a member of our senior management team but he is not registered in Germany as a member of our management board and will not be appointed as a member of the management board of CureVac N.V. upon the closing of this offering. He serves as our interim chief development officer under a consulting agreement that specifies his service is indefinite and may be terminated by either party with four weeks' notice.

Virtual Share ("VS") Ownership of Management Board Members from VSOP Programs

Management Board VS Status as of December 31, 2019

Name	Program	VS Points Granted	Max Vested Points	Start of Vesting Period (Only for New Participants)	Grant date (Date of Allocation Letter)	Vesting Period	VSOP Plan	Valid until
Florian von der Mülbe	VS	778	778		01.01.2009	36	Prior VSOP	31.12.2025
Florian von der Mülbe	VS	3,486	3,486		01.01.2011	36	Prior VSOP	31.12.2025
Florian von der Mülbe	VS	736	736		01.01.2013	36	Prior VSOP	31.12.2025
Florian von der Mülbe	VS	1,522	1,522		01.01.2015	12	Prior VSOP	31.12.2025
Florian von der Mülbe	VS	6,100	6,100		11.12.2015	12	Prior VSOP IPO only	31.12.2025
Mariola Fotin-Mleczek	VS	316	316		01.01.2009	60	Prior VSOP	31.12.2025
Mariola Fotin-Mleczek	VS	250	250		01.01.2013	36	Prior VSOP	31.12.2025
Mariola Fotin-Mleczek	VS	250	250		01.01.2014	36	Prior VSOP	31.12.2025
Mariola Fotin-Mleczek	VS	250	250		01.01.2015	36	Prior VSOP	31.12.2025
Mariola Fotin-Mleczek	VS	2,327	2,327		01.01.2015	12	Prior VSOP	31.12.2025
Ulrike Gnad-Vogt	VS	682	682		01.07.2011	60	Prior VSOP	31.12.2025
Ulrike Gnad-Vogt	VS	250	250		01.01.2013	36	Prior VSOP	31.12.2025
Ulrike Gnad-Vogt	VS	250	250		01.01.2014	36	Prior VSOP	31.12.2025
Ulrike Gnad-Vogt	VS	250	250		01.01.2015	36	Prior VSOP	31.12.2025
Ulrike Gnad-Vogt	VS	1,961	1,961		01.01.2015	12	Prior VSOP	31.12.2025
Franz-Werner Haas	VS	1,400	1,400		01.06.2012	36	Prior VSOP	31.12.2025
Franz-Werner Haas	VS	3,600	3,600		01.01.2013	36	Prior VSOP	31.12.2025
Franz-Werner Haas	VS	1,522	1,522		01.01.2015	12	Prior VSOP	31.12.2025
Pierre Kemula	VS	5,000	5,000	01.10.2016	18.04.2019	36	Prior VSOP	31.12.2025
Daniel Menichella*	*	29,053	29,053	08.01.2017	14.10.2019	48	*	08.01.2027

* Daniel Menichella: New Plan – Kick in price at a valuation of USD 800 million. See note 9.4 to our consolidated financial statements, contained elsewhere in this prospectus, for further information on Mr. Menichella's New Plan.

Service Agreements

Supervisory Board Service Contract

With the approval of the supervisory board, Dr. Clemens, one of our supervisory directors, has entered into a service agreement with us, which provides for notice of termination periods and include restrictive covenants, as described further below.

Consulting Agreement with Ralf Clemens

We entered into a consulting agreement with Dr. Clemens in March 2013 (the "Clemens Consulting Agreement") whereby Dr. Clemens agreed to provide consulting services and agreed to act as a member of our scientific advisory board for an indefinite period. The Clemens Consulting Agreement provides for a notice of termination period of four weeks, payment of certain travel and out-of-pocket expenses in addition to his consulting fee and restrictive covenants, including covenants related to confidentiality and proprietary information.

Management Board Service Contracts

We entered into a management board services contract with the following managing directors: Mr. Hoerr, Mr. Mülbe, Ms. Fotin-Mleczek, Mr. Haas, and Mr. Kemula ("Management Contracts"). The Management Contracts generally provide for a term of either three or five years and a base salary and an annual variable payment expressed as a percentage of annual base salary that is dependent on the achievement

of the objectives agreed to by the supervisory board. The supervisory board is also entitled to grant managing directors additional compensation at its discretion.

The Management Contracts also provide for additional allowances. The managing directors are also eligible to participate in a virtual stock plan or equivalent plan that is established in a manner substantially similar to other of the senior executives.

The Management Contracts provide for the following restrictive covenants: (i) a non-compete during employment and for 12 months after termination; (ii) a non-solicit of employees during employment and for two years after termination; and (iii) a perpetual confidentiality covenant. Under the Management Contracts, we are obligated to pay the managing directors compensation for the duration of their post-employment non-compete in monthly installments that are equal to half of the total compensation they received prior to their termination.

We may in the future enter into service agreements with other individuals, the terms of which may provide for, among other things, cash or equity-based compensation and benefits.

Employment Agreements with Daniel Menichella

In January 2017, we entered into an employment agreement with Daniel Menichella which provided that Mr. Menichella will serve as the Chief Executive Officer ("CEO") of CureVac Inc. (the "Prior Menichella Agreement"). In June 2018, we entered into an employment agreement with Mr. Menichella ("Menichella Employment Agreement"), which terminated and replaced the Prior Menichella Agreement, under which Mr. Menichella became the CEO of CureVac AG in addition to CureVac Inc. Under the Menichella Employment Agreement, Mr. Menichella is entitled to receive an initial base salary of $500,000 and is eligible to receive a discretionary bonus in a target amount of up to 55% of his base salary conditioned upon our financial performance and Mr. Menichella meeting certain agreed upon performance goals established jointly with our management board and our Board of Directors. Mr. Menichella is also entitled to the specified allowances and perquisites under the Menichella Employment Agreement, including reimbursement of certain expenses (i.e., moving expenses) and commuting, housing and vehicle allowances.

Under the terms of the Menichella Employment Agreement, Mr. Menichella is also entitled to receive up to 29,053 options, which provide Mr. Menichella with a cash claim against CureVac AG, which can be settled in shares of CureVac AG, subject to the terms and conditions of his employment agreement, equal to an amount by which the price per share calculated on the basis of the value to the company with 726,592 outstanding shares of $800,000,000 is surpassed by the price per share calculated on the basis of the fair market value of CureVac AG at the time of the exercise of the option. Such options expire on January 8, 2027.

If Mr. Menichella's employment is terminated for convenience or if he resigns with good reason (as such term is defined in the Menichella Employment Agreement), subject to his execution and nonrevocation of a release, he is entitled to the following: (i) 18 months of his then base salary (or 24 months if such termination is within one year following the consummation of a change in control); (ii) a pro rata portion of his discretionary bonus, if any, for the year of termination, (iii) reimbursement of the employer-contributed portion of Mr. Menichella's health care premiums for 18 months, (iv) 18 month acceleration of stock option vesting if employment is terminated within one year following the consummation of a change in control and (v) acceleration of all unvested stock options if CureVac is merged with another company or CureVac completes an IPO.

The Menichella Employment Agreement provides for the following restrictive covenants: (i) a non-compete during employment and for 18 months after termination; (ii) a non-solicit of customers and employees during employment and for 18 months after termination, (iii) a perpetual confidentiality and non-disparagement covenant and (iv) ownership of intellectual property and inventions covenant.

On March 10, 2020, the Menichella Employment Agreement was discontinued and Mr. Menichella ceased to be a member of our management board. He was succeeded by Dr. Hoerr on that same day.

Employment Agreements and Consultancy Agreement with Ingmar Hoerr

We entered into several management agreements with Dr. Hoerr in 2003, 2005 and 2011, which were superseded by the management agreement we entered with him in 2015, which is substantially similar to the Management Contracts entered with the management board members as described above.

In June 2018, Dr. Hoerr was elected as a supervisory director. We subsequently entered into a Consultancy Agreement with Dr. Hoerr (the "Hoerr Consultancy Agreement") whereby Dr. Hoerr agreed to provide consulting services. The Hoerr Consultancy Agreement provides for a notice of termination period of four weeks, payment of certain travel and out-of-pocket expenses in addition to his consulting fee and restrictive covenants, including a four-year non-competition and covenants related to confidentiality and ownership of work product. For additional details of Dr. Hoerr's Consultancy Agreement, see "Related Party Transactions."

On March 10, 2020, Dr. Hoerr succeeded Mr. Menichella as a managing director on the management board.

Consulting Agreement with Bernd Winterhalter

We entered into a consulting agreement with Dr. Winterhalter in June 2018 (the "Winterhalter Consulting Agreement") whereby Dr. Winterhalter agreed to provide consulting services for an indefinite period of time. The Winterhalter Consulting Agreement provides for a notice of termination period of four weeks, payment of certain travel and out-of-pocket expenses in addition to his consulting fee and restrictive covenants, including covenants related to confidentiality and proprietary information.

Offer Letter with Pierre Kemula

We entered into an offer letter with Pierre Kemula in April 2019 (the "Kemula Offer Letter") to prolong his service on the management board pursuant to the Management Contract, entered into in June 2016, and to include additional terms, including the reimbursement of certain costs. The Kemula Offer Letter also provides that Mr. Kemula will receive, under the VSOP program, 5,000 Beteiligungspunkte (virtual shares). See note 9.2 to our consolidated financial statements, contained elsewhere in this prospectus, for further information on Mr. Kemula's award.

Employment Agreement and Separation Agreement with Dimitris Voliotis

We entered into an employment agreement with Dimitris Voliotis in January 2019 whereby Mr. Voliotis agreed to serve as the Chief Development Officer of CureVac. The agreement provides for a base salary, discretionary bonus, equity opportunities and additional allowances. The agreement provides Mr. Voliotis with severance in the event we terminate him for convenience or without cause equal to nine months of his base salary and a pro rata portion of his discretionary bonus. The agreement contains restrictive covenants, including covenants related to confidentiality and proprietary information, and a non-competition and non-solicit of customers and employees for nine months after termination.

We subsequently entered into a separation agreement with Mr. Voliotis in January 2020 under which Mr. Voliotis resigned from his employment and received separation pay equal to nine months of his base salary and his discretionary bonus less half of the signing bonus received in connection with his employment agreement.

Bonus Plan

We maintain and implement a management bonus plan for the members of our management. Under the management bonus plan, we provide a variable bonus payment as a component of management compensation that ranges from 45% to 55% of the individual's annual base salary, depending on management level. We agree upon the respective individual amount of the target bonus with each employee on an individual contractual basis. The annual performance review is used to measure the achievement of objectives. In the individual's annual performance review, we measure the achievement of objectives for the past year and define the objectives for the coming year. The calculation of the respective bonus payment is based on the individual degree of target achievement, which is then calculated as a percentage of the annual base salary

and is usually paid out in March of the following year. The bonus is calculated on a pro rata basis if the individual joins or leaves CureVac during the year.

Equity Incentive Plans

Certain members of our management receive share-based compensation under the legacy management stock option plan (''Legacy Management Stock Option Plan'') in the form of share option awards. As of May 31, 2020, there were a total of 5,282 option awards outstanding and exercisable under the Legacy Management Stock Option Plan. These options grant the holder the right to purchase series A shares of CureVac AG for a purchase price of €1 per share. All of the outstanding options have vested and will expire on December 31, 2021. These options will be converted into option awards exercisable for common shares of CureVac N.V. on a to basis upon the completion of our corporate reorganization. Following this conversion, subject to the vesting, exercise and expiration terms discussed above, these option awards will be governed by the new equity incentive plan (the "Plan") that we will establish in connection with the completion of our corporate reorganization.

In addition to the management share option awards described above, we have a virtual share plan for members of the management board and other key employees of CureVac ("Prior VSOP"). As of May 31, 2020, there were 54,899 virtual shares issued and outstanding and 5,276 available for issuance under the Prior VSOP. Each virtual share tracks one underlying series A share of CureVac AG, but the holders of the virtual shares do not hold a direct interest in CureVac AG. Upon vesting of virtual shares, the holder is able to exchange his or her virtual shares (in whole or in part) for cash or shares of CureVac AG, at the discretion of CureVac, subject to the occurence of certain predefined events. However, the economic burden of such an exchange under the Prior VSOP will be borne exclusively by those shareholders already invested in CureVac AG as of October 1, 2015. Ten percent (10%) of each award under the Prior VSOP will become exercisable upon expiry of the 180 day lock-up period following the closing of this offering. Following the closing of this offering, the remaining part of each award may be exercised (in whole or in part) upon the occurrence of certain defined triggering events, including, but not limited to, drug approval, or the sale by a majority shareholder of 5% of our outstanding shares, in each case subject to the conditions of the Prior VSOP. The rights under the Prior VSOP will terminate after the expiry of the ninth calendar year after the listing of our common shares on Nasdaq. The Prior VSOP will be restructured upon the completion of our corporate reorganization. Following this restructuring, upon vesting of virtual shares, the holder will be able to exchange his or her virtual shares (in whole or in part) for cash or common shares of CureVac N.V. (instead of shares of CureVac AG) on a to basis.

Due to the increase in value of CureVac, we modified our incentive program to allow members of the management board and other employees to participate in the value-increased business based on CureVac's current valuation and conditional upon the occurrence of certain enumerated exercise cases (including the consummation of this offering) reflecting such value-increase ("New VSOP"). As of May 31, 2020, there were 36,453 virtual shares issued and outstanding and 14,812 virtual shares available for issuance under the New VSOP. Each virtual share tracks one underlying series A share of CureVac AG. The New VSOP provides a cash-claim against CureVac in the amount of the positive difference between the value of CureVac per virtual share at the grant date (as determined by CureVac when the New VSOP was established) and the value per virtual share at the time of exercise of such virtual share (such value to be derived from the valuation of CureVac in the relevant triggering event) and gives CureVac discretion to provide tradable shares against payment of the value of CureVac per virtual share at the grant date. Such awards provided under the New VSOP have a term of ten years from the date of grant and vest over four years, where 25% vest after the first anniversary of the hire date and the remainder vests monthly with vesting on the last day of the month. These virtual shares will be assumed by CureVac N.V. upon the completion of our corporate reorganization. At this time, the virtual shares will be converted into options, exercisable for common shares of CureVac N.V. on a to basis. Following this conversion, subject to the vesting, exercise and expiration terms discussed above, these option awards will be governed by the Plan.

In connection with this offering, we intend to establish the Plan pursuant to which we may grant options, restricted stock, restricted stock units, share appreciation rights and other equity and equity-based awards. The maximum number of common shares underlying awards granted pursuant to the Plan, including the awards granted in connection with the conversion of awards under the Legacy Management

Stock Option Plan and the New VSOP, as discussed above, plus the common shares underlying awards under the Prior VSOP following the restructuring of the Prior VSOP as discussed above to the extent such awards have not yet been exercised or settled, will in total not exceed an equivalent of 15% of our issued share capital immediately following the closing of this offering, provided that, on January 1, 2021 and on January 1 of each calendar year thereafter, subject to the approval of our supervisory board, such maximum number may be increased with the approval of our supervisory board with an additional number of common shares equal to % of our issued share capital on such date (or any lower number of Shares as determined by our supervisory board). The Plan will be administered by our management board and supervisory board, where appropriate, on the basis of a recommendation of our compensation committee (the body administering the Plan, the "Committee"). Awards under the Plan may be granted to our employees, our managing directors and supervisory directors, consultants or other advisors. Awards under the Plan may be conditioned upon the achievement or satisfaction of performance criteria. The vesting conditions for awards under the Plan will be determined by the Committee and will be set forth in the applicable award documentation. The Plan will provide for special provisions for good leavers and bad leavers as well as for a change in control of our company.

Code of Business Conduct and Ethics

We have adopted a written code of business conduct and ethics, or code of conduct, which outlines the principles of legal and ethical business conduct under which we do business. The code of conduct applies to all of our management board and supervisory directors and employees. Upon the closing of this offering, the full text of the code of conduct will be available on our website at www.curevac.com. The information and other content appearing on our website are not part of this prospectus.

In addition, we have implemented a compliance management policy which describes the compliance management system implemented at CureVac AG, which is designed to ensure compliance with all legal requirements, while at the same time implementing high ethical standards that are mandatory for both management and each employee. The overall responsibility for the compliance management system lies with the management board, which reports regularly to the audit committee. In the performance of its compliance responsibilities, the management board has delegated the corresponding tasks to various functions at CureVac AG.

PRINCIPAL SHAREHOLDERS

As of the date of this prospectus, our authorized share capital is € , consisting of common shares, par value €0.12 per share. Each of our common shares entitles its holder to one vote. The following table presents information relating to the beneficial ownership of our common shares as of , 2020 and after giving effect to (i) the consummation of the KfW Investment and (ii) our corporate reorganization by:

- each person, or group of affiliated persons, known by us to own beneficially 5% or more of our outstanding common shares;
- each managing director and supervisory director; and
- all managing directors and supervisory directors as a group.

Subsequent to the pricing of this offering and as the initial step of our corporate reorganization, all of the outstanding shares in CureVac AG will be contributed and transferred to CureVac B.V. in a capital increase in exchange for common shares of CureVac B.V. on a -to- basis. Following the completion of this offering and the corporate reorganization, we will have only one class of shares issued and outstanding, and all outstanding common shares will carry the same voting rights. See "Corporate Reorganization."

The number of common shares beneficially owned by each entity, person, supervisory director or managing director is determined in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any common shares over which the individual has sole or shared voting power or investment power as well as any common shares that the individual has the right to acquire within 60 days of , 2020 through the exercise of any option, warrant or other right. Except as otherwise indicated, and subject to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all common shares held by that person.

The percentage of outstanding common shares is computed on the basis of common shares outstanding as of , 2020. Common shares that a person has the right to acquire within 60 days of , 2020 are deemed outstanding for purposes of computing the percentage ownership of the person holding such rights, but are not deemed outstanding for purposes of computing the percentage ownership of any other person, except with respect to the percentage ownership of all members of the supervisory board and management board as a group. Unless otherwise indicated below, the address for each beneficial owner is CureVac AG, Friedrich-Miescher-Strasse 15, 72076 Tübingen, Germany.

	Shares beneficially owned prior to the corporate reorganization and the Offering		Common shares beneficially owned after giving effect to the corporate reorganization and the Offering		
			No exercise of underwriter's option		Full exercise of underwriter's option
Shareholder	Number	Percentage	Number	Percentage	Percentage
5% Shareholders:					
Dievini Hopp BioTech holding GmbH & Co. KG		%		%	%
Mr. Dietmar Hopp		%		%	%
KfW		%		%	%
Managing Directors:					
Ingmar Hoerr, PhD, MBA		%		%	%
Florian von der Mülbe, PhD, MBA		%		%	%
Mariola Fotin-Mleczek, PhD		%		%	%
Franz-Werner Haas, LLD, LLM		%		%	%
Pierre Kemula, B.Sc.		%		%	%

	Shares beneficially owned prior to the corporate reorganization and the Offering		Common shares beneficially owned after giving effect to the corporate reorganization and the Offering		
			No exercise of underwriter's option		Full exercise of underwriter's option
Shareholder	Number	Percentage	Number	Percentage	Percentage
Supervisory Directors:					
Ralf Clemens, MD, PhD		%		%	%
Mathias Hothum, PhD		%		%	%
Baron Jean Stéphenne, MSc, MBA		%		%	%
Hans Cristoph Tanner, PhD		%		%	%
Friedrich von Bohlen und Halbach, PhD		%		%	%
Timothy M. Wright, MD		%		%	%
Craig A. Tooman, MBA		%		%	%
All Managing Directors and Supervisory Directors as a Group:		**%**		**%**	**%**

* Represents beneficial ownership of less than 1%.

As of , 2020, after giving effect to our corporate reorganization, common shares, representing % of our issued and outstanding common shares, were held by U.S. record holders.

Following the completion of this offering and the corporate reorganization, each of our shareholders is entitled to one vote per common share. None of the holders of our shares will have different voting rights from other holders of shares after the closing of this offering. We are not aware of any arrangement that may, at a subsequent date, result in a change of control of our company.

RELATED PARTY TRANSACTIONS

The following is a description of related party transactions we have entered into since January 1, 2017 with any of our management and supervisory directors and the holders of more than 5% of our common shares.

dievini Hopp BioTech holding GmbH & Co. KG, Walldorf

Dievini holds the majority of our capital stock and is the controlling shareholder. Molecular Health GmbH (Molecular Health) is a subsidiary of dievini. In December 2017, we concluded a contract with Molecular Health, according to which Molecular Health provides services in conjunction with the Modeling of the biological and clinical effects of Toll-like receptor 7 and 8 agonists in cancer and immune cells. In fiscal years 2017, 2018 and 2019, payments to Molecular Health with respect to research and development amounted to €60,000, €30,000 and €0, respectively.

Convertible Loans with Mr. Hopp

We entered into a convertible loan agreement on May 3, 2019 with Mr. Dietmar Hopp, managing director of dievini, under which Mr. Hopp disbursed to us the amount of €50,000,000 ("Convertible Loan I"). On October 24, 2019, we entered into an additional convertible loan agreement with Mr. Hopp, under which we have the right to call for disbursements in two tranches of €20,000,000 and a final tranche of €23,926,900, until December 31, 2021, if our cash balance falls below €15,000,000 ("Convertible Loan II," and together with Convertible Loan I, the "Loans"). The Loans bear an interest rate of 8.00% per annum. As of December 31, 2019, the outstanding principal amount is €69,889,000. Prior to the consummation of this offering, the amount outstanding under the Loans could be converted into shares of CureVac AG and subsequently exchanged for common shares in CureVac N.V. in connection with our corporate reorganization. See note 12 to our financial statements contained elsewhere in this prospectus for further information on the Loans and "Corporate Reorganization" for further information on our corporate reorganization.

Rittershaus law firm, Mannheim

A consulting agreement dated December 15, 2005 was in place for an indefinite term with the law firm Rittershaus Rechtsanwälte Partnerschaftsgesellschaft mbB, Mannheim (Rittershaus). The agreement was replaced by a new consulting agreement dated January 1, 2015.

The agreement can be terminated without notice by us and with notice of three months to the end of the quarter by Rittershaus. In fiscal years 2017, 2018 and 2019, consulting fees of €67,500, €144,900 and €208,000 were paid to Rittershaus. Prof. Dr. Christof Hettich, one of the managing directors of dievini is a partner of Rittershaus.

Dr. Ingmar Hörr

From June 2018 until March 2020 an advisory agreement was in place between Dr. Ingmar Hoerr and CureVac. Dr. Hoerr, our CEO since March 10, 2020, received €144,000 and €240,000 for consulting services in fiscal years 2018 and 2019, respectively.

Kreditanstalt für Wiederaufbau Investment

Kreditanstalt für Wiederaufbau, or KfW, was mandated by the German Federal Government pursuant to and in accordance with article 2 paragraph 4 of the KfW Law (*Zuweisungsgeschäft*) to acquire a 23% shareholding in CureVac AG. Under the mandate, KfW is fully covered by the Federal Republic of Germany against any economic risks resulting from its investment in our company. On June 16, 2020, we entered into a binding term sheet with KfW, pursuant to which we agreed to issue Series B shares in CureVac AG in exchange for an aggregate investment of €300 million by KfW. We refer to the investment of KfW as the KfW Investment. KfW will become a party to the Investment and Shareholders Agreement described below, and has entered into a separate Shareholders' Agreement with dievini and Mr. Hopp as further described below.

Shareholders' Agreement

In connection with the KfW Investment, KfW, dievini and Mr Hopp entered into a shareholders' agreement on June 16, 2020, or the KfW dievini Shareholders' Agreement, agreeing to certain transfer restrictions and rights of first refusal relating to their interests in our company, nomination rights as provided elsewhere in this prospectus, and a voting agreement relating to certain specified actions. In particular, dievini and Mr Hopp agree to vote a specified number of their shares as directed by KfW on certain specified actions, subject to certain exceptions. These specified actions include: (1) transferring the tax domicile of CureVac N.V. and/or the approval of the transfer of the corporate or administrative seat of CureVacAG; (2) relocating or ceasing activities in specified areas to a state outside the European Union to the extent (in particular in the area of the development of vaccines) material for the protection of the health of the population of the European Union; (3) entering into material mergers and acquisitions; and (4) amendments to the articles of association of CureVac AG or other specified acts which would affect the foregoing matters. Under the terms of KfW dievini Shareholders' Agreement, Mr. Hopp has agreed to purchase an aggregate of €100 million of our common shares in a concurrent private placement at a price per share equal to the initial public offering price. The KfW dievini Shareholders' Agreement has an initial fixed term that expires on December 31, 2023, subject to a right to extend for one year for the benefit of KfW and dievini, and may be terminated after the initial fixed term by either party subject to six months' notice prior the end of the applicable calendar year. In addition, the agreement shall automatically terminate if KfW sells all or a part of its interest in our company to a third party, subject to certain exceptions.

Investment and Shareholders Agreement

We and the shareholders who subscribed for our Series A, B and C shares entered into a shareholders agreement, dated December 18, 2019 (the "Shareholders Agreement"). The Shareholders Agreement provides for certain particular shareholders' rights and also envisages restrictions on the shareholders party thereto, including restrictions on transfer, as well as certain tag along rights, drag along rights, demand rights, rights of first offer and rights of first refusal. The Shareholders Agreement will be terminated as a result of the corporate reorganization.

Indemnification Agreements

Our articles of association, as they will be effective upon closing of the offering, will require us to indemnify our current and former managing directors and supervisory directors to the fullest extent permitted by law, subject to certain exceptions. We intend to enter into indemnification agreements with all our managing directors and supervisory directors, effective upon the closing of this offering.

Employment Agreements

Certain of our managing directors and supervisory directors have entered into service agreements with us as discussed in more detail within the "Management Board Service Contracts" and "Supervisory Board Service Contracts" sections above.

DESCRIPTION OF SHARE CAPITAL AND ARTICLES OF ASSOCIATION

We were incorporated pursuant to the laws of the Netherlands as CureVac B.V. on April 7, 2020 to become a holding company for CureVac AG prior to the closing of this offering. Pursuant to the terms of a corporate reorganization that will be completed prior to the closing of this offering, all of the outstanding shares in CureVac AG will be contributed and transferred to CureVac B.V. in a capital increase in exchange for common shares of CureVac B.V. and, as a result, CureVac AG will become a wholly owned subsidiary of CureVac B.V. and the current shareholders of CureVac AG will become the shareholders of CureVac B.V. Immediately following such exchange, and prior to the listing of our common shares on Nasdaq, we intend to convert into a public company (*naamloze vennootschap*) under Dutch law pursuant to a Dutch notarial deed of amendment and conversion, following which our legal name will be CureVac N.V. As part of our corporate reorganization, outstanding shares of all series in CureVac AG will be exchanged for common shares in CureVac N.V. See "Corporate Reorganization." Our affairs are governed by the provisions of our articles of association and internal rules, regulations and policies, as amended and restated from time to time, and by the provisions of applicable Dutch law.

As provided in our articles of association, subject to Dutch law, we have full capacity to carry on or undertake any business or activity, do any act or enter into any transaction consistent with the objects specified in our articles of association, and, for such purposes, full rights, powers and privileges. Our registered office is Friedrich-Miescher-Strasse 15, 72076, Tübingen, Germany.

As of the execution of our deed of conversion and amendment as part of the corporate reorganization (see "Corporate Reorganization"), our authorized share capital will amount to € , divided into common shares and preferred shares, each with a nominal value of €0.12, and our issued share capital will amount to € . Upon the closing of this offering, our issued share capital will amount to € . We have applied to list our common shares on Nasdaq under the symbol "CVAC."

Initial settlement of our common shares will take place on the closing date of this offering through The Depository Trust Company, or DTC, in accordance with its customary settlement procedures for equity securities. Each person owning common shares held through DTC must rely on the procedures thereof and on institutions that have accounts therewith to exercise any rights of a holder of the common shares. Persons wishing to obtain certificates for their common shares must make arrangements with DTC.

The following is a summary of relevant information concerning our share capital and our articles of association as they will read upon the closing of this offering. This summary does not constitute legal advice regarding those matters and should not be regarded as such.

Common Shares

The following summarizes the main rights of holders of our common shares:

- each holder of common shares is entitled to one vote per share on all matters to be voted on by shareholders generally, including the appointment of managing directors and supervisory directors;
- there are no cumulative voting rights;
- the holders of our common shares are entitled to dividends and other distributions as may be declared from time to time by us out of funds legally available for that purpose, if any, following payment of the preferred dividend if any preferred shares are outstanding;
- upon our liquidation, dissolution or winding-up, the holders of common shares will be entitled to share ratably in the distribution of all of our assets remaining available for distribution after satisfaction of all our liabilities, following payment of the preferred dividend if any preferred shares are outstanding; and
- the holders of common shares have preemptive rights in case of share issuances or the grant or rights to subscribe for shares, except if such rights are limited or excluded by the corporate body authorized to do so and except in such cases as provided by Dutch law and our articles of association.

Shareholders' Register

Pursuant to Dutch law and our articles of association, we must keep our shareholders' register accurate and current. The management board keeps our shareholders' register and records names and addresses of all holders of shares, showing the date on which the shares were acquired, the date of the acknowledgement by or notification of us as well as the amount paid on each share. The register also includes the names and addresses of those with a right of use and enjoyment (*vruchtgebruik*) in shares belonging to another or a pledge (*pandrecht*) in respect of such shares. The common shares offered in this offering will be held through DTC, therefore DTC or its nominee will be recorded in the shareholders' register as the holder of those common shares. The shares are in registered form (*op naam*). We may issue share certificates (*aandeelbewijzen*) for registered shares in such form as may be approved by our management board.

Corporate Objectives

Pursuant to our articles of association, our main corporate objectives are:

- to develop, license, manufacture and commercialize pharmaceutical and related products;
- to incorporate, to participate in, to finance, to hold any other interest in and to conduct the management or supervision of other entities, companies, partnerships and businesses;
- to acquire, to manage, to invest, to exploit, to encumber and to dispose of assets and liabilities;
- to furnish guarantees, to provide security, to warrant performance in any other way and to assume liability, whether jointly and severally or otherwise, in respect of obligations of group companies or other parties; and
- to do anything which, in the widest sense, is connected with or may be conducive to the objects described above.

Limitations on the Rights to Own Securities

Our common shares may be issued to individuals, corporations, trusts, estates of deceased individuals, partnerships and unincorporated associations of persons. Our articles of association contain no limitation on the rights to own our common shares and no limitation on the rights of nonresidents of the Netherlands or foreign shareholders to hold or exercise voting rights. Our preferred shares shall only be issued to the protective foundation, if and when incorporated.

Limitation on Liability and Indemnification Matters

Under Dutch law, managing directors and supervisory directors may be held liable for damages in the event of improper or negligent performance of their duties. They may be held jointly and severally liable for damages to the company and to third parties for infringement of the articles of association or of certain provisions of Dutch law. In certain circumstances, they may also incur additional specific civil and criminal liabilities. Subject to certain exceptions, our articles of association provide for indemnification of our current and former managing directors and supervisory directors (and other current and former officers and employees as designated by our management board). No indemnification shall be given to an indemnified person:

(a) if a competent court or arbitral tribunal has established, without having (or no longer having) the possibility for appeal, that the acts or omissions of such indemnified person that led to the financial losses, damages, expenses, suit, claim, action or legal proceedings as described above are of an unlawful nature (including acts or omissions which are considered to constitute malice, gross negligence, intentional recklessness and/or serious culpability attributable to such indemnified person);

(b) to the extent that his or her financial losses, damages and expenses are covered under insurance and the relevant insurer has settled, or has provided reimbursement for, these financial losses, damages and expenses (or has irrevocably undertaken to do so);

(c) in relation to proceedings brought by such indemnified person against the company, except for proceedings brought to enforce indemnification to which he is entitled pursuant to our articles of association, pursuant to an agreement between such indemnified person and the company which has been approved by the management board or pursuant to insurance taken out by the company for the benefit of such indemnified person; and

(d) for any financial losses, damages or expenses incurred in connection with a settlement of any proceedings effected without the company's prior consent.

Under our articles of association, our management board may stipulate additional terms, conditions and restrictions in relation to the indemnification described above.

Shareholders' Meetings

General meetings may be held in Amsterdam, Arnhem, Assen, The Hague, Haarlem, Hertogenbosch, Groningen, Leeuwarden, Lelystad, Maastricht, Middelburg, Rotterdam, Schiphol (Haarlemmermeer), Utrecht or Zwolle, all in the Netherlands. The annual general meeting must be held within six months of the end of each financial year. Additional extraordinary general meetings may also be held, whenever considered appropriate by the management board or the supervisory board and shall be held within three months after our management board has considered it to be likely that our equity has decreased to an amount equal to or lower than half of its paid-in and called up share capital, in order to discuss the measures to be taken if so required.

Pursuant to Dutch law, one or more shareholders or others with meeting rights under Dutch law who jointly represent at least one-tenth of the issued share capital may request us to convene a general meeting, setting out in detail the matters to be discussed. If we have not taken the steps necessary to ensure that such meeting can be held within six weeks after the request, the requesting party/parties may, on their application, be authorized by the competent Dutch court in preliminary relief proceedings to convene a general meeting. The court shall disallow the application if it does not appear that the applicants have previously requested our management board and our supervisory board to convene a general meeting and neither our management board nor our supervisory board has taken the necessary steps so that the general meeting could be held within six weeks after the request.

General meetings must be convened by an announcement published in a Dutch daily newspaper with national distribution. The notice must state the agenda, the time and place of the meeting, the record date (if any), the procedure for participating in the general meeting by proxy, as well as other information as required by Dutch law. The notice must be given at least 15 days prior to the day of the meeting. The agenda for the annual general meeting shall include, among other things, the adoption of the annual accounts, appropriation of our profits and proposals relating to the composition of the management board and supervisory board, including the filling of any vacancies in such bodies. In addition, the agenda shall include such items as have been included therein by the management board or the supervisory board. The agenda shall also include such items requested by one or more shareholders, or others with meeting rights under Dutch law, representing at least 3% of the issued share capital. Requests must be made in writing or by electronic means and received by us at least 60 days before the day of the meeting. No resolutions shall be adopted on items other than those that have been included in the agenda.

In accordance with the DCGC and our articles of association, shareholders having the right to put an item on the agenda under the rules described above shall exercise such right only after consulting the management board in that respect. If one or more shareholders intend to request that an item be put on the agenda that may result in a change in the company's strategy (for example, the removal of managing directors or supervisory directors), the management board must be given the opportunity to invoke a reasonable period to respond to such intention. Such period shall not exceed 180 days (or such other period as may be stipulated for such purpose by Dutch law and/or the DCGC from time to time). If invoked, the management board must use such response period for further deliberation and constructive consultation, in any event with the shareholders(s) concerned, and shall explore the alternatives. At the end of the response time, the management board shall report on this consultation and the exploration of alternatives to the general meeting. This shall be supervised by our supervisory board. The response period may be invoked only once for any given general meeting and shall not apply: (a) in respect of a matter for which a response period

has been previously invoked; or (b) if a shareholder holds at least 75% of the company's issued share capital as a consequence of a successful public bid. The response period may also be invoked in response to shareholders or others with meeting rights under Dutch law requesting that a general meeting be convened, as described above.

The general meeting is presided over by the chairman of the supervisory board. If no chairman has been elected or if he or she is not present at the meeting, the general meeting shall be presided over by another supervisory director present at the meeting. If no supervisory director is present, the meeting shall be presided over by our CEO. If no CEO has been elected or if he or she is not present at the meeting, the general meeting shall be presided over by another managing director present at the meeting. If no managing director is present at the meeting, the general meeting shall be presided over by any other person appointed by the general meeting. In each case, the person who should chair the general meeting pursuant to the rules described above may appoint another person to chair the general meeting instead. Managing directors and supervisory directors may always attend a general meeting. In these meetings, they have an advisory vote. The chairman of the meeting may decide at his or her discretion to admit other persons to the meeting.

All shareholders and others with meeting rights under Dutch law are authorized to attend the general meeting, to address the meeting and, in so far as they have such right, to vote pro rata to his or her shareholding. Shareholders may exercise these rights, if they are the holders of shares on the record date, if any, as required by Dutch law, which is currently the 28th day before the day of the general meeting. Under our articles of association, shareholders and others with meeting rights under Dutch law must notify us in writing or by electronic means of their identity and intention to attend the general meeting. This notice must be received by us ultimately on the seventh day prior to the general meeting, unless indicated otherwise when such meeting is convened.

Each common share and each preferred share confers the right on the holder to cast one vote at the general meeting. Shareholders may vote by proxy. No votes may be cast at a general meeting on shares held by us or our subsidiaries or on shares for which we or our subsidiaries hold depository receipts. Nonetheless, the holders of a right of use and enjoyment (*vruchtgebruik*) and the holders of a right of pledge (*pandrecht*) in respect of shares held by us or our subsidiaries in our share capital are not excluded from the right to vote on such shares, if the right of use and enjoyment (*vruchtgebruik*) or the right of pledge (*pandrecht*) was granted prior to the time such shares were acquired by us or any of our subsidiaries. Neither we nor any of our subsidiaries may cast votes in respect of a share on which we or such subsidiary holds a right of use and enjoyment (*vruchtgebruik*) or a right of pledge (*pandrecht*). Shares which are not entitled to voting rights pursuant to the preceding sentences will not be taken into account for the purpose of determining the number of shareholders that vote and that are present or represented, or the amount of the share capital that is provided or that is represented at a general meeting.

Decisions of the general meeting are taken by a simple majority of votes cast, except where Dutch law or our articles of association provide for a qualified majority or unanimity.

Managing Directors and Supervisory Directors

Appointment of Managing Directors and Supervisory Directors

Under our articles of association, the managing directors and supervisory directors are appointed by the general meeting upon binding nomination by our supervisory board. During the periods specified below, dievini (or its legal successor), KfW, and any other shareholder or group of shareholders owning at least 20% of our issued share capital, or nomination concert, have the right to make a binding nomination for one or more supervisory directors as specified below:

- during the initial nomination period, dievini (or its legal successor) will have the right under our articles of association to make a binding nomination for the following number of supervisory directors:
    - four (4) supervisory directors for as long as dievini (or its legal successor) owns at least 70% of our issued share capital;

- three (3) supervisory directors for as long as dievini (or its legal successor) owns at least 50% (but less than 70%) of our issued share capital;
- two (2) supervisory directors for as long as dievini (or its legal successor) owns at least 30% (but less than 50%) of our issued share capital; and
- one (1) supervisory director for as long as dievini (or its legal successor) owns at least 10% (but less than 30%) of our issued share capital;

- until KfW (or its legal successor) ceases to own at least 10% of our issued share capital, KfW will have the right under our articles of association to make a binding nomination for one supervisory director; and
- at any time, each nomination concert (excluding dievini, its affiliates and its ultimate beneficiaries and excluding KfW and its affiliates for as long as dievini and KfW, respectively, have the nomination rights discussed above) will have the right under our articles of association to make a binding nomination for one supervisory director for each 20% of our issued share capital represented by that nomination concert, provided such nominee is independent from the nomination concert and CureVac N.V. under the DCGC and applicable U.S. securities laws and Nasdaq rules.

The general meeting may at all times overrule the binding nomination by a resolution adopted by a simple majority of the votes cast, provided such majority represents at least one-third of the issued share capital. If the general meeting overrules a binding nomination, a new nomination shall be prepared by whoever made the overruled nomination.

If dievini, KfW and/or a nomination concert loses the right to nominate one or more of our supervisory directors, as applicable, the supervisory director(s) so nominated must promptly resign. A supervisory director nominated by a nomination concert must also promptly resign once that supervisory director is no longer independent from the nomination concert or our company.

Prior to the closing of this offering, our supervisory board shall adopt a diversity policy for the composition of our management board and our supervisory board, as well as a profile for the composition of the supervisory board. The supervisory board shall make any nomination for the appointment of a managing director or supervisory director with due regard to the rules and principles set forth in such diversity policy and profile, as applicable.

At a general meeting, a resolution to appoint a managing director or supervisory director can only be passed in respect of candidates whose names are stated for that purpose in the agenda of that general meeting or in the explanatory notes thereto.

Under Dutch law, when nominating a person for appointment or reappointment as a supervisory director, the nomination must be supported by reasons (if it concerns a reappointment, past performance must be taken into consideration) and the following information about such person must be provided: (i) age and profession; (ii) the aggregate nominal value of the shares held in the company's capital; (iii) present and past positions, to the extent relevant for the performance of the tasks of a supervisory director; and (iv) the name of each entity where such person already holds a position as supervisory director or non-executive director (in case of multiple entities within the same group, the name of the group shall suffice).

Duties and Liabilities of Managing Directors and Supervisory Directors

Under Dutch law, the management board is charged with the management of the company, subject to the restrictions contained in our articles of association, and the supervisory board is charged with the supervision of the policy of the management board and the general course of affairs of the company and of the business connected with it. The managing directors may divide their tasks among themselves in or pursuant to the internal rules applicable to the management board. Each managing director and supervisory director has a statutory duty to act in the corporate interest of the company and its business. Under Dutch law, the corporate interest extends to the interests of all corporate stakeholders, such as shareholders, creditors, employees, customers and suppliers. The duty to act in the corporate interest of the company also applies in the event of a proposed sale or break-up of the company, provided that the circumstances generally dictate

how such duty is to be applied and how the respective interests of various groups of stakeholders should be weighed. The supervisory board will also observe the corporate social responsibility issues that are relevant to us. Any resolution of the management board regarding a material change in our identity or character requires approval of the general meeting. In addition, for the duration of the KfW dievini Shareholders' Agreement (see "Related Party Transactions — Shareholders' Agreement" for further information on that agreement), which we refer to as the initial shareholder approval period, the following additional resolutions of the management board will require approval of the general meeting and our supervisory board:

- transferring the tax domicile of CureVac N.V. and/or the approval of the transfer of the corporate or administrative seat of CureVac AG;
- relocating or ceasing activities in specified areas to a state outside the European Union and to the extent our supervisory board considers such activities (in particular in the area of the development of vaccines) to be material for the protection of the health of the population of the European Union;
- entering into mergers and acquisitions which our supervisory board considers to be material;
- amendments to the articles of association of CureVac AG or other specified acts which would affect these approval rights during the initial shareholder approval period; and
- the exercise of voting rights in CureVac AG approving, directing or causing any of the foregoing matters.

Our management board is entitled to represent the company. The power to represent the company also vests in the chief executive officer individually, as well as in any other two managing directors acting jointly.

Dividends and Other Distributions

Dividends

We may only make distributions, whether a distribution of profits or of freely distributable reserves, to our shareholders to the extent our shareholders' equity (*eigen vermogen*) exceeds the sum of the paid-in and called-up share capital plus any reserves required by Dutch law or by our articles of association. Under our articles of association, our management board with the approval of our supervisory board may decide that all or part of the profits are carried to reserves. After reservation of any profit, if any preferred shares are outstanding, the preferred dividend is first paid out on those preferred shares in accordance with our articles of association. The remaining profit will be at the disposal of the general meeting for distribution on the common shares, subject to restrictions of Dutch law and approval by our supervisory board.

We only make a distribution of dividends to our shareholders after the adoption of our annual accounts demonstrating that such distribution is legally permitted. The management board is permitted, subject to certain requirements, to declare interim dividends without the approval of the general meeting, but only with the approval of the supervisory board.

Dividends and other distributions shall be made payable not later than the date determined by the management board. Claims to dividends and other distributions not made within five years from the date that such dividends or distributions became payable will lapse and any such amounts will be considered to have been forfeited to us (*verjaring*).

Exchange Controls

Under Dutch law, there are no exchange controls applicable to the transfer to persons outside of the Netherlands of dividends or other distributions with respect to, or of the proceeds from the sale of, shares of a Dutch company, subject to applicable restrictions under sanctions and measures, including those concerning export control, pursuant to European Union regulations, the Sanctions Act 1977 (*Sanctiewet 1977*) or other legislation, applicable anti-boycott regulations and similar rules. There are no special restrictions

in the articles of association or Dutch law that limit the right of shareholders who are not citizens or residents of the Netherlands to hold or vote shares.

Squeeze-Out Procedures

Pursuant to Section 2:92a of the Dutch Civil Code, a shareholder who holds at least 95% of our issued share capital for his or her own account, alone or together with group companies, may initiate proceedings against the other shareholders jointly for the transfer of their shares to such shareholder. The proceedings are held before the Enterprise Chamber of the Amsterdam Court of Appeal, or the Enterprise Chamber (*Ondernemingskamer*), and can be instituted by means of a writ of summons served upon each of the other shareholders in accordance with the provisions of the Dutch Code of Civil Procedure (*Wetboek van Burgerlijke Rechtsvordering*). The Enterprise Chamber may grant the claim for squeeze-out in relation to the other shareholders and will determine the price to be paid for the shares, if necessary, after appointment of one or three experts who will offer an opinion to the Enterprise Chamber on the value to be paid for the shares of the other shareholders. Once the order to transfer becomes final before the Enterprise Chamber, the person acquiring the shares shall give written notice of the date and place of payment and the price to the holders of the shares to be acquired whose addresses are known to him. Unless the addresses of all of them are known to the acquiring person, such person is required to publish the same in a daily newspaper with a national circulation.

Dissolution and Liquidation

Under our articles of association, we may be dissolved by a resolution of the general meeting, subject to a proposal of the management board approved by our supervisory board. In the event of a dissolution, the liquidation shall be effected by the management board, under supervision of our supervisory board, unless the general meeting decides otherwise. During liquidation, the provisions of our articles of association will remain in force as far as possible. To the extent that any assets remain after payment of all debts, if any preferred shares are outstanding, the preferred dividend is first paid out on those preferred shares in accordance with our articles of association. Any remaining assets shall be distributed to the holders of common shares in proportion of their number of shares.

Dutch Corporate Governance Code

As a listed Dutch public company (*naamloze vennootschap*), we will be subject to the DCGC. The DCGC contains both principles and best practice provisions on corporate governance that regulate relations between the management board, the supervisory board and the general meeting and matters in respect of financial reporting, auditors, disclosure, compliance and enforcement standards. The DCGC is based on a "comply or explain" principle. Accordingly, companies are required to disclose in their statutory annual reports, filed in the Netherlands, whether they comply with the provisions of the DCGC. If they do not comply with these provisions (for example, because of a conflicting Nasdaq requirement), the company is required to give the reasons for such noncompliance. See "Risk factors — we are not obligated to, and do not, comply with all best practice provisions of the Dutch Corporate Governance Code."

We do not comply with all principles and best practice provisions of the DCGC. As of the date of this prospectus, we deviate from the DCGC as summarized below, but cannot exclude the possibility of deviating from additional provisions of the DCGC, including after the date hereof in order to follow market practice or governance practices in the United States.

Under our articles of association, managing directors and supervisory directors can only be dismissed by the general meeting by simple majority, if the supervisory board or, during the initial period with respect to supervisory directors, dievini (or its legal successor) proposes the dismissal. In other cases, the general meeting can only pass such resolution by a two-thirds majority representing at least half of the issued share capital. The DCGC recommends that the general meeting can pass a resolution to dismiss a managing director or supervisory director by simple majority, representing no more than one-third of the issued share capital.

The DCGC recommends against providing equity awards as part of the compensation of a supervisory director. However, we expect to deviate from this recommendation and grant equity awards to our supervisory directors, consistent with U.S. market practice.

Our Plan allows us to set the terms and conditions of equity awards granted thereunder. Under the Plan, we may grant common shares that are not subject to a lock-up period of at least five years after the date of grant, and we may grant options without restricting the exercisability of those options during the first three years after the date of grant. In those cases, this would cause additional deviations from the DCGC.

Dutch Financial Reporting Supervision Act

On the basis of the Dutch Financial Reporting Supervision Act (*Wet toezicht financiële verslaggeving*), or the FRSA, the Dutch Authority for the Financial Markets (*Stichting Autoriteit Financiële Markten*), or AFM, supervises the application of financial reporting standards by Dutch companies whose securities are listed on a Dutch or foreign stock exchange.

Pursuant to the FRSA, the AFM has an independent right to (i) request an explanation from us regarding our application of the applicable financial reporting standards if, based on publicly known facts or circumstances, it has reason to doubt that the company's financial reporting meets such standards and (ii) recommend to us the making available of further explanations. If we do not comply with such a request or recommendation, the AFM may request that the Enterprise Chamber of the Amsterdam Court of Appeal (*Ondernemingskamer*) order us to (i) make available further explanations as recommended by the AFM, (ii) provide an explanation of the way we have applied the applicable financial reporting standards to our financial reports or (iii) prepare or restate our financial reports in accordance with the Enterprise Chamber's orders.

Foreign Investment Legislation

Under existing laws of the Netherlands, there are no exchange controls applicable to the transfer to persons outside of the Netherlands of dividends or other distributions with respect to, or of the proceeds from the sale of, shares of a Dutch company, subject to applicable restrictions under sanctions and measures, including those concerning export control, pursuant to European Union regulations, the Sanctions Act 1977 (*Sanctiewet 1977*) or other legislation, applicable anti-boycott regulations and similar rules. There are no special restrictions in the articles of association or Dutch law that limit the right of shareholders who are not citizens or residents of the Netherlands to hold or vote shares.

Listing

We have applied to list the common shares on Nasdaq under the symbol "CVAC."

Transfer Agent and Registrar

Upon the closing of this offering, the transfer agent and registrar for the common shares will be .

COMPARISON OF DUTCH CORPORATE LAW AND U.S. CORPORATE LAW

The following comparison between Dutch corporate law, which applies to us, and Delaware corporation law, the law under which many publicly listed corporations in the United States are incorporated, discusses additional matters not otherwise described in this prospectus. Although we believe this summary is materially accurate, the summary is subject to Dutch law, including Book 2 of the Dutch Civil Code and the DCGC and Delaware corporation law, including the Delaware General Corporation Law.

Corporate Governance

Duties of Managing and Supervisory Directors

The Netherlands. In the Netherlands, a listed company typically has a two-tier board structure with a management board comprised of the managing directors (executive directors) and a supervisory board comprised of the supervisory directors (non-executive directors). We have a two-tier board structure consisting of our management board (*bestuur*) and a separate supervisory board (*raad van commissarissen*).

Under Dutch law, the management board is charged with the management of the company, subject to the restrictions contained in our articles of association, and the supervisory board is charged with the supervision of the policy of the management board and the general course of affairs of the company and of the business connected with it. The managing directors may divide their tasks among themselves in or pursuant to the internal rules applicable to the management board. Each managing director and supervisory director has a statutory duty to act in the corporate interest of the company and its business. Under Dutch law, the corporate interest extends to the interests of all corporate stakeholders, such as shareholders, creditors, employees, customers and suppliers. The duty to act in the corporate interest of the company also applies in the event of a proposed sale or break-up of the company, provided that the circumstances generally dictate how such duty is to be applied and how the respective interests of various groups of stakeholders should be weighed. Any resolution of the management board regarding a material change in our identity or character requires approval of the general meeting. In addition, during the initial shareholder approval period, the following additional resolutions of the management board will require approval of the general meeting and our supervisory board:

- transferring the tax domicile of CureVac N.V. and/or the approval of the transfer of the corporate or administrative seat of CureVac AG;
- relocating or ceasing activities in specified areas to a state outside the European Union and to the extent our supervisory board considers such activities (in particular in the area of the development of vaccines) to be material for the protection of the health of the population of the European Union;
- entering into mergers and acquisitions which our supervisory board considers to be material;
- amendments to the articles of association of CureVac AG or other specified acts which would affect these approval rights during the initial shareholder approval period; and
- the exercise of voting rights in CureVac AG approving, directing or causing any of the foregoing matters.

Under our articles of association, the approval of our supervisory board is also required for resolutions of the management board, including concerning the following matters:

- the making of certain proposals to the general meeting;
- the issue of shares or the granting of rights to subscribe for shares;
- the limitation or exclusion of pre-emption rights;
- the acquisition of shares by us in our own capital;
- the drawing up or amendment of our management board rules;
- the performance of legal acts relating to non-cash contributions on shares;

- material changes to the identity or the character of the company or its business;
- the charging of amounts to be paid up on shares against the company's reserves;
- the making of an interim distribution;
- designating a current or former officer or employee as indemnitees under our articles of association;
- the stipulation of additional terms, conditions and restrictions in relation to the indemnification offered under our articles of association; and
- and such other resolutions as the supervisory board shall have specified in a resolution to that effect and notified to the management board.

Under the internal rules applicable to our management board, certain additional resolutions are subject to the approval of our supervisory board.

The absence of the approval of the supervisory board shall result in the relevant resolution being null and void but shall not affect the powers of representation of the management board or of the managing directors.

Our management board is entitled to represent us. The power to represent us also vests in the chief executive officer individually, as well as in any other two managing directors acting jointly.

Delaware. The board of directors bears the ultimate responsibility for managing the business and affairs of a corporation. In discharging this function, directors of a Delaware corporation owe fiduciary duties of care and loyalty to the corporation and to its stockholders. Delaware courts have decided that the directors of a Delaware corporation are required to exercise informed business judgment in the performance of their duties. Informed business judgment means that the directors have informed themselves of all material information reasonably available to them. Delaware courts have also imposed a heightened standard of conduct upon directors of a Delaware corporation who take any action designed to defeat a threatened change in control of the corporation. In addition, under Delaware law, when the board of directors of a Delaware corporation approves the sale or break-up of a corporation, the board of directors may, in certain circumstances, have a duty to obtain the highest value reasonably available to the stockholders.

Director Terms

The Netherlands. The DCGC provides the following best practice recommendations on the terms for tenure of managing directors and supervisory directors:

- Managing directors should be appointed for a maximum period of four years, without limiting the number of consecutive terms managing directors may serve.
- Supervisory directors should be appointed for two consecutive periods of no more than four years. Thereafter, supervisory directors may be reappointed for a maximum of two consecutive periods of no more than two years, provided that any reappointment after an eight-year term of office should be disclosed in the company's annual report.

The general meeting shall at all times be entitled to suspend or dismiss a managing director or supervisory director. Under our articles of association, the general meeting may only adopt a resolution to suspend or dismiss such director by at least a two-thirds majority of the votes cast, provided that such majority represents more than half of the issued share capital, unless the resolution is passed at the proposal of the supervisory board or, during the initial period with respect to supervisory directors, dievini (or its legal successor), in which case a simple majority of the votes cast is sufficient. In addition, the supervisory board may at any time suspend a managing director. A suspension by the supervisory board can at any time be lifted by the general meeting. If a managing director is suspended and the general meeting does not resolve to dismiss him or her within three months from the date of such suspension, the suspension shall lapse.

Delaware. The Delaware General Corporation Law generally provides for a one-year term for directors, but permits directorships to be divided into up to three classes with up to three-year terms, with

the years for each class expiring in different years, if permitted by the certificate of incorporation, an initial bylaw or a bylaw adopted by the stockholders. A director elected to serve a term on a "classified" board may not be removed by stockholders without cause. There is no limit in the number of terms a director may serve.

Director Vacancies

The Netherlands. Under Dutch law, managing directors and supervisory directors of a company like ours are appointed and reappointed by the general meeting. Under our articles of association, managing directors and supervisory directors are appointed by the general meeting upon the binding nomination by our supervisory board. During the periods specified below, dievini (or its legal successor), KfW (or its legal successor), and any nomination concert have the right to make a binding nomination for one or more supervisory directors as specified below:

- during the initial nomination period, dievini (or its legal successor) will have the right under our articles of association to make a binding nomination for the following number of supervisory directors:
    - four (4) supervisory directors for as long as dievini (or its legal successor) owns at least 70% of our issued share capital;
    - three (3) supervisory directors for as long as dievini (or its legal successor) owns at least 50% (but less than 70%) of our issued share capital;
    - two (2) supervisory directors for as long as dievini (or its legal successor) owns at least 30% (but less than 50%) of our issued share capital; and
    - one (1) supervisory director for as long as dievini (or its legal successor) owns at least 10% (but less than 30%) of our issued share capital;
- until KfW (or its legal successor) ceases to own at least 10% of our issued share capital, KfW will have the right under our articles of association to make a binding nomination for one supervisory director; and
- at any time, each nomination concert (excluding dievini, its affiliates and its ultimate beneficiaries and excluding KfW and its affiliates for as long as dievini and KfW, respectively, have the nomination rights discussed above) will have the right under our articles of association to make a binding nomination for one supervisory director for each 20% of our issued share capital represented by that nomination concert, provided such nominee is independent from the nomination concert and CureVac N.V. under the DCGC and applicable U.S. securities laws and Nasdaq rules.

The general meeting may at all times overrule the binding nomination by a resolution adopted by a simple majority of the votes cast, provided that such majority represents at least one-third of the issued share capital. If the general meeting overrules a binding nomination, a new nomination shall be prepared by whoever made the overruled nomination.

If dievini, KfW and/or a nomination concert loses the right to nominate one or more of our supervisory directors, as applicable, the supervisory director(s) so nominated must promptly resign. A supervisory director nominated by a nomination concert must also promptly resign once that supervisory director is no longer independent from the nomination concert or our company.

Prior to the closing of this offering, our supervisory board shall adopt a diversity policy for the composition of our management board and our supervisory board, as well as a profile for the composition of the supervisory board. The supervisory board shall make any nomination for the appointment of a managing director or supervisory director with due regard to the rules and principles set forth in such diversity policy and profile, as applicable.

Under Dutch law, when nominating a person for appointment or reappointment as a supervisory director, the nomination must be supported by reasons (if it concerns a reappointment, past performance must be taken into consideration) and the following information about such person must be provided: (i) age

and profession; (ii) the aggregate nominal value of the shares held in the company's capital; (iii) present and past positions, to the extent relevant for the performance of the tasks of a supervisory director; and (iv) the name of each entity where such person already holds a position as supervisory director or non-executive director (in case of multiple entities within the same group, the name of the group shall suffice).

Delaware. The Delaware General Corporation Law provides that vacancies and newly created directorships may be filled by a majority of the directors then in office (even though less than a quorum) unless (i) otherwise provided in the certificate of incorporation or bylaws of the corporation or (ii) the certificate of incorporation directs that a particular class of stock is to elect such director, in which case any other directors elected by such class, or a sole remaining director elected by such class, will fill such vacancy.

Conflict-of-Interest Transactions

The Netherlands. Under Dutch law and our articles of association, our managing directors and supervisory directors shall not take part in any discussion or decision-making that involves a subject or transaction in relation to which he or she has a direct or indirect personal conflict of interest with us. Such a conflict of interest would generally arise if the managing director or supervisory director concerned is unable to serve our interests and the business connected with it with the required level of integrity and objectivity due to the existence of the conflicting personal interest. Our articles of association provide that if as a result of conflicts of interests no resolution of the management board can be adopted, the resolution may be passed by the supervisory board and that, if as a result of conflicts of interests no resolution of the supervisory board can be adopted, the resolution may nonetheless be adopted by the supervisory board as if none of the supervisory directors had a conflict of interest. In that case, each supervisory director is entitled to participate in the discussion and decision-making process and to cast a vote.

The DCGC provides the following best practice recommendations in relation to conflicts of interests in respect of managing directors or supervisory directors:

- A managing director should report any potential conflict of interest in a transaction that is of material significance to the company and/or to such person to the chairman of the supervisory board and to the other members of the management board without delay. The managing director should provide all relevant information in that regard, including the information relevant to the situation concerning his or her spouse, registered partner or other life companion, foster child and relatives by blood or marriage up to the second degree.
- A supervisory director should report any conflict of interest or potential conflict of interest in a transaction that is of material significance to the company and/or to such person to the chairman of the supervisory board without delay and should provide all relevant information in that regard, including the relevant information pertaining to his or her spouse, registered partner or other life companion, foster child and relatives by blood or marriage up to the second degree. If the chairman of the supervisory board has a conflict of interest or potential conflict of interest, he or she should report this to the vice-chairman of the supervisory board without delay.
- The supervisory board should decide, outside the presence of the managing director or supervisory director concerned, whether there is a conflict of interest.
- All transactions in which there are conflicts of interest with managing directors or supervisory directors should be agreed on terms that are customary in the market.
- Decisions to enter into transactions in which there are conflicts of interest with managing directors or supervisory directors that are of material significance to the company and/or to the relevant managing directors or supervisory directors should require the approval of the supervisory board. Such transactions should be published in the annual report, together with a description of the conflict of interest and a declaration that the relevant best practice provisions of the DCGC have been complied with.

Delaware. The Delaware General Corporation Law generally permits transactions involving a Delaware corporation and an interested director of that corporation if:

- the material facts as to the director's relationship or interest are disclosed and a majority of disinterested directors consent;

- the material facts are disclosed as to the director's relationship or interest and a majority of shares entitled to vote thereon consent; or
- the transaction is fair to the corporation at the time it is authorized by the board of directors, a committee of the board of directors or the stockholders.

Proxy Voting by Directors

The Netherlands. An absent managing director may issue a proxy for a specific management board meeting but only to another managing director in writing or by electronic means. An absent supervisory director may issue a proxy for a specific supervisory board meeting but only to another supervisory director in writing or by electronic means.

Delaware. A director of a Delaware corporation may not issue a proxy representing the director's voting rights as a director.

Shareholder Rights

Voting Rights

The Netherlands. In accordance with Dutch law and our articles of association, each issued common share confers the right to cast one vote at the general meeting. Each holder of shares may cast as many votes as it holds shares. No votes may be cast on shares that are held by us or our direct or indirect subsidiaries or on shares for which we or our subsidiaries hold depository receipts. Nonetheless, the holders of a right of use and enjoyment (*vruchtgebruik*) and the holders of a right of pledge (*pandrecht*) in respect of shares held by us or our subsidiaries in our share capital are not excluded from the right to vote on such shares, if the right of use and enjoyment (*vruchtgebruik*) or the right of pledge (*pandrecht*) was granted prior to the time such shares were acquired by us or any of our subsidiaries. Neither we nor any of our subsidiaries may cast votes in respect of a share on which we or such subsidiary holds a right of use and enjoyment (*vruchtgebruik*) or a right of pledge (*pandrecht*).

In accordance with our articles of association, for each general meeting, the management board may determine that a record date will be applied in order to establish which shareholders are entitled to attend and vote at the general meeting. Such record date shall be the 28th day prior to the day of the general meeting. The record date and the manner in which shareholders can register and exercise their rights will be set out in the notice of the meeting which must be published in a Dutch daily newspaper with national distribution at least 15 days prior to the meeting (and such notice may therefore be published after the record date for such meeting). Under our articles of association, shareholders and others with meeting rights under Dutch law must notify us in writing or by electronic means of their identity and intention to attend the general meeting. This notice must be received by us ultimately on the seventh day prior to the general meeting, unless indicated otherwise when such meeting is convened.

Delaware. Under the Delaware General Corporation Law, each stockholder is entitled to one vote per share of stock, unless the certificate of incorporation provides otherwise. In addition, the certificate of incorporation may provide for cumulative voting at all elections of directors of the corporation, or at elections held under specified circumstances. Either the certificate of incorporation or the bylaws may specify the number of shares and/or the amount of other securities that must be represented at a meeting in order to constitute a quorum, but in no event will a quorum consist of less than one-third of the shares entitled to vote at a meeting.

Stockholders as of the record date for the meeting are entitled to vote at the meeting, and the board of directors may fix a record date that is no more than 60 nor less than 10 days before the date of the meeting, and if no record date is set then the record date is the close of business on the day next preceding the day on which notice is given, or if notice is waived then the record date is the close of business on the day next preceding the day on which the meeting is held. The determination of the stockholders of record entitled to notice or to vote at a meeting of stockholders shall apply to any adjournment of the meeting, but the board of directors may fix a new record date for the adjourned meeting.

Shareholder Proposals

The Netherlands. Pursuant to our articles of association, extraordinary general meetings will be held whenever required under Dutch law or whenever our management board or supervisory board deems such to be appropriate or necessary. Pursuant to Dutch law, one or more shareholders or others with meeting rights under Dutch law representing at least one-tenth of the issued share capital may request us to convene a general meeting, setting out in detail the matters to be discussed. If we have not taken the steps necessary to ensure that such meeting can be held within six weeks after the request, the requesting party or parties may, on their application, be authorized by the competent Dutch court in preliminary relief proceedings to convene a general meeting.

Also, the agenda for a general meeting shall include such items requested by one or more shareholders, and others entitled to attend general meetings, representing at least 3% of the issued share capital, except where the articles of association state a lower percentage. Our articles of association do not state such lower percentage. Requests must be made in writing or by electronic means and received by us at least 60 days before the day of the meeting.

In accordance with the DCGC and our articles of association, a shareholder shall exercise the right of putting an item on the agenda only after consulting the management board in that respect. If one or more shareholders intend to request that an item be put on the agenda that may result in a change in the company's strategy (for example, the removal of managing directors or supervisory directors), the management board must be given the opportunity to invoke a reasonable period to respond to such intention. Such period shall not exceed 180 days (or such other period as may be stipulated for such purpose by Dutch law and/or the DCGC from time to time). If invoked, the management board must use such response period for further deliberation and constructive consultation, in any event with the shareholders(s) concerned, and shall explore the alternatives. At the end of the response time, the management board shall report on this consultation and the exploration of alternatives to the general meeting. This shall be supervised by our supervisory board. The response period may be invoked only once for any given general meeting and shall not apply: (a) in respect of a matter for which a response period has been previously invoked; or (b) if a shareholder holds at least 75% of the company's issued share capital as a consequence of a successful public bid. The response period may also be invoked in response to shareholders or others with meeting rights under Dutch law requesting that a general meeting be convened, as described above.

Delaware. Delaware law does not specifically grant stockholders the right to bring business before an annual or special meeting. However, if a Delaware corporation is subject to the SEC's proxy rules, a stockholder who owns at least $2,000 in market value, or 1% of the corporation's securities entitled to vote, may propose a matter for a vote at an annual or special meeting in accordance with those rules.

Action by Written Consent

The Netherlands. Under Dutch law, shareholders' resolutions may be adopted in writing without holding a meeting of shareholders, provided that (i) the articles of association allow such action by written consent, (ii) the company has not issued bearer shares or, with its cooperation, depository receipts for shares in its capital, and (iii) the resolution is adopted unanimously by all shareholders that are entitled to vote. Although our articles of association allow for shareholders' resolutions to be adopted in writing, the requirement of unanimity renders the adoption of shareholder resolutions without holding a meeting not feasible for us as a publicly traded company.

Delaware. Although permitted by Delaware law, publicly listed companies do not typically permit stockholders of a corporation to take action by written consent.

Appraisal Rights

The Netherlands. Subject to certain exceptions, Dutch law does not recognize the concept of appraisal or dissenters' rights. However, Dutch law does provide for squeeze-out procedures as described under "Dividends and Other Distributions — Squeeze-Out Procedures." Also, Dutch law provides for cash exit rights in certain situations for dissenting shareholders of a company organized under Dutch law entering into certain types of mergers. In those situations, a dissenting shareholder may file a claim with the Dutch

company for compensation. Such compensation shall then be determined by one or more independent experts. The shares of such shareholder that are subject to such claim will cease to exist as of the moment of entry into effect of the merger.

Delaware. The Delaware General Corporation Law provides for stockholder appraisal rights, or the right to demand payment in cash of the judicially determined fair value of the stockholder's shares, in connection with certain mergers and consolidations.

Shareholder Suits

The Netherlands. In the event a third-party is liable to a Dutch company, only the company itself can bring a civil action against that party. The individual shareholders do not have the right to bring an action on behalf of the company. Only in the event that the cause for the liability of a third-party to the company also constitutes a tortious act directly against a shareholder does that shareholder have an individual right of action against such third-party in its own name. Dutch law provides for the possibility to initiate such actions collectively, in which a foundation or an association can act as a class representative and has standing to commence proceedings and claim damages if certain criteria are met. The court will first determine if those criteria are met. If so, the case will go forward as a class action on the merits after a period allowing class members to opt out from the case has lapsed. All members of the class who are residents of the Netherlands and who did not opt-out will be bound to the outcome of the case. Residents of other countries must actively opt in in order to be able to benefit from the class action. The defendant is not required to file defenses on the merits prior to the merits phase having commenced. It is possible for the parties to reach a settlement during the merits phase. Such a settlement can be approved by the court, which approval will then bind the members of the class, subject to a second opt-out. This new regime applies to claims brought after January 1, 2020 and which relate to certain events that occurred prior to that date. For other matters, the old Dutch class actions regime will apply. Under the old regime, no monetary damages can be sought. Also, a judgment rendered under the old regime will not bind individual class members. Even though Dutch law does not provide for derivative suits, directors and officers can still be subject to liability under U.S. securities laws.

Delaware. Under the Delaware General Corporation Law, a stockholder may bring a derivative action on behalf of the corporation to enforce the rights of the corporation. An individual also may commence a class action suit on behalf of himself and other similarly situated stockholders where the requirements for maintaining a class action under Delaware law have been met. A person may institute and maintain such a suit only if that person was a stockholder at the time of the transaction which is the subject of the suit. In addition, under Delaware case law, the plaintiff normally must be a stockholder at the time of the transaction that is the subject of the suit and throughout the duration of the derivative suit. Delaware law also requires that the derivative plaintiff make a demand on the directors of the corporation to assert the corporate claim before the suit may be prosecuted by the derivative plaintiff in court, unless such a demand would be futile.

Repurchase of Shares

The Netherlands. Under Dutch law, when issuing shares, a public company such as ours may not subscribe for newly issued shares in its own capital. Such company may, however, subject to certain restrictions of Dutch law and its articles of association, acquire shares in its own capital. A listed public company such as ours may acquire fully paid shares in its own capital at any time for no valuable consideration. Furthermore, subject to certain provisions of Dutch law and its articles of association, such company may repurchase fully paid shares in its own capital if (i) the company's shareholders' equity less the payment required to make the acquisition does not fall below the sum of paid-in and called-up share capital plus any reserves required by Dutch law or its articles of association and (ii) the aggregate nominal value of shares of the company which the company acquires, holds or on which the company holds a pledge (*pandrecht*) or which are held by a subsidiary of the company, would not exceed 50% of its then-current issued share capital. Such company may only acquire its own shares if its general meeting has granted the management board the authority to effect such acquisitions.

An acquisition of common shares for a consideration must be authorized by our general meeting. Such authorization may be granted for a maximum period of 18 months and must specify the number of

common shares that may be acquired, the manner in which common shares may be acquired and the price limits within which common shares may be acquired. The actual acquisition may only be effected pursuant to a resolution of our management board, with the approval of our supervisory board. Prior to the closing of this offering, our management board, subject to approval by our supervisory board, will be authorized, for a period of 18 months to cause the repurchase of common shares by us of up to 20% of our issued share capital, for a price per share not exceeding 110% of the average market price of our common shares on Nasdaq (such average market price being the average of the closing prices on each of the five consecutive trading days preceding the date the acquisition is agreed upon by us). These shares may be used to deliver shares underlying awards granted pursuant to our equity-based compensation plans.

Our management board, subject to approval by our supervisory board, will also be authorized, for a period of 18 months to cause the repurchase of preferred shares, for a price which is higher than nil and does not exceed the nominal value thereof. No authorization of the general meeting is required if fully paid common shares are acquired by us with the intention of transferring such common shares to our employees under an applicable employee share purchase plan.

Delaware. Under the Delaware General Corporation Law, a corporation may purchase or redeem its own shares unless the capital of the corporation is impaired or the purchase or redemption would cause an impairment of the capital of the corporation. A Delaware corporation may, however, purchase or redeem out of capital any of its preferred shares or, if no preferred shares are outstanding, any of its own shares if such shares will be retired upon acquisition and the capital of the corporation will be reduced in accordance with specified limitations.

Anti-Takeover Provisions

The Netherlands. Under Dutch law, various protective measures are possible and permissible within the boundaries set by Dutch law and Dutch case law. In this respect, certain provisions of our articles of association may make it more difficult for a third-party to acquire control of us or effect a change in our management board and supervisory board. These provisions include:

- the authorization of a class of preferred shares that, after the initial period, may be issued to a protective foundation pursuant to a call option to that effect, see "Risk factors — Provisions of our articles of association or Dutch corporate law might deter acquisition bids for us that might be considered favorable and prevent, delay or frustrate any attempt to replace or remove the members of our managing directors or supervisory directors."
- a provision that our managing directors and supervisory directors are appointed on the basis of a binding nomination, which can only be overruled by a simple majority of votes cast representing at least one-third of our issued share capital;
- a provision that our managing directors and supervisory directors may only be dismissed by the general meeting by a two-thirds majority of votes cast representing more than 50% of our issued share capital (unless the dismissal is proposed by the supervisory board or, during the initial period with respect to supervisory directors, by dievini (or its legal successor) in which case a simple majority of the votes would be sufficient);
- a provision allowing, among other matters, the former chairman of our supervisory board or our former CEO, as applicable, to manage our affairs if all of our managing directors and supervisory directors are removed from office and to appoint others to be charged with the management and supervision of our affairs, until new managing directors and supervisory directors are appointed by the general meeting on the basis of a binding nomination discussed above; and
- a requirement that certain matters, including an amendment of our articles of association, may only be brought to our shareholders for a vote upon a proposal by our management board.

In addition, Dutch law allows for staggered multi-year terms of our managing directors and supervisory directors, as a result of which only part of our managing directors and supervisory directors may be subject to appointment or re-appointment in any one year.

Delaware. In addition to other aspects of Delaware law governing fiduciary duties of directors during a potential takeover, the Delaware General Corporation Law also contains a business combination

statute that protects Delaware companies from hostile takeovers and from actions following the takeover by prohibiting some transactions once an acquirer has gained a significant holding in the corporation.

Section 203 of the Delaware General Corporation Law prohibits "business combinations," including mergers, sales and leases of assets, issuances of securities and similar transactions by a corporation or a subsidiary with an interested stockholder that beneficially owns 15% or more of a corporation's voting stock, within three years after the person becomes an interested stockholder, unless:

- the transaction that will cause the person to become an interested stockholder is approved by the board of directors of the target prior to the transactions;
- after the completion of the transaction in which the person becomes an interested stockholder, the interested stockholder holds at least 85% of the voting stock of the corporation not including shares owned by persons who are directors and officers of interested stockholders and shares owned by specified employee benefit plans; or
- after the person becomes an interested stockholder, the business combination is approved by the board of directors of the corporation and holders of at least 66.67% of the outstanding voting stock, excluding shares held by the interested stockholder.

A Delaware corporation may elect not to be governed by Section 203 by a provision contained in the original certificate of incorporation of the corporation or an amendment to the original certificate of incorporation or to the bylaws of the company, which amendment must be approved by a majority of the shares entitled to vote and may not be further amended by the board of directors of the corporation. Such an amendment is not effective until 12 months following its adoption.

Inspection of Books and Records

The Netherlands. The management board and the supervisory board provide the general meeting, within a reasonable amount of time, all information that the shareholders require for the exercise of their powers, unless this would be contrary to an overriding interest of our company. If the management board or supervisory board invokes such an overriding interest, it must give reasons.

Delaware. Under the Delaware General Corporation Law, any stockholder may inspect for any proper purpose certain of the corporation's books and records during the corporation's usual hours of business.

Dismissal of Directors

The Netherlands. Under our articles of association, the general meeting shall at all times be entitled to dismiss a managing director or supervisory director. The general meeting may only adopt a resolution to suspend or dismiss a managing director or supervisory director by at least a two-thirds majority of the votes cast, provided that such majority represents more than half of the issued share capital, unless the proposal was made by the supervisory board or, during the initial period with respect to supervisory directors, by dievini (or its legal successor), in which latter case a simple majority is sufficient.

Delaware. Under the Delaware General Corporation Law, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, except (i) unless the certificate of incorporation provides otherwise, in the case of a corporation whose board is classified, stockholders may effect such removal only for cause, or (ii) in the case of a corporation having cumulative voting, if less than the entire board is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him if then cumulatively voted at an election of the entire board of directors, or, if there are classes of directors, at an election of the class of directors of which he or she is a part.

Issuance of Shares

The Netherlands. Under Dutch law, a company's general meeting is the corporate body authorized to resolve on the issuance of shares and the granting of rights to subscribe for shares. The general meeting can delegate such authority to another corporate body of the company, such as the management board, for a

period not exceeding five years; this authorization may only be extended from time to time for a maximum period of five years. In order for a resolution of the general meeting on an issuance or an authorization as discussed in the previous sentence to be valid, a prior or simultaneous approval shall be required from each meeting of holders of a certain class of shares whose rights are prejudiced by the issuance.

Prior to the closing of this offering, our management board, with the approval of our supervisory board, will be authorized, for a period of five years, to issue shares or grant rights to subscribe for shares up to our authorized share capital from time to time. We may not subscribe for our own shares on issue.

Delaware. All creation of shares require the board of directors to adopt a resolution or resolutions, pursuant to authority expressly vested in the board of directors by the provisions of the company's certificate of incorporation.

Preemptive Rights

The Netherlands. Under Dutch law, in the event of an issuance of common shares, each shareholder will have a pro rata preemptive right in proportion to the aggregate nominal value of the common shares held by such holder (with the exception of common shares to be issued to employees or common shares issued against a contribution other than in cash or pursuant to the exercise of a previously acquired right to subscribe for shares). Our preferred shares carry no preemptive rights. Under our articles of association, the preemptive rights in respect of newly issued common shares may be restricted or excluded by a resolution of the general meeting. Another corporate body, such as the management board, may restrict or exclude the preemptive rights in respect of newly issued common shares if it has been designated as the authorized body to do so by the general meeting. Such designation can be granted for a period not exceeding five years. A resolution of the general meeting to restrict or exclude the preemptive rights or to designate another corporate body as the authorized body to do so requires a majority of not less than two-thirds of the votes cast, if less than one-half of our issued share capital is represented at the meeting. Prior to the closing of this offering, our management board, with the approval of our supervisory board, will be authorized, for a period not exceeding five years to limit or exclude preemptive rights in relation to an issuance of shares or a grant of rights to subscribe for shares that the management board is authorized to resolve upon (see above under "Issuance of Shares").

Delaware. Under the Delaware General Corporation Law, stockholders have no preemptive rights to subscribe for additional issues of stock or to any security convertible into such stock unless, and to the extent that, such rights are expressly provided for in the certificate of incorporation.

Dividends

The Netherlands. Dutch law provides that dividends (if it concerns a distribution of profits) may be distributed after adoption of the annual accounts by the general meeting from which it appears that such dividend distribution is allowed. Moreover, dividends may be distributed, whether as a distribution of profits or of freely distributable reserves, only to the extent the shareholders' equity exceeds the amount of the paid-in and called-up issued share capital and the reserves that must be maintained under the law or the articles of association. Interim dividends may be declared as provided in the articles of association and may be distributed to the extent that the shareholders' equity exceeds the amount of the paid-in and called-up issued share capital plus any reserves as described above as apparent from our interim financial statements prepared under Dutch law.

Under our articles of association, our management board, with the approval of our supervisory board, may decide that all or part of the profits are carried to reserves. After reservation of any profit, if any preferred shares are outstanding, the preferred dividend is first paid out of the remaining profit on the preferred shares in accordance with our articles of association. The remaining profit will be at the disposal of the general meeting for distribution on the common shares, subject to restrictions of Dutch law and approval by our supervisory board. Our management board is permitted, subject to certain requirements, to declare interim dividends without the approval of the general meeting, but only with the approval of the supervisory board. Dividends and other distributions shall be made payable not later than the date determined by the management board. Claims to dividends and other distributions not made within five years from

the date that such dividends or distributions became payable will lapse and any such amounts will be considered to have been forfeited to us (*verjaring*).

Delaware. Under the Delaware General Corporation Law, a Delaware corporation may pay dividends out of its surplus (the excess of net assets over capital), or in case there is no surplus, out of its net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year (provided that the amount of the capital of the corporation is not less than the aggregate amount of the capital represented by the issued and outstanding stock of all classes having a preference upon the distribution of assets). In determining the amount of surplus of a Delaware corporation, the assets of the corporation, including stock of subsidiaries owned by the corporation, must be valued at their fair market value as determined by the board of directors, without regard to their historical book value. Dividends may be paid in the form of common stock, property or cash.

Shareholder Vote on Certain Reorganizations

The Netherlands. Under Dutch law, the general meeting must approve resolutions of the management board relating to a significant change in the identity or the character of the company or the business of the company, which includes:

- a transfer of the business or virtually the entire business to a third-party;
- the entry into or termination of a long-term cooperation of the company or a subsidiary with another legal entity or company or as a fully liable partner in a limited partnership or general partnership, if such cooperation or termination is of a far-reaching significance for the company; and
- the acquisition or divestment by the company or a subsidiary of a participating interest in the capital of a company having a value of at least one-third of the amount of its assets according to its balance sheet and explanatory notes or, if the company prepares a consolidated balance sheet, according to its consolidated balance sheet and explanatory notes in the last adopted annual accounts of the company.

Delaware. Under the Delaware General Corporation Law, the vote of a majority of the outstanding shares of capital stock entitled to vote thereon generally is necessary to approve a merger or consolidation or the sale of all or substantially all of the assets of a corporation. The Delaware General Corporation Law permits a corporation to include in its certificate of incorporation a provision requiring for any corporate action the vote of a larger portion of the stock or of any class or series of stock than would otherwise be required.

Under the Delaware General Corporation Law, no vote of the stockholders of a surviving corporation to a merger is needed, however, unless required by the certificate of incorporation, if (i) the agreement of merger does not amend in any respect the certificate of incorporation of the surviving corporation, (ii) the shares of stock of the surviving corporation are not changed in the merger and (iii) the number of shares of common stock of the surviving corporation into which any other shares, securities or obligations to be issued in the merger may be converted does not exceed 20% of the surviving corporation's common stock outstanding immediately prior to the effective date of the merger. In addition, stockholders may not be entitled to vote in certain mergers with other corporations that own 90% or more of the outstanding shares of each class of stock of such corporation, but the stockholders will be entitled to appraisal rights.

Remuneration of Managing Directors and Supervisory Directors

The Netherlands.

The supervisory board determines the remuneration of individual managing directors with due observance of the compensation policy at the recommendation of our compensation committee. A proposal with respect to remuneration schemes in the form of shares or rights to shares in which managing directors may participate is subject to approval by our general meeting. Such a proposal must set out at least the

maximum number of shares or rights to subscribe for shares to be granted to the managing directors and the criteria for granting or amendment. The compensation for our supervisory directors is set by the general meeting.

Delaware. Under the Delaware General Corporation Law, the stockholders do not generally have the right to approve the compensation policy for directors or the senior management of the corporation, although certain aspects of the compensation policy may be subject to stockholder vote due to the provisions of U.S. federal securities and tax law.

COMMON SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no market for our common shares. Future sales of substantial amounts of our common shares in the public market could adversely affect market prices prevailing from time to time. Furthermore, because only a limited number of common shares will be available for sale shortly after this offering due to existing contractual and legal restrictions on resale as described below, there may be sales of substantial amounts of our common shares in the public market after such restrictions lapse. This may adversely affect the prevailing market price and our ability to raise equity capital in the future.

Upon completion of this offering, we will have common shares outstanding assuming the exercise in full of the underwriters' option to purchase additional common shares. Of these shares, common shares, or common shares if the underwriters exercise their option in full to purchase additional common shares, sold in this offering will be freely transferable without restriction or registration under the Securities Act, except for any common shares purchased by one of our existing "affiliates," as that term is defined in Rule 144 under the Securities Act. The remaining common shares existing are "restricted shares" as defined in Rule 144. Restricted shares may be sold in the public market only if registered or if they qualify for an exemption from registration under Rules 144 or 701 of the Securities Act. As a result of the contractual 180-day lock-up period described below and the provisions of Rules 144 and 701, these shares will be available for sale in the public market as follows:

Rule 144

In general, a person who has beneficially owned our common shares that are restricted shares for at least six months would be entitled to sell such securities, provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale and (ii) we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Persons who have beneficially owned our common shares that are restricted shares for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of our common shares then outstanding, which will equal approximately common shares immediately after this offering, assuming no exercise of the underwriters' option to purchase additional shares; or
- the average weekly trading volume of our common shares on The Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale; provided, in each case, that we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144 to the extent applicable.

Rule 701

In general, under Rule 701, any of our employees, managing directors, supervisory directors, officers, consultants or advisors who purchases shares from us in connection with a compensatory share or option plan or other written agreement before the effective date of this offering is entitled to resell such shares 90 days after the effective date of this offering in reliance on Rule 144, without having to comply with the holding period requirements or other restrictions contained in Rule 701.

The SEC has indicated that Rule 701 will apply to typical share options granted by an issuer before it becomes subject to the reporting requirements of the Exchange Act, along with the shares acquired upon exercise of such options, including exercises after the date of this prospectus. Securities issued in reliance on Rule 701 are restricted securities and, subject to the contractual restrictions described below, beginning 90 days after the date of this prospectus, may be sold by persons other than "affiliates," as defined in Rule 144, subject only to the manner of sale provisions of Rule 144 and by "affiliates" under Rule 144 without compliance with its one-year minimum holding period requirement.

Regulation S

Regulation S provides generally that sales made in offshore transactions are not subject to the registration or prospectus-delivery requirements of the Securities Act.

Lock-Up agreements

All of our managing directors and supervisory directors and the holders of substantially all of our common shares have agreed, subject to limited exceptions, not to offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise dispose of, directly or indirectly, or enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the common shares or such other securities for a period of 180 days after the date of this prospectus, subject to certain exceptions, without the prior written consent of BofA Securities, Inc. and Jefferies LLC. See “Underwriting.”

TAXATION

The following summary contains a description of certain Dutch, German and U.S. federal income tax consequences of the acquisition, ownership and disposition of common shares, but it does not purport to be a comprehensive description of all the tax considerations that may be relevant to a decision to purchase common shares. The summary is based upon the tax laws of the Netherlands and regulations thereunder, the tax laws of Germany and regulations thereunder and the tax laws of the United States and regulations thereunder as of the date hereof, which are subject to change. You should consult your tax advisor regarding the applicable tax consequences to you of investing in our common shares.

Material Dutch Tax Considerations

General

The following is a general summary of certain material Dutch tax consequences of the acquisition, ownership and disposal of our common shares. This summary does not purport to set forth all possible tax considerations or consequences that may be relevant to a holder or prospective holder or our common shares and does not purport to deal with the tax consequences applicable to all categories of investors, some of which (such as trusts or similar arrangements) may be subject to special rules. In view of its general nature, it should be treated with corresponding caution.

This summary is based on the tax laws of the Netherlands, published regulations thereunder and published authoritative case law, all as in effect on the date hereof, and all of which are subject to change, possibly with retroactive effect. Where the summary refers to "the Netherlands" or "Dutch" it refers only to the part of the Kingdom of the Netherlands located in Europe.

This discussion is for general information purposes and is not tax advice or a complete description of all Dutch tax consequences relating to the acquisition, ownership and disposal of our common shares. Holders or prospective holders of our common shares should consult their own tax advisor regarding the tax consequences relating to the acquisition, holding and disposal of our common shares in light of their particular circumstances.

Please note that this section does not set forth the tax considerations for:

- holders of common shares if such holders, and in the case of individuals, such holder's partner or certain relatives by blood or marriage in the direct line (including foster children), have a substantial interest (*aanmerkelijk belang*) or deemed substantial interest (*fictief aanmerkelijk belang*) in us within the meaning of chapter 4 of the Dutch Income Tax Act 2001 (*Wet inkomstenbelasting 2001*). Generally, a holder of securities in a company is considered to hold a substantial interest in such company if such holder alone or, in the case of individuals, together with such holder's partner (as defined in the Dutch Income Tax Act 2001), directly or indirectly holds (i) an interest of 5% or more of the total issued and outstanding capital of that company or of 5% or more of the issued and outstanding capital of a certain class of shares of that company; or (ii) rights to acquire, directly or indirectly, such interest; or (iii) certain profit sharing rights in that company that relate to 5% or more of the company's annual profits and/or to 5% or more of the company's liquidation proceeds. A deemed substantial interest exists if a substantial interest (or part thereof) in a company has been disposed of, or is deemed to have been disposed of, on a non-recognition basis;
- holders of common shares that are not an individual and for which the common shares qualify or qualified as a participation (*deelneming*) for purposes of the participation exemption (*deelnemingsvrijstelling*) as defined in Section 13 of the Dutch Corporate Income Tax Act 1969 (*Wet op de vennootschapsbelasting 1969*). Generally, the common shares qualify as a participation as a result of which the participation exemption applies to the common shares if the holder of common shares is subject to Dutch corporate income tax and it, or a related entity, holds 5% or more in our nominal paid-in share capital (or, in certain cases, in voting rights);
- pension funds, investment institutions (*fiscale beleggingsinstellingen*), exempt investment institutions (*vrijgestelde beleggingsinstellingen*) (as defined in the Dutch Corporate Income Tax

Act 1969) and other entities that are, in whole or in part, not subject to or exempt from corporate income tax in the Netherlands; and

- holders of common shares who are individuals and for whom the common shares or any benefit derived from the common shares are a remuneration or deemed to be a remuneration for (employment) activities performed by such holders or certain individuals related to such holders (as defined in the Dutch Income Tax Act 2001).

Dividend Withholding Tax

Dividends distributed by us generally are subject to Dutch dividend withholding tax at a rate of 15%. Generally, we are responsible for the withholding of such dividend withholding tax at source; the Dutch dividend withholding tax is for the account of the holder of our common shares.

However, as long as we continue to have our place of effective management solely in Germany, and not in the Netherlands, under the double tax treaty between Germany and the Netherlands, we will be considered to be exclusively tax resident in Germany and we will not be required to withhold Dutch dividend withholding tax. This exemption from withholding does not apply to dividends distributed by us to a holder who is resident or deemed to be resident in the Netherlands for Dutch income tax purposes or to holders of common shares that are neither resident nor deemed to be resident of the Netherlands if the common shares are attributable to a Dutch permanent establishment of such non-resident holder, in which case the following paragraph applies. See also "Risk factors — If we do pay dividends, we may need to withhold tax on such dividends payable to holders of our shares in both Germany and the Netherlands."

Dividends distributed by us to individuals and corporate legal entities who are resident or deemed to be resident in the Netherlands for Dutch income tax purposes ("Dutch Resident Individuals" and "Dutch Resident Entities," as the case may be) or to holders of common shares that are neither resident nor deemed to be resident of the Netherlands if the common shares are attributable to a Dutch permanent establishment of such non-resident holder are subject to Dutch dividend withholding tax at a rate of 15%.

The expression "dividends distributed" includes, among other things:

- distributions in cash or in kind, deemed and constructive distributions and repayments of paid-in capital not recognized for Dutch dividend withholding tax purposes;
- liquidation proceeds, proceeds of redemption of common shares, or proceeds of the repurchase of common shares by us or one of our subsidiaries or other affiliated entities to the extent such proceeds exceed the average paid-in capital of those common shares as recognized for purposes of Dutch dividend withholding tax;
- an amount equal to the par value of common shares issued or an increase of the par value of common shares, to the extent that it does not appear that a related contribution, recognized for purposes of Dutch dividend withholding tax, has been made or will be made; and
- partial repayment of the paid-in capital, recognized for purposes of Dutch dividend withholding tax, if and to the extent that we have net profits (*zuivere winst*), unless (i) the general meeting has resolved in advance to make such repayment and (ii) the par value of the common shares concerned has been reduced by an equal amount by way of an amendment of our articles of association.

Dutch Resident Individuals and Dutch Resident Entities generally are entitled to an exemption or a credit for any Dutch dividend withholding tax against their income tax or corporate income tax liability and to a refund of any residual Dutch dividend withholding tax. The same generally applies to holders of common shares that are neither resident nor deemed to be resident of the Netherlands if the common shares are attributable to a Dutch permanent establishment of such non-resident holder.

Dividend stripping

Pursuant to legislation to counteract "dividend stripping," a reduction, exemption, credit or refund of Dutch dividend withholding tax is denied if the recipient of the dividend is not the beneficial owner (*uiteindelijk gerechtigde*) of the dividend.

The Dutch Dividend Withholding Tax Act 1965 (*Wet op de dividendbelasting 1965*) provides for a non-exhaustive negative description of a beneficial owner. According to this act, a holder of common shares will not be considered the beneficial owner of the dividends if as a consequence of a combination of transactions:

- a person other than the holder of common shares wholly or partly, directly or indirectly, benefits from the dividends;
- whereby this other person retains or acquires, directly or indirectly, an interest similar to that in our common shares on which the dividends were paid; and
- that other person is entitled to a credit, reduction or refund of Dutch dividend withholding tax that is less than that of the holder of common shares.

The Dutch State Secretary of Finance takes the position that the definition of beneficial owner introduced by this legislation will also be applied in the context of a double taxation convention.

Taxes on Income and Capital Gains

Dutch Resident Entities

Generally speaking, if the holder of common shares is a Dutch Resident Entity, any benefits derived or deemed to be derived from the common shares or any gain or loss realized on the disposal or deemed disposal of the common shares is subject to Dutch corporate income tax at a rate of 16.5% with respect to taxable profits up to €200,000 and 25% with respect to taxable profits in excess of that amount (rates and brackets for 2020).

Dutch Resident Individuals

If the holder of common shares is a Dutch Resident Individual, any benefits derived or deemed to be derived from the common shares or any gain or loss realized on the disposal or deemed disposal of the common shares is taxable at the progressive Dutch income tax rates (with a maximum of 49.50% in 2020), if:

(i) the common shares are attributable to an enterprise from which the holder of common shares derives a share of the profit, whether as an entrepreneur (*ondernemer*) or as a person who has a co-entitlement to the net worth (*medegerechtigd tot het vermogen*) of such enterprise without being a shareholder (as defined in the Dutch Income Tax Act 2001); or

(ii) the holder of common shares is considered to perform activities with respect to the common shares that go beyond ordinary asset management (*normaal, actief vermogensbeheer*) or derives benefits from the common shares that are taxable as benefits from other activities (*resultaat uit overige werkzaamheden*).

If the above-mentioned conditions (i) and (ii) do not apply to the individual holder of common shares, such holder will be taxed annually on a deemed return (with a maximum of 5.28% in 2020) on the individual's net investment assets (*rendementsgrondslag*) for the year, insofar the individual's net investment assets for the year exceed a statutory threshold (*heffingvrij vermogen*). The deemed return on the individual's net investment assets for the year is taxed at a flat rate of 30%. Actual income, gains or losses in respect of the common shares are as such not subject to Dutch income tax.

The net investment assets for the year are the fair market value of the investment assets less the allowable liabilities on January 1 of the relevant calendar year. The common shares are included as investment assets. For the net investment assets on January 1, 2020, the deemed return ranges from 1.7893% up to 5.28% (depending on the aggregate amount of the net investment assets of the individual on January 1, 2020). The deemed return will be adjusted annually on the basis of historic market yields.

Non-residents of the Netherlands

A holder of common shares that is neither a Dutch Resident Entity nor a Dutch Resident Individual will not be subject to Dutch taxes on income or capital gains in respect of any payment under the common shares or in respect of any gain or loss realized on the disposal or deemed disposal of the common shares, provided that:

(i) such holder does not have an interest in an enterprise or deemed enterprise (as defined in the Dutch Income Tax Act 2001 and the Dutch Corporate Income Tax Act 1969) which, in whole or in part, is either effectively managed in the Netherlands or carried on through a permanent establishment, a deemed permanent establishment or a permanent representative in the Netherlands and to which enterprise or part of an enterprise the common shares are attributable; and

(ii) in the event the holder is an individual, such holder does not carry out any activities in the Netherlands with respect to the common shares that go beyond ordinary asset management and does not derive benefits from the common shares that are taxable as benefits from other activities in the Netherlands.

Gift and Inheritance Taxes

Residents of the Netherlands

Gift or inheritance taxes will arise in the Netherlands with respect to a transfer of common shares by way of a gift by, or on the death of, a holder of such common shares who is resident or deemed resident of the Netherlands at the time of the gift or the holder's death.

Non-residents of the Netherlands

No gift or inheritance taxes will arise in the Netherlands with respect to a transfer of common shares by way of gift by, or on the death of, a holder of common shares who is neither resident nor deemed to be resident of the Netherlands, unless:

(i) in the case of a gift of common shares by an individual who at the date of the gift was neither resident nor deemed to be resident of the Netherlands, such individual dies within 180 days after the date of the gift, while being resident or deemed to be resident of the Netherlands; or

(ii) the transfer is otherwise construed as a gift or inheritance made by, or on behalf of, a person who, at the time of the gift or death, is or is deemed to be resident of the Netherlands.

For purposes of Dutch gift and inheritance taxes, among others, a person that holds the Dutch nationality will be deemed to be resident of the Netherlands if such person has been resident in the Netherlands at any time during the ten (10) years preceding the date of the gift or such person's death. Additionally, for purposes of Dutch gift tax, amongst others, a person not holding the Dutch nationality will be deemed to be resident of the Netherlands if such person has been resident in the Netherlands at any time during the twelve (12) months preceding the date of the gift. Applicable tax treaties may override deemed residency.

Value Added Tax (VAT)

No Dutch VAT will be payable by a holder of common shares in respect of any payment in consideration for the holding or disposal of the common shares.

Other Taxes and Duties

No Dutch registration tax, stamp duty or any other similar documentary tax or duty will be payable by a holder of common shares in respect of any payment in consideration for the holding or disposal of the common shares.

Material German Tax Considerations

The following section is the opinion of FALK GmbH & Co KG ("German Tax Counsel") of the material German tax considerations that become relevant when purchasing, holding or transferring the company's shares. The company expects and intends to have its sole place of management in Germany and, therefore, qualifies as a corporation subject to German unlimited income taxation; however, because a company's tax residency depends on future facts regarding the location in which the company is managed and controlled, German Tax Counsel cannot opine as to whether the company will actually qualify as a

corporation subject to German unlimited income taxation. This section does not set forth all German tax aspects that may be relevant for shareholders. The section is based on the German tax law applicable as of the date of this Prospectus. It should be noted that the law may change following the issuance of this Prospectus and that such changes may have retroactive effect.

The material German tax principles of purchasing, owning and transferring of shares are set forth in the following. This section does not purport to be a comprehensive or complete analysis or listing of all potential tax effects of the purchase, ownership or disposition of shares and does not set forth all tax considerations that may be relevant to a particular person's decision to acquire common shares. All of the following is subject to change. Such changes could apply retroactively and could affect the consequences set forth below. This section does not refer to any U.S. Foreign Account Tax Compliance Act aspects.

Shareholders are advised to consult their own tax advisers with regard to the application of German tax law to their particular situations, in particular with respect to the procedure to be complied with to obtain a relief of withholding tax on dividends and on capital gains (*Kapitalertragsteuer*) and with respect to the influence of double tax treaty provisions, as well as any tax consequences arising under the laws of any state, local or other foreign jurisdiction. For German tax purposes, a shareholder may include an individual who or an entity that does not have the legal title to the shares, but to whom nevertheless the shares are attributed, based either on such individual or entity owning a beneficial interest in the shares or based on specific statutory provisions.

This section does not constitute a particular tax advice. Potential purchasers of the company's shares are urged to consult their own tax advisers regarding the tax consequences of the purchase, ownership and disposition of shares in light of their particular circumstances.

Dividends Tax

Withholding Tax on Dividends

Dividends distributed from a company to its shareholders are subject to withholding tax, subject to certain exemptions (for example, repayments of capital from the tax equity account (*steuerliches Einlagekonto*)), as described in the following. The withholding tax rate is 25% plus 5.5% solidarity surcharge (*Solidaritätszuschlag*) thereon (in total 26.375%) of the gross dividend approved by the ordinary shareholders' meeting. Withholding tax is to be withheld and passed on for the account of the shareholders by a domestic branch of a domestic or foreign credit or financial services institution (*Kredit- und Finanzdienstleistungsinstitut*), by the domestic securities trading company (*inländisches Wertpapierhandelsunternehmen*) or a domestic securities trading bank (*inländische Wertpapierhandelsbank*) which keeps and administers the shares and disburses or credits the dividends or disburses the dividends to a foreign agent, or by the securities custodian bank (*Wertpapiersammelbank*) to which the shares were entrusted for collective custody if the dividends are distributed to a foreign agent by such securities custodian bank (which is referred to as the "Dividend Paying Agent"). In case the shares are not held in collective deposit with a Dividend Paying Agent, the company is responsible for withholding and remitting the tax to the competent tax office.

Such withholding tax is levied and withheld irrespective of whether and to what extent the dividend distribution is taxable at the level of the shareholder and whether the shareholder is a person residing in Germany or in a foreign country.

In the case of dividends distributed to a company within the meaning of Art. 2 of the amended EU Directive 2011/96/EU of the Council of November 30, 2011 (the "EU Parent Subsidiary Directive") domiciled in another Member State of the European Union, an exemption from withholding tax will begranted upon request if further prerequisites are satisfied (*Freistellung im Steuerabzugsverfahren*). This also applies to dividends distributed to a permanent establishment located in another Member State of the European Union of such a parent company or of a parent company tax resident in Germany if the participation in the company is effectively connected with this permanent establishment. The key prerequisite for the application of the EU Parent Subsidiary Directive is that the shareholder has held a direct participation in the share capital of the company of at least 10% for at least one year.

The withholding tax on distributions to other foreign resident shareholders is reduced in accordance with a double taxation treaty if Germany has concluded such double taxation treaty with the country of residence of the shareholder and if the shareholder does not hold his shares either as part of the assets of a permanent establishment or a fixed place of business in Germany or as business assets for which a permanent representative has been appointed in Germany. The reduction of the withholding tax is procedurally granted in such a manner that the difference between the total amount withheld, including the solidarity surcharge, and the tax liability determined on the basis of the tax rate set forth in the applicable double taxation treaty (15% unless further qualifications are met) is refunded by the German tax administration upon request (Federal Central Office for Taxes (*Bundeszentralamt für Steuern*), main office in Bonn-Beuel, An der Küppe 1, 53225 Bonn, Germany).

In the case of dividends received by corporations whose statutory seat and effective place of management are not located in Germany and who are therefore not tax resident in Germany, two-fifths of the withholding tax deducted and remitted are refunded without the need to fulfill all prerequisites required for such refund under the EU Parent Subsidiary Directive or under a double taxation treaty or if no double taxation treaty has been concluded between the state of residence of the shareholder.

In order to receive a refund pursuant to a double taxation treaty or the aforementioned option for foreign corporations, the shareholder has to submit a completed form for refund (available at the Federal Central Office for Taxes (http://www.bzst.de) as well as at the German embassies and consulates) together with a withholding tax certificate (*Kapitalertragsteuerbescheinigung*) issued by the institution that withheld the tax.

The exemption from withholding tax in accordance with the EU Parent Subsidiary Directive or a double tax treaty and the aforementioned options for a refund of the withholding tax (with or without protection under a double taxation treaty) depend on whether certain additional prerequisites (in particular so-called substance requirements) are fulfilled. The applicable withholding tax relief will only be granted if the preconditions of the German anti avoidance rules (so called Directive Override or Treaty Override), in particular Section 50d, paragraph 3, German Income Tax Act (*Einkommensteuergesetz*) are fulfilled. In addition, Article 28 of the Convention between the Federal Republic of Germany and the United States of America for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income and Capital and to certain other Taxes of August 29, 1989 in the amended version of June 4, 2008 (*Bundesgesetzblatt II 2008*, p. 611) provides for further prerequisites that need to be fulfilled in case of a shareholder who is resident of the United States.

The aforementioned reductions of (or exemptions from) withholding tax are further restricted if (i) the applicable double taxation treaty provides for a tax reduction resulting in an applicable tax rate of less than 15% and (ii) the shareholder is not a corporation that directly holds at least 10% in the equity capital of the company and is subject to tax on its income and profits in its state of residence without being exempt. In this case, the reduction of (or exemption from) withholding tax is subject to the following three cumulative prerequisites: (i) the shareholder must qualify as beneficial owner of the shares in the company for a minimum holding period of 45 consecutive days occurring within a period of 45 days prior and 45 days after the due date of the dividends, (ii) the shareholder has to bear at least 70% of the change in value risk related to the shares in the company during the minimum holding period without being directly or indirectly hedged and (iii) the shareholder must not be required to fully or largely compensate directly or indirectly the dividends to third parties. However, these further prerequisites do not apply if the shareholder has been the beneficial owner of the shares in the company for at least one uninterrupted year upon receipt of the dividends.

For individual or corporate shareholders tax resident outside Germany not holding the shares through a permanent establishment (*Betriebsstätte*) in Germany or as business assets (*Betriebsvermögen*) for which a permanent representative (*ständiger Vertreter*) has been appointed in Germany, the remaining and paid withholding tax (if any) is final (i.e., not refundable) and settles the shareholder's limited tax liability in Germany. For individual or corporate shareholders tax resident in Germany (that are, for example, shareholders whose residence, domicile, registered office or place of management is located in Germany) holding their shares as business assets, as well as for shareholders tax resident outside of Germany holding their shares through a permanent establishment in Germany or as business assets for which a permanent representative has been appointed in Germany, the withholding tax withheld (including solidarity

surcharge) can be credited against the shareholder's personal income tax or corporate income tax liability in Germany. Any withholding tax (including solidarity surcharge) in excess of such tax liability is refunded. For individual shareholders tax resident in Germany holding the company's shares as private assets, the withholding tax is a final tax (*Abgeltungsteuer*), subject to the exceptions described in the following section.

Pursuant to special rules on the restriction of withholding tax credit, the credit of withholding tax is subject to the following three cumulative prerequisites: (i) the shareholder must qualify as beneficial owner of the shares in the company for a minimum holding period of 45 consecutive days occurring within a period of 45 days prior and 45 days after the due date of the dividends, (ii) the shareholder has to bear at least 70% of the change in value risk related to the shares in the company during the minimum holding period without being directly or indirectly hedged and (iii) the shareholder must not be required to fully or largely compensate directly or indirectly the dividends to third parties. Absent the fulfillment of all of the three prerequisites, three-fifths of the withholding tax imposed on the dividends must not be credited against the shareholder's (corporate) income tax liability, but may, upon application, be deducted from the shareholder's tax base for the relevant assessment period. A shareholder that has received gross dividends without any deduction of withholding tax due to a tax exemption without qualifying for a full tax credit has to notify the competent local tax office accordingly and has to make a payment in the amount of the omitted withholding tax deduction. The special rules on the restriction of withholding tax credit do not apply to a shareholder whose overall dividend earnings within an assessment period do not exceed €20,000 or that has been the beneficial owner of the shares in the company for at least one uninterrupted year upon receipt of the dividends.

Taxation of dividend income of shareholders tax resident in Germany holding the company's shares as private assets

For individual shareholders (individuals) resident in Germany holding the company's shares as private assets, dividends are subject to a flat tax rate which is satisfied by the withholding tax actually withheld (*Abgeltungsteuer*). Accordingly, dividend income will be taxed at a flat tax rate of 25% plus 5.5% solidarity surcharge thereon (in total 26.375%) and church tax (*Kirchensteuer*) in case the shareholder is subject to church tax because of his individual circumstances. An automatic procedure for deduction of church tax by way of withholding will apply to shareholders being subject to church tax unless the shareholder has filed a blocking notice (*Sperrvermerk*) with the German Federal Tax Office (details related to the computation of the concrete tax rate including church tax are to be discussed with the individual tax adviser of the relevant shareholder). Except for an annual lump sum savings allowance (*Sparer-Pauschbetrag*) of up to €801 (for individual filers) or up to €1,602 (for married couples and for partners in accordance with the registered partnership law (*Gesetz über die Eingetragene Lebenspartnerschaft*) filing jointly), private individual shareholders will not be entitled to deduct expenses incurred in connection with the capital investment from their dividend income.

The income tax owed for the dividend income is satisfied by the withholding tax withheld by the Dividend Paying Agent. However, if the flat tax results in a higher tax burden as opposed to the private shareholder's individual tax rate, the private shareholder can opt for taxation at his individual personal income tax rate. In that case, the final withholding tax will be credited against the income tax. However, pursuant to the German tax authorities and a court ruling, private shareholders are nevertheless not entitled to deduct expenses incurred in connection with the capital investment from their income. The option can be exercised only for all capital income from capital investments received in the relevant assessment period uniformly, and married couples as well as partners in accordance with the registered partnership law filing jointly may only jointly exercise the option.

Exceptions from the flat tax rate (satisfied by withholding at source) (*Abgeltungsteuer*) may apply — that is, only upon application — for shareholders who have a shareholding of at least 25% in a company and for shareholders who have a shareholding of at least 1% in the company and work for a company in a professional capacity. In such a case, the same rules apply as for sole proprietors holding the shares as business assets. See "— Taxation of dividend income of shareholders tax resident in Germany holding the company's shares as business assets — Sole proprietors."

Taxation of dividend income of shareholders tax resident in Germany holding the company's shares as business assets

If a shareholder holds the company's shares as business assets, the taxation of the dividend income depends on whether the respective shareholder is a corporation, a sole proprietor or a partnership.

Corporations

Dividend income of corporate shareholders is exempt from corporate income tax, provided that the incorporated entity holds a direct participation of at least 10% in the share capital of a company at the beginning of the calendar year in which the dividends are paid. The acquisition of a participation of at least 10% in the course of a calendar year is deemed to have occurred at the beginning of such calendar year for the purpose of this rule. Participations in the share capital of the company which a corporate shareholder holds through a partnership, including co-entrepreneurships (*Mitunternehmerschaften*), are attributable to such corporate shareholder only on a pro rata basis at the ratio of the interest share of the corporate shareholder in the assets of the relevant partnership. However, 5% of the tax exempt dividends are deemed to be non-deductible business expenses for tax purposes and therefore are subject to corporate income tax (plus solidarity surcharge) and trade tax, i.e., tax exemption of 95%. Business expenses incurred in connection with the dividends received are entirely tax-deductible.

For trade tax purposes the entire dividend income is subject to trade tax (i.e., the tax-exempt dividends must be added back when determining the trade taxable income), unless the corporation shareholder holds at least 15% of the company's registered share capital at the beginning of the relevant tax assessment period (*Erhebungszeitraum*). In case of an indirect participation via a partnership please refer to the section "Partnerships" below.

If the shareholding is below 10% in the share capital, dividends are taxable at the applicable corporate income tax rate of 15% plus 5.5% solidarity surcharge thereon and trade tax (the rate of which depends on the municipalities the corporate shareholder resides in).

Special regulations apply which abolish the 95% tax exemption if the company's shares are held as trading portfolio assets in the meaning of Section 340e of the German commercial code (*Handelsgesetzbuch*) by (i) a credit institution (*Kreditinstitut*), (ii) a financial service institution (*Finanzdienstleistungsinstitut*) or (iii) a financial enterprise within the meaning of the German Banking Act (*Kreditwesengesetz*), in case more than 50% of the shares of such financial enterprise are held directly or indirectly by a credit institution or a financial service institution, as well as by a life insurance company, a health insurance company or a pension fund in case the shares are attributable to the capital investments, resulting in fully taxable income.

Sole proprietors

For sole proprietors (individuals) resident in Germany holding shares as business assets dividends are subject to the partial income rule (*Teileinkünfteverfahren*). Accordingly, only (i) 60% of the dividend income will be taxed at his/her individual personal income tax rate plus 5.5% solidarity surcharge thereon and church tax (if applicable) and (ii) 60% of the business expenses related to the dividend income are deductible for tax purposes. In addition, the dividend income is entirely subject to trade tax if the shares are held as business assets of a permanent establishment in Germany within the meaning of the German Trade Tax Act (*Gewerbesteuergesetz*), unless the shareholder holds at least 15% of the company's registered share capital at the beginning of the relevant assessment period. The trade tax levied will be eligible for credit against the shareholder's personal income tax liability based on the applicable municipal trade tax rate and the individual tax situation of the shareholder.

Partnerships

In case shares are held by a partnership, the partnership itself is not subject to corporate income tax or personal income tax. In this regard, corporate income tax or personal income tax (and church tax, if applicable) as well as solidarity surcharge, are levied only at the level of the partner with respect to their relevant part of the profit and depending on their individual circumstances.

If the partner is a corporation, the dividend income will be subject to corporate income tax plus solidarity surcharge. See "— Corporations."

If the partner is a sole proprietor (individual), the dividend income will be subject to the partial income rule. See "— Sole Proprietors."

The dividend income is subject to trade tax at the level of the partnership (provided that the partnership is liable to trade tax), unless the partnership holds at least 15% of a company's registered share capital at the beginning of the relevant assessment period, in which case the dividend income is exempt from trade tax. There are no explicit statutory provisions concerning the taxation of dividends with regard to a corporate shareholder of the partnership. However, trade tax will be levied on 5% of the dividends to the extent they are attributable to the shares of such corporate partners to whom at least 10% of the shares of the company are attributable on a look-through basis, since such portion of the dividends will be deemed to be non-deductible business expenses.

If a partner is an individual, depending on the applicable municipal trade tax rate and the individual tax situation, the trade tax paid at the level of the partnership is partly or entirely be credited against the partner's personal income tax liability.

In case of a corporation being a partner, special regulations will apply with respect to trading portfolio assets of credit institutions, financial service institutions or financial enterprises within the meaning of the German Banking Act (*Kreditwesengesetz*) or life insurance companies, health insurance companies or pension funds. See "— Corporations."

Thus, the actual trade tax charge, if any, at the level of the partnership depends on the shareholding quota of the partnership and the nature of the partners (e.g., individual or corporation).

Taxation of dividend income of shareholders tax resident outside of Germany

For foreign individual or corporate shareholders tax resident outside of Germany not holding the shares through a permanent establishment in Germany or as business assets for which a permanent representative has been appointed in Germany, the deducted withholding tax (possibly reduced by way of a tax relief under a double tax treaty or domestic tax law, such as in connection with the EU Parent Subsidiary Directive) is final (that is, not refundable) and settles the shareholder's limited tax liability in Germany, unless the shareholder is entitled to apply for a withholding tax refund or exemption.

In contrast, individual or corporate shareholders tax resident outside of Germany holding the company's shares through a permanent establishment in Germany or as business assets for which a permanent representative has been appointed in Germany are subject to the same rules as applicable (and described above) to shareholders resident in Germany holding the shares as business assets. The withholding tax withheld (including solidarity surcharge) is credited against the shareholder's personal income tax or corporate income tax liability in Germany.

Taxation of Capital Gains

Withholding tax on capital gains

Capital gains realized on the disposal of shares are only subject to withholding tax if a German branch of a German or foreign credit or financial institution, a German securities trading company or a German securities trading bank stores or administrates or carries out the sale of the shares and pays or credits the capital gains. In those cases, the institution (and not the company) is required to deduct the withholding tax at the time of payment for the account of the shareholder and has to pay the withholding tax to the competent tax authority. In case the shares in CureVac N.V. are held (i) as business assets by a sole proprietor, a partnership or a corporation and such shares are attributable to a German business or (ii) in case of a corporation being subject to unlimited corporate income tax liability in Germany, the capital gains are not subject to withholding tax. In case of clause (i), the withholding tax exemption is subject to the condition that the paying agent has been notified by the beneficiary (*Gläubiger*) that the capital gains are exempt from withholding tax. The respective notification has to be filed by using the officially prescribed form.

Taxation of Capital Gains Realized by Shareholders Tax Resident in Germany Holding Shares as Private Assets

For individual shareholders (individuals) resident in Germany holding shares as private assets, capital gains realized on the disposal of shares are subject to final withholding tax. Accordingly, capital gains will be taxed at a flat tax rate of 25% plus a 5.5% solidarity surcharge thereon (in total 26.375%) and church tax, in case the shareholder is subject to church tax because of his individual circumstances. An automatic procedure for deduction of church tax by way of withholding will apply to shareholders being subject to church tax unless the shareholder has filed a blocking notice (*Sperrvermerk*) with the German Federal Tax Office (details related to the computation of the concrete tax rate including church tax are to be discussed with the individual tax adviser of the relevant shareholder). The taxable capital gain is calculated by deducting the acquisition costs of the shares and the expenses directly related to the disposal from the proceeds of the disposal. Apart from that, except for an annual lump sum savings allowance (*Sparer-Pauschbetrag*) of up to €801 (for individual filers) or up to €1,602 (for married couples and for partners in accordance with the registered partnership law (*Gesetz über die Eingetragene Lebenspartnerschaft*) filing jointly), private individual shareholders will not be entitled to deduct expenses incurred in connection with the capital investment from their capital gain.

In case the flat tax results in a higher tax burden as opposed to the private shareholder's individual tax rate, the private shareholder can opt for taxation at his or her individual personal income tax rate. In that case, the withholding tax (including solidarity surcharge) withheld will be credited against the income tax. However, pursuant to the German tax authorities the private shareholders are nevertheless not entitled to deduct expenses incurred in connection with the capital investment from their income. The option can be exercised only for all capital income from capital investments received in the relevant assessment period uniformly, and married couples as well as for partners in accordance with the registered partnership law filing jointly may only jointly exercise the option.

Capital losses arising from the sale of the shares can only be offset against other capital gains resulting from the disposition of the shares or shares in other stock corporations during the same calendar year. Offsetting of overall losses with other income (such as business or rental income) and other capital income is not possible. Such losses are to be carried forward and to be offset against positive capital gains deriving from the sale of shares in stock corporations in future years. In case of a derecognition or transfer of worthless shares (or other capital assets), the utilization of such loss is further restricted and can only be offset up to the amount of EUR 10,000 per calendar year.

The final withholding tax will not apply if the seller of the shares or, in the case of gratuitous transfer, its legal predecessor has held, directly or indirectly, at least 1% of the company's registered share capital at any time during the five years prior to the disposal. In that case capital gains are subject to the partial income rule. Accordingly, only (i) 60% of the capital gains will be taxed at his individual personal income tax rate plus a 5.5% solidarity surcharge thereon and church tax (if applicable) and (ii) 60% of the business expenses related to the capital gains are deductible for tax purposes. The withholding tax withheld (including solidarity surcharge) will be credited against the shareholder's personal income tax liability in Germany.

Taxation of capital gains realized by shareholders tax resident in Germany holding the company's shares as business assets

If a shareholder holds shares as business assets, the taxation of capital gains realized on the disposal of such shares depends on whether the respective shareholder is a corporation, a sole proprietor or a partnership:

Corporations

Capital gains realized on the disposal of shares by a corporate shareholder are generally exempt from corporate income tax and trade tax. However, 5% of the tax-exempt capital gains are deemed to be non-deductible business expenses for tax purposes and therefore are subject to corporate income tax (plus solidarity surcharge) and trade tax, i.e., tax exemption of 95%. Business expenses incurred in connection with the capital gains are entirely tax-deductible.

Capital losses incurred upon the disposal of shares or other impairments of the share value are not tax-deductible. A reduction of profit is also defined as any losses incurred in connection with a loan or security in the event the loan or the security is granted by a shareholder or by a related party thereto or by a third person with the right of recourse against the before-mentioned persons, and the shareholder holds directly or indirectly more than 25% of the company's registered share capital.

Special regulations apply if the shares are held as trading portfolio assets by a credit institution, a financial service institution or a financial enterprise within the meaning of the German Banking Act (*Kreditwesengesetz*) as well as by a life insurance company, a health insurance company or a pension fund. See "— Taxation of dividend income of shareholders tax resident in Germany holding the company's shares as business assets — Corporations."

Sole Proprietors

If the shares are held by a sole proprietor, capital gains realized on the disposal of the shares are subject to the partial income rule. Accordingly, only (i) 60% of the capital gains will be taxed at his/her individual personal income tax rate plus a 5.5% solidarity surcharge thereon and church tax (if applicable) and (ii) 60% of the business expenses related to the dividend income are deductible for tax purposes. In addition, 60% of the capital gains are subject to trade tax if the shares are held as business assets of a permanent establishment in Germany within the meaning of the German Trade Tax Act (*Gewerbesteuergesetz*). The trade tax levied, depending on the applicable municipal trade tax rate and the individual tax situation, is partly or entirely credited against the shareholder's personal income tax liability.

Partnerships

In case the shares are held by a partnership, the partnership itself is not subject to corporate income tax or personal income tax as well as a solidarity surcharge (and church tax) since partnerships qualify as transparent for German tax purposes. In this regard, corporate income tax or personal income tax as well as a solidarity surcharge (and church tax, if applicable), are levied only at the level of the partner with respect to their relevant part of the profit and depending on their individual circumstances.

If the partner is a corporation, the capital gains will be subject to corporate income tax plus a solidarity surcharge. See "— Corporations." Trade tax will be levied additionally at the level of the partner insofar as the relevant profit of the partnership is not subject to trade tax at the level of the partnership. However, with respect to both corporate income and trade tax, the 95% exemption rule as described above applies.

If the partner is a sole proprietor (individual), the capital gains are subject to the partial income rule. See "— Sole Proprietors."

In addition, if the partnership is liable to trade tax, 60% of the capital gains are subject to trade tax at the level of the partnership, to the extent the partners are individuals, and 5% of the capital gains are subject to trade tax, to the extent the partners are corporations. However, if a partner is an individual, depending on the applicable municipal trade tax rate and the individual tax situation, the trade tax paid at the level of the partnership is credited against the partner's personal income tax liability.

With regard to corporate partners, special regulations apply if they are held as trading portfolio assets by credit institutions, financial service institutions or financial enterprises within the meaning of the German Banking Act or life insurance companies, health insurance companies or pension funds, as described above.

Taxation of capital gains realized by shareholders tax resident outside of Germany

Capital gains realized on the disposal of the shares by a shareholder tax resident outside of Germany are subject to German taxation provided that (i) the company's shares are held as business assets of a permanent establishment or as business assets for which a permanent representative has been appointed in Germany, or (ii) the shareholder or, in case of a gratuitous transfer, its legal predecessor has held, directly or indirectly, at least 1% of the company's shares capital at any time during a five-year period prior to the disposal. In these cases, capital gains are generally subject to the same rules as described above for

shareholders resident in Germany. However, in case the shares are not attributable to a German permanent establishment or permanent representative the 5% taxation (see "— Corporations — Taxation of capital gains realized by shareholders tax resident in Germany holding the company's shares as business assets") shall not apply and the capital gains are fully exempt from German tax.

However, except for the cases referred to in clause (i) above, some of the double tax treaties concluded with Germany provide for a full exemption from German taxation.

Inheritance and Gift Tax

The transfer of the company's shares to another person by way of succession or donation is subject to German inheritance and gift tax (*Erbschaft- und Schenkungsteuer*) if:

(i) the decedent, the donor, the heir, the donee or any other beneficiary has his/her/its residence, domicile, registered office or place of management in Germany at the time of the transfer, or is a German citizen who has not stayed abroad for more than five consecutive years without having a residence in Germany; or

(ii) (irrespective of the personal circumstances) the shares are held by the decedent or donor as business assets for which a permanent establishment in Germany is maintained or a permanent representative is appointed in Germany; or

(iii) (irrespective of the personal circumstances) at least 10% of the shares are held, directly or indirectly by, the decedent or person making the gift, himself or together with a related party in terms of Section 1 para. 2 Foreign Tax Act (*Außensteuergesetz*).

Special regulations apply to qualified German citizens who maintain neither a residence nor their domicile in Germany but in a low tax jurisdiction, and to former German citizens, also resulting in inheritance and gift tax. The few double tax treaties on inheritance and gift tax which Germany has entered into provide that German inheritance and gift tax is levied only in case of (i) and, with certain restrictions, in case of (ii).

Abolishment of Solidarity Surcharge

According to a bill enacted in December 2019, the solidarity surcharge will be partially abolished as of the assessment period 2021 for certain individuals. The solidarity surcharge shall, however, continue to apply for capital investment and, thus, on withholding taxes levied. In case the individual income tax burden for an individual shareholder is lower than 25%, the shareholder can apply for his/her capital investment income being assessed at his/her individual tariff-based income tax rate, in which case solidarity surcharge would be refunded.

Other Taxes

No German capital transfer tax (*Kapitalverkehrsteuer*), value-added tax (*Umsatzsteuer*), stamp duty (*Stempelgebühr*) or similar taxes are levied when acquiring, holding or transferring the company's shares. No value-added tax will be levied unless the shareholder validly opts for it. Net wealth tax (*Vermögensteuer*) is currently not levied in Germany.

On January 22, 2013, the Council of the European Union approved the resolution of the ministers of finance from 11 European Union member states (including Germany) to introduce a Financial Transaction Tax ("FTT") within the framework of enhanced cooperation. On February 14, 2013, the European Commission published a proposal for a Council Directive implementing enhanced cooperation in the area of financial transaction tax. The plan focuses on levying a tax of 0.1% (0.01% for derivatives) on the purchase and sale of financial instruments.

A joint statement issued by 10 of the 11 participating European Union member states in October 2016 reaffirmed the intention to introduce FTT. However, at the moment not many details are available. Recently, further discussions on an FTT on the basis of a draft provided by Germany were held. However, it is still unclear if and when the FFT will be implemented and what the exact scope will be. The

FTT proposal remains subject to negotiation between the participating Member States and is subject to political discussion. It may, therefore, be altered prior to the implementation, the timing of which remains unclear. Additional European Union member states may decide to participate.

Prospective holders of the shares are advised to seek their own professional advice in relation to FTT.

Material U.S. Federal Income Tax Considerations to U.S. Holders

In the opinion of Davis Polk & Wardwell LLP, the following is a description of the material U.S. federal income tax consequences to the U.S. Holders, as defined below, of owning and disposing of our common shares. It does not describe all tax considerations that may be relevant to a particular person's decision to acquire common shares.

This discussion applies only to a U.S. Holder that holds common shares as capital assets for U.S. federal income tax purposes. In addition, it does not describe all of the U.S. federal income tax consequences that may be relevant in light of the U.S. Holder's particular circumstances, including alternative minimum tax consequences, the potential application of the provisions of the Code known as the Medicare contribution tax and tax consequences applicable to U.S. Holders subject to special rules, such as:

- certain financial institutions;
- dealers or traders in securities who use a mark-to-market method of tax accounting;
- persons holding common shares as part of a hedging transaction, straddle, wash sale, conversion transaction or other integrated transaction or persons entering into a constructive sale with respect to the common shares;
- persons whose functional currency for U.S. federal income tax purposes is not the U.S. dollar;
- entities classified as partnerships for U.S. federal income tax purposes;
- tax-exempt entities, including an "individual retirement account" or "Roth IRA";
- persons that own or are deemed to own ten percent or more of our common shares (by vote or value); or
- persons holding common shares in connection with a trade or business conducted outside of the United States.

If an entity that is classified as a partnership for U.S. federal income tax purposes holds common shares, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships holding common shares and partners in such partnerships should consult their tax advisers as to the particular U.S. federal income tax consequences of owning and disposing of the common shares.

This discussion is based on the Code, administrative pronouncements, judicial decisions, final, temporary and proposed Treasury regulations, and the income tax treaty between the Federal Republic of Germany and the United States, or the Treaty, all as of the date hereof, any of which is subject to change or differing interpretations, possibly with retroactive effect.

A "U.S. Holder" is a holder who, for U.S. federal income tax purposes, is a beneficial owner of our common shares, who is eligible for the benefits of the Treaty and who is:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity taxable as a corporation, created or organized in or under the laws of the United States, any state therein or the District of Columbia; or
- an estate or trust, the income of which is subject to U.S. federal income taxation regardless of its source.

U.S. Holders should consult their tax advisers concerning the U.S. federal, state, local and non-U.S. tax consequences of owning and disposing of our common shares in their particular circumstances.

Taxation of Distributions

As discussed above under "Dividend Policy" we have never paid or declared any cash dividends on our common shares, and we do not anticipate paying any cash dividends on our common shares in the foreseeable future. In the event that we do make distributions of cash or other property, subject to the passive foreign investment company rules described below, distributions paid on common shares, other than certain pro rata distributions of common shares, will generally be treated as dividends to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles). Because we do not maintain calculations of our earnings and profits under U.S. federal income tax principles, we expect that distributions generally will be reported to U.S. Holders as dividends. For so long as our common shares are listed on the Nasdaq or another established securities market in the United States or we are eligible for benefits under the Treaty, dividends paid to certain non-corporate U.S. Holders may be eligible for taxation as "qualified dividend income" and therefore, subject to applicable limitations, taxable at rates not in excess of the long-term capital gain rate applicable to such U.S. Holders. U.S. Holders should consult their tax advisers regarding the availability of the reduced tax rate on dividends in their particular circumstances. The amount of a dividend will include any amounts withheld by us in respect of German income taxes. The amount of the dividend will be treated as foreign-source dividend income to U.S. Holders and will not be eligible for the dividends-received deduction generally available to U.S. corporations under the Code. Dividends will be included in a U.S. Holder's income on the date of the U.S. Holder's receipt of the dividend. The amount of any dividend income paid in euros will be the U.S. dollar amount calculated by reference to the exchange rate in effect on the date of actual or constructive receipt, regardless of whether the payment is in fact converted into U.S. dollars at that time. If the dividend is converted into U.S. dollars on the date of receipt, a U.S. Holder should not be required to recognize foreign currency gain or loss in respect of the dividend income. A U.S. Holder may have foreign currency gain or loss if the dividend is converted into U.S. dollars after the date of receipt.

Subject to applicable limitations, some of which vary depending upon the U.S. Holder's particular circumstances, German income taxes withheld from dividends on common shares at a rate not exceeding the rate provided by the Treaty will be creditable against the U.S. Holder's U.S. federal income tax liability. German taxes withheld in excess of the rate applicable under the Treaty will not be eligible for credit against a U.S. Holder's federal income tax liability. The rules governing foreign tax credits are complex, and U.S. Holders should consult their tax advisers regarding the creditability of foreign taxes in their particular circumstances. In lieu of claiming a foreign tax credit, U.S. Holders may, at their election, deduct foreign taxes, including any German income tax, in computing their taxable income, subject to generally applicable limitations under U.S. law. An election to deduct foreign taxes instead of claiming foreign tax credits applies to all foreign taxes paid or accrued in the taxable year.

Sale or Other Disposition of Common Shares

Subject to the passive foreign investment company rules described below, gain or loss realized on the sale or other disposition of common shares will be capital gain or loss, and will be long-term capital gain or loss if the U.S. Holder held the common shares for more than one year. The amount of the gain or loss will equal the difference between the U.S. Holder's tax basis in the common shares disposed of and the amount realized on the disposition, in each case as determined in U.S. dollars. This gain or loss will generally be U.S.-source gain or loss for foreign tax credit purposes. The deductibility of capital losses is subject to various limitations. The Treaty generally exempts a U.S. Holder from German tax on capital gains realized on the sale or other disposition of common shares and, accordingly, no such tax will be creditable against the U.S. Holder's U.S. federal income tax liability.

Passive Foreign Investment Company Rules

Under the Code, we will generally be a PFIC for any taxable year in which, after the application of certain "look-through" rules with respect to subsidiaries, either (i) 75% or more of our gross income consists of "passive income," or (ii) 50% or more of the average quarterly value of our assets consist of assets that produce, or are held for the production of, "passive income." For purposes of the above calculations, we will be treated as if we hold our proportionate share of the assets of, and receive directly our proportionate share of the income of, any other corporation in which we directly or indirectly own at least

25%, by value, of the shares of such corporation. Passive income generally includes dividends, interest, rents, certain non-active royalties and capital gains. The value of a non-U.S. corporation's goodwill that is associated with activities that produce or are intended to produce active income is generally an active asset for purposes of the asset test unless, for U.S. federal income tax purposes, the non-U.S. corporation is a "controlled foreign corporation" (CFC) that is not publicly traded "for the taxable year." If a non-U.S. corporation is a CFC that is not publicly traded for the taxable year, its PFIC status under the asset test is determined by using the U.S. tax basis of its assets rather than their fair market value and therefore the market value of its goodwill is generally disregarded. Generally, a non-U.S. corporation is a CFC if more than 50% of its shares' voting power or value is owned, directly, indirectly or constructively, by "United States shareholders" (as defined in Section 951(b) of the Code). Although it is not certain, we may be or may have been a CFC in the current taxable year. However, under the Proposed Regulations, the fair market value of our assets (including goodwill) can be used for purposes of the asset test provided that (i) we are publicly traded on the majority of days during our taxable year or (ii) we would not be a CFC if certain constructive ownership rules were not applied. Although no assurances may be given in this regard, we expect that we would be eligible in our 2020 taxable year to use the fair market value of our assets for purposes of the asset test, and U.S. investors are urged to consult their tax advisers whether they could apply the Proposed Regulations for purposes of the asset test. The remainder of this discussion assumes that U.S. Holders will choose to apply the Proposed Regulations in their entirety.

Based on the composition of our income and assets during 2019, we do not believe that we were a PFIC for our 2019 taxable year. However, PFIC status is a fact-intensive determination made on an annual basis after the end of each taxable year, and we have not yet determined our expected PFIC status for the current taxable year or any future taxable year. Whether we will be a PFIC in 2020 or any future year is uncertain because, among other things, (i) we currently own, and will own after the closing of this offering, a substantial amount of passive assets, including cash, (ii) the valuation of our assets that generate non-passive income for PFIC purposes, including our intangible assets, is uncertain and may vary substantially over time, (iii) the treatment of grants as income for U.S. federal income tax purposes is unclear, and (iv) the composition of our income may vary substantially over time. Accordingly, there can be no assurance that we will not be a PFIC in 2020 or any future taxable year. If we are a PFIC for any year during which a U.S. Holder holds common shares, we generally would continue to be treated as a PFIC with respect to that U.S. Holder for all succeeding years during which the U.S. Holder holds common shares, even if we ceased to meet the threshold requirements for PFIC status. In addition, the we may, directly or indirectly, have held or hold equity interests in other PFICs (collectively, "Lower-tier PFICs"). Under attribution rules, if the we are a PFIC, U.S. Holders will be deemed to own their proportionate shares of the stock of Lower-tier PFICs and will be subject to U.S. federal income tax according to the rules described in the following paragraphs on (i) certain distributions by a Lower-tier PFIC and (ii) a disposition of shares of a Lower-tier PFIC, in each case as if the U.S. Holder held such shares directly, even though holders have not received the proceeds of those distributions or dispositions directly. U.S. Holders should consult their tax advisors about the consequences to them of our investment in one or more Lower-tier PFICs.

If we were a PFIC for any taxable year during which a U.S. Holder held common shares (assuming such U.S. Holder has not made a timely mark-to-market election, as described below), gain recognized by a U.S. Holder on a sale or other disposition (including certain pledges) of the common shares would be allocated ratably over the U.S. Holder's holding period for the common shares. The amounts allocated to the taxable year of the sale or other disposition and to any year before we became a PFIC would be taxed as ordinary income. The amount allocated to each other taxable year would be subject to tax at the highest rate in effect for individuals or corporations, as appropriate, for that taxable year, and an interest charge would be imposed on the amount allocated to that taxable year. Further, to the extent that any distribution received by a U.S. Holder on its common shares exceeds 125% of the average of the annual distributions on the common shares received during the preceding three years or the U.S. Holder's holding period, whichever is shorter, that distribution would be subject to taxation in the same manner as gain, described immediately above.

A U.S. Holder can avoid certain of the adverse rules described above by making a mark-to-market election with respect to its common shares, provided that the common shares are "marketable." Common shares will be marketable if they are "regularly traded" on a "qualified exchange" or other market within the meaning of applicable Treasury regulations. If a U.S. Holder makes the mark-to-market election, it

generally will recognize as ordinary income any excess of the fair market value of the common shares at the end of each taxable year over their adjusted tax basis, and will recognize an ordinary loss in respect of any excess of the adjusted tax basis of the common shares over their fair market value at the end of the taxable year (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). If a U.S. Holder makes the election, the U.S. Holder's tax basis in our common shares will be adjusted to reflect the income or loss amounts recognized. Any gain recognized on the sale or other disposition of common shares in a year when we are a PFIC will be treated as ordinary income and any loss will be treated as an ordinary loss (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). A mark-to-market election generally cannot be made for equity interests in any Lower-tier PFIC unless shares of such Lower-tier PFIC are themselves "marketable." As a result, if a U.S. Holder makes a mark-to-market election with respect to our common shares, the U.S. Holder would nevertheless be subject to the PFIC rules described above with respect to its indirect interest in any Lower-tier PFIC unless the U.S. Holder makes a QEF Election with respect to such Lower-tier PFIC, as discussed below.

In addition, in order to avoid the application of the foregoing rules, a U.S. Holder that owns stock in a PFIC for U.S. federal income tax purposes may make a QEF Election with respect to such PFIC if the PFIC provides the information necessary for such election to be made. If a U.S. Holder makes a QEF Election with respect to a PFIC, the United States person will be currently taxable on its pro rata share of the PFIC's ordinary earnings and net capital gain (at ordinary income and capital gain rates, respectively) for each taxable year that the entity is classified as a PFIC and will not be required to include such amounts in income when actually distributed by the PFIC. There is no assurance that we will provide information necessary for U.S. Holders to make QEF Elections. A QEF Election with respect to us will not apply to any Lower-tier PFIC. If we determine that any of our subsidiaries is a Lower-tier PFIC for any taxable year, there is no assurance that we will provide information necessary for U.S. Holders to make a QEF Election with respect to such Lower-tier PFIC.

In addition, if we were a PFIC or, with respect to a particular U.S. Holder, were treated as a PFIC for the taxable year in which we paid a dividend or for the prior taxable year, the preferential dividend rates discussed above with respect to dividends paid to certain non-corporate U.S. Holders would not apply.

If a U.S. Holder owns common shares during any year in which we are a PFIC, the U.S. Holder generally must file annual reports, containing such information as the U.S. Treasury may require on IRS Form 8621 (or any successor form) with respect to us, generally with the U.S. Holder's federal income tax return for that year.

U.S. Holders should consult their tax advisers concerning our potential PFIC status and the potential application of the PFIC rules.

Information Reporting and Backup Withholding

Payments of dividends and sales proceeds that are made within the United States or through certain U.S.-related financial intermediaries generally are subject to information reporting, and may be subject to backup withholding, unless (i) the U.S. Holder is a corporation or other exempt recipient or (ii) in the case of backup withholding, the U.S. Holder provides a correct taxpayer identification number and certifies that it is not subject to backup withholding.

The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a credit against the U.S. Holder's U.S. federal income tax liability and may entitle it to a refund, provided that the required information is timely furnished to the IRS.

UNDERWRITING

BofA Securities, Inc., Jefferies LLC and Credit Suisse Securities (USA) LLC are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of common shares set forth opposite its name below.

Underwriter	Number of Shares
BofA Securities, Inc.	
Jefferies LLC	
Credit Suisse Securities (USA) LLC	
Nomura Securities International, Inc.	
Kempen & Co U.S.A., Inc	
Total	

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $ per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed. Sales of shares may be made through one or more affiliates or selling agents of the underwriters.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

	Per Share	Without Option	With Option
Public offering price	$	$	$
Underwriting discount	$	$	$
Proceeds, before expenses, to us	$	$	$

The expenses of the offering, not including the underwriting discount, are estimated at $ and are payable by us. We have also agreed to reimburse the underwriters for their expenses relating to clearance of this offering with the Financial Industry Regulatory Authority in an amount up to $.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to additional shares at the public offering price, less the underwriting

discount. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and our other existing security holders have agreed not to sell or transfer any common shares or securities convertible into, exchangeable for, exercisable for, or repayable with common shares, for 180 days after the date of this prospectus without first obtaining the written consent of BofA Securities, Inc. and Jefferies LLC. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

- offer, pledge, sell or contract to sell any common shares;
- sell any option or contract to purchase any common shares;
- purchase any option or contract to sell any common shares;
- grant any option, right or warrant for the sale of any common shares;
- lend or otherwise dispose of or transfer any common shares;
- request or demand that we file or make a confidential submission of a registration statement related to the common shares; or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common shares whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common shares and to securities convertible into or exchangeable or exercisable for or repayable with common shares. It also applies to common shares owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

Nasdaq Global Market Listing

We expect the shares to be approved for listing on The Nasdaq Global Market, subject to notice of issuance, under the symbol "CVAC."

Before this offering, there has been no public market for our common shares. The initial public offering price will be determined through negotiations between us and the representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price are:

- the valuation multiples of publicly traded companies that the representatives believe to be comparable to us,
- our financial information,
- the history of, and the prospects for, our company and the industry in which we compete,
- an assessment of our management, its past and present operations, and the prospects for, and timing of, our future revenues,
- the present state of our development, and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

An active trading market for the shares may not develop. It is also possible that after the offering the shares will not trade in the public market at or above the initial public offering price.

The underwriters do not expect to sell more than 5% of the shares in the aggregate to accounts over which they exercise discretionary authority.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters from bidding for and purchasing our common shares. However, the representatives may engage in transactions that stabilize the price of the common shares, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common shares in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. "Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. "Naked" short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common shares in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of common shares made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common shares or preventing or retarding a decline in the market price of our common shares. As a result, the price of our common shares may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on The Nasdaq Global Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common shares. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Stamp Taxes

If you purchase common shares offered in this prospectus, you may be required to pay stamp taxes and other charges under the laws and practices of the country of purchase, in addition to the offering price listed on the cover page of this prospectus.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the

accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Notice to Prospective Investors in the European Economic Area and the United Kingdom

In relation to each Member State of the European Economic Area and the United Kingdom (each a "Relevant State"), no shares have been offered or will be offered to the public in that Relevant State in connection with this offering prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved by the competent authority in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

a. to any legal entity which is a qualified investor as defined in the Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation), subject to obtaining the prior consent of the representatives of the underwriters named above for any such offer; or

c. in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require us or any representatives of the underwriters named above to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation. Neither we nor the representatives of the underwriters named above have authorized, nor do they authorize, the making of any offer of shares in circumstances in which an obligation arises for us or the underwriters to publish a prospectus for such offer pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with our company and the representatives of the underwriters named above that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed to and with our company and the representatives of the underwriters named above that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of shares to the public other than their offer or resale in a Relevant State to qualified investors within the meaning of the Prospectus Regulation, in circumstances in which the prior consent of the representatives of the underwriters named above has been obtained to each such proposed offer or resale.

We, the representatives of the underwriters named above and our and their respective affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this selling restriction, the expression an "offer to the public" in relation to any shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

References to the Prospectus Regulation include, in relation to the United Kingdom (and its constituent countries), the Prospectus Regulation as it forms part of the domestic law of the constituent countries of the United Kingdom by virtue of the European Union (Withdrawal) Act 2018.

This selling restriction is in addition to any other selling restrictions set out below.

Notice to Prospective Investors in the United Kingdom

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Financial Promotion Order"), (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended ("FSMA")) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

Notice to Prospective Investors in Switzerland

This prospectus is not intended to constitute an offer or solicitation to purchase or invest in our Common Shares. The Common Shares may not be publicly offered, directly or indirectly, in Switzerland within the meaning of the Swiss Financial Services Act ("FinSA") and no application has or will be made to admit the Common Shares to trading on any trading venue (exchange or multilateral trading facility) in Switzerland. Neither this prospectus nor any other offering or marketing material relating to the Common Shares constitutes a prospectus pursuant to the FinSA, and neither this prospectus nor any other offering or marketing material relating to the Common Shares may be publicly distributed or otherwise made publicly available in Switzerland.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority ("DFSA"). This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission ("ASIC"), in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the "Corporations Act"), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons (the "Exempt Investors") who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an

exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, "Japanese Person" shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the shares were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (the "SFA")) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

(a) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(b) where no consideration is or will be given for the transfer;

(c) where the transfer is by operation of law; or

(d) as specified in Section 276(7) of the SFA.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Germany

Our common shares may be offered and sold in the Federal Republic of Germany only in compliance with the Prospectus Regulation, the Commission Delegated Regulations (EU) 2019/979 and (EU) 2019/980, each as of March 14, 2019 and the German Securities Prospectus Act (*Wertpapierprospektgesetz*), as amended, or any other laws applicable in Germany governing the issue, offering and sale of securities. This prospectus has not been approved under the Prospectus Regulation and, accordingly, our common shares may not be offered publicly in the Federal Republic of Germany. Our common shares will be offered in the Federal Republic of Germany in reliance on an exemption from the requirement to publish an approved securities prospectus under the Prospectus Regulation. Any resale of our common shares in Germany may only be made in accordance with the Prospectus Regulation and other applicable laws. We have not filed, and do not intend to file, a securities prospectus with the German Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*, "*BaFin*") or obtain a notification to BaFin from another competent authority of a member state of the European Economic Area, with which a securities prospectus may have been filed, pursuant to Article 24 Para. 1 of the Prospectus Regulation.

Notice to Prospective Investors in the State of Israel

In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase shares of common stock under the Israeli Securities Law, 5728-1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728-1968, including, inter alia, if: (i) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions (the "Addressed Investors"); or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli

Securities Law, 5728-1968, subject to certain conditions (the "Qualified Investors"). The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. The company has not and will not take any action that would require it to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728-1968. We have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for our common stock to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

EXPENSES OF THE OFFERING

We estimate that our expenses in connection with this offering, other than underwriting discounts and commissions, will be as follows:

Expenses	Amount
U.S. Securities and Exchange Commission registration fee	$ *
Nasdaq listing fee	*
FINRA filing fee	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Miscellaneous costs	*
Total	*

* To be provided by amendment.

All amounts in the table are estimates except the U.S. Securities and Exchange Commission registration fee, the Nasdaq listing fee and the FINRA filing fee. We will pay all of the expenses of this offering.

LEGAL MATTERS

The validity of the common shares and certain other matters of Dutch law will be passed upon for us by NautaDutilh N.V. Certain matters of U.S. federal law will be passed upon for us by Davis Polk & Wardwell LLP. Certain matters will be passed upon for the underwriters by Latham & Watkins LLP, New York, New York, with respect to U.S. federal law, and De Brauw Blackstone Westbroek N.V., with respect to Dutch law.

EXPERTS

The consolidated financial statements of CureVac AG as of December 31, 2018 and 2019, and for each of the two years in the period ended December 31, 2019, appearing in this prospectus and registration statement, have been audited by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, an independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

The current address of Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft is Arnulfstraße 59, 80636 Munich, Germany.

ENFORCEMENT OF JUDGMENTS

We are incorporated under the laws of the Netherlands, and our headquarters are located in Germany. Substantially all of our assets are located outside the United States. The majority of our managing directors and supervisory directors reside outside the United States. As a result, it may not be possible for investors to effect service of process within the United States upon such persons or to enforce against them or us in U.S. courts, including judgments predicated upon the civil liability provisions of the federal securities laws of the United States.

There is currently no treaty between the United States and the Netherlands for the mutual recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters. Therefore, a final judgment for the payment of money rendered by any federal or state court in the United States based on civil liability, whether or not predicated solely upon the U.S. federal securities laws, would not be enforceable in the Netherlands unless the underlying claim is relitigated before a Dutch court of competent jurisdiction. Under current practice, however, a Dutch court will generally, subject to compliance with certain procedural requirements, grant the same judgment without a review of the merits of the underlying claim if such judgment (i) is a final judgment and has been rendered by a court, which has established its jurisdiction vis-à-vis the relevant Dutch companies or Dutch company, as the case may be, on the basis of internationally accepted grounds of jurisdiction, (ii) has not been rendered in violation of principles of proper procedure (*behoorlijke rechtspleging*), (iii) is not contrary to the public policy of the Netherlands, and (iv) is not incompatible with (a) a prior judgment of a Dutch court rendered in a dispute between the same parties, or (b) a prior judgment of a foreign court rendered in a dispute between the same parties, concerning the same subject matter and based on the same cause of action, provided that such prior judgment is capable of being recognized in the Netherlands and except to the extent that the foreign judgment contravenes Dutch public policy (*openbare orde*). Dutch courts may deny the recognition and enforcement of punitive damages or other awards. Moreover, a Dutch court may reduce the amount of damages granted by a U.S. court and recognize damages only to the extent that they are necessary to compensate actual losses or damages. Enforcement and recognition of judgments of U.S. courts in the Netherlands are solely governed by the provisions of the Dutch Code of Civil Procedure. Based on the foregoing, there can be no assurance that U.S. investors will be able to enforce any judgments obtained in U.S. courts in civil and commercial matters, including judgments under the U.S. federal securities.

The United States and Germany currently do not have a treaty providing for the reciprocal recognition and enforcement of judgments, in civil and commercial matters. Consequently, a final judgment for payment or declaratory judgments given by a court in the United States, whether or not predicated solely upon U.S. securities laws, would not automatically be recognized or enforceable in Germany. German courts may deny the recognition and enforcement of a judgment rendered by a U.S. court if they consider the U.S. court not to be competent or the decision to be in violation of German public policy principles. For example,

judgments awarding punitive damages are generally not enforceable in Germany. A German court may reduce the amount of damages granted by a U.S. court and recognize damages only to the extent that they are necessary to compensate actual losses or damages.

In addition, actions brought in a German court against us, our management board and supervisory board and the experts named herein to enforce liabilities based on U.S. federal securities laws may be subject to certain restrictions. In particular, German courts generally do not award punitive damages. Litigation in Germany is also subject to rules of procedure that differ from the U.S. rules, including with respect to the taking and admissibility of evidence, the conduct of the proceedings and the allocation of costs. German procedural law does not provide for pre-trial discovery of documents, nor does Germany support pre-trial discovery of documents under the 1970 Hague Evidence Convention. Proceedings in Germany would have to be conducted in the German language and all documents submitted to the court would, in principle, have to be translated into German. For these reasons, it may be difficult for a U.S. investor to bring an original action in a German court predicated upon the civil liability provisions of the U.S. federal securities laws against us, our management board and supervisory board and the experts named in this prospectus.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the U.S. Securities and Exchange Commission a registration statement (including amendments and exhibits to the registration statement) on Form F-1 under the Securities Act. This prospectus, which is part of the registration statement, does not contain all of the information set forth in the registration statement and the exhibits and schedules to the registration statement. For further information, we refer you to the registration statement and the exhibits and schedules filed as part of the registration statement. If a document has been filed as an exhibit to the registration statement, we refer you to the copy of the document that has been filed. Each statement in this prospectus relating to a document filed as an exhibit is qualified in all respects by the filed exhibit.

Upon completion of this offering, we will become subject to the informational requirements of the Exchange Act. Accordingly, we will be required to file reports and other information with the SEC, including annual reports on Form 20-F and reports on Form 6-K. The SEC maintains an Internet website that contains reports and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

As a foreign private issuer, we are exempt under the Exchange Act from, among other things, the rules prescribing the furnishing and content of proxy statements, and our executive officers, managing directors, supervisory directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act. In addition, we will not be required under the Exchange Act to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act.

We will send the transfer agent a copy of all notices of shareholders' meetings and other reports, communications and information that are made generally available to shareholders. The transfer agent has agreed to mail to all shareholders a notice containing the information (or a summary of the information) contained in any notice of a meeting of our shareholders received by the transfer agent and will make available to all shareholders such notices and all such other reports and communications received by the transfer agent.

INDEX TO FINANCIAL STATEMENTS

Consolidated Financial Statements—CureVac AG

Report of Independent Registered Public Accounting Firm

To the Audit Committee of CureVac AG,

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of CureVac AG (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations and other comprehensive income (loss), changes in shareholders' equity and cash flows for each of the two years in the period ended December 31, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2019, in conformity with International Financial Reporting Standards as issued by the International Accounting Standard Board (IFRS).

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Dr. Elia Napolitano
Wirtschaftsprüfer
(German Public Auditor)

/s/ Steffen Maurer
Wirtschaftsprüfer
(German Public Auditor)

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft

We have served as the Company's auditor since 2015.

Munich, Germany
April 29, 2020

CureVac AG

Consolidated Statements of Operations and Other Comprehensive Income (Loss)

(in thousands of EUR, except per share data)	Note	Years ended December 31, 2018	2019
Revenue	3.1	12,871	17,416
Cost of sales	3.2	(17,744)	(27,983)
Selling and distribution expenses	3.3	(1,085)	(1,755)
Research and development expenses	3.4	(41,722)	(43,242)
General and administrative expenses	3.5	(25,289)	(48,969)
Other operating income	3.6	808	5,587
Other operating expenses	3.7	(663)	(552)
Operating loss		**(72,824)**	**(99,498)**
Finance income		1,968	833
Finance expenses		(275)	(1,460)
Loss before income tax		**(71,131)**	**(100,125)**
Income tax benefit / (expense)	14	(110)	252
Net loss for the year		**(71,241)**	**(99,873)**
Other comprehensive income			
Items that may be subsequently reclassified to profit or loss			
Foreign currency adjustments		66	32
Total comprehensive loss for the year		**(71,175)**	**(99,841)**
Net loss per share (basic and diluted)		**(98.05)**	**(137.45)**

The accompanying notes are an integral part of these consolidated financial statements.

CureVac AG

Consolidated Statements of Financial Position

(in thousands of EUR)	Note	December 31, 2018	December 31, 2019
Assets			
Non-current assets			
Intangible assets	4	6,213	5,698
Property, plant and equipment	4	40,472	48,075
Other assets	4	5,771	6,061
Right-of-use assets	2	—	13,611
Deferred tax assets	14	133	—
Total non-current assets		**52,589**	**73,445**
Current assets			
Inventories	5	2,951	6,197
Trade receivables	3	5,476	15,690
Contract assets	3	1,382	1,463
Other financial assets	6	39,253	1,458
Prepaid expenses and other assets	7	2,628	1,683
Cash and cash equivalents		21,380	30,684
Total current assets		**73,070**	**57,175**
Total assets		**125,659**	**130,620**
Equity and liabilities			
Equity			
Issued capital		727	727
Capital reserve		447,440	472,396
Accumulated deficit		(416,074)	(515,947)
Other comprehensive income		(10)	22
Total equity	**8**	**32,083**	**(42,802)**
Non-current liabilities			
Convertible loans	12	—	65,018
Lease liabilities	2	—	12,126
Contract liabilities	3	64,583	66,040
Deferred tax liabilities	13	—	1,623
Other liabilities		863	529
Total non-current liabilities		**65,446**	**145,336**
Current liabilities			
Other financial liabilities		77	—
Lease liabilities	2	—	2,004
Trade and other payables	11	10,913	6,475
Other liabilities	12	11,146	12,015
Income Taxes payable	13	217	111
Contract liabilities	3	5,777	7,481
Total current liabilities		28,130	28,086
Total liabilities		**93,576**	**173,422**
Total equity and liabilities		**125,659**	**130,620**

The accompanying notes are an integral part of these consolidated financial statements.

CureVac AG

Consolidated Statements of Changes in Shareholders´ Equity

(in thousands of EUR)	Issued capital	Capital reserve	Accumulated deficit	Currency translation reserve	Total equity
Balance as of January 1, 2018	**727**	**447,438**	**(345,320)**	**(76)**	**102,769**
Effects from the first-time adoption of IFRS 9	—	—	(183)	—	(183)
Effects from the first-time adoption of IFRS 15	—	—	670	—	670
Adjusted balance as of January 1, 2018	**727**	**447,438**	**(344,833)**	**(76)**	**103,256**
Expenses from share-based payment plan	—	2	—	—	2
Net loss	—	—	(71,241)	—	(71,241)
Other comprehensive income (loss)	—	—	—	66	66
Total comprehensive income (loss)	—	2	(71,241)	66	(71,173)
Balance as of December 31, 2018	**727**	**447,440**	**(416,074)**	**(10)**	**32,083**
Equity component of convertible loans	—	7,604	—	—	7,604
Deferred taxes on convertible loans	—	(2,212)	—	—	(2,212)
Expenses from share-based payment plan	—	19,564	—	—	19,564
Net loss	—	—	(99,873)	—	(99,873)
Other comprehensive income (loss)	—	—	—	32	32
Total comprehensive income (loss)	—	24,956	(99,873)	32	(74,885)
Balance as of December 31, 2019	**727**	**472,396**	**(515,947)**	**22**	**(42,802)**

The accompanying notes are an integral part of these consolidated financial statements.

CureVac AG

Consolidated Statements of Cash Flows

(in thousands of EUR)	Years ended December 31, 2018	2019
Operating activities		
Loss before income tax	**(71,131)**	**(100,125)**
Adjustments to reconcile loss before tax to net cash flows		
Finance income	(1,968)	(833)
Finance expense	275	1,460
Depreciation and amortization	3,781	7,164
Loss on disposal of fixed assets	52	241
Share-based payment expense	(4,248)	19,564
Working capital changes		
Decrease / (increase) in trade receivables and contract assets	(5,595)	(10,117)
Decrease / (increase) in inventory	878	(3,246)
Decrease / (increase) in other assets	(6,106)	630
Receipts from grants from government agencies and similar bodies	214	9,304
(Decrease) / increase in trade and other payables and contract liabilities	9,402	(9,584)
(Decrease) / Increase in other current financial and other liabilities	336	(334)
Income taxes paid	(26)	(345)
Interest received	15	81
Interest paid	11	(824)
Net cash flow (used in) operating activities	**(74,110)**	**(86,963)**
Investing activities		
Purchase of property, plant and equipment	(9,406)	(11,172)
Purchase of intangible assets	(5,317)	(1,052)
Proceeds from asset-related grants	—	2,325
Proceeds from other financial assets	10,459	38,080
Net cash flow from (used in) investing activities	**(4,264)**	**28,181**
Financing activities		
Payments on lease obligation	(112)	(1,910)
Proceeds from the convertible loans	—	69,889
Net cash flow from (used in) financing activities	**(112)**	**67,979**
Net increase (decrease) in cash and cash equivalents	(78,486)	9,197
Effect of currency translation gains on cash and cash equivalents	213	107
Cash and cash equivalents, beginning of period	99,653	21,380
Cash and cash equivalents, end of period	**21,380**	**30,684**

The accompanying notes are an integral part of these consolidated financial statements.

CureVac AG

Notes to the Consolidated Financial Statements

1. Corporate Information

CureVac AG, ("CureVac" or "CV" or the "Company") is the parent company of CureVac Group ("Group"). The Company's registered headquarters is Friedrich-Miescher-Strasse 15, 72076 Tuebingen, Germany and the Company is registered in the commercial register (Handelsregister) at the local court (Amtsgericht) of Stuttgart, Germany under HRB 754041. CureVac is a leading global clinical-stage biopharmaceutical company developing a new class of transformative medicines based on the messenger ribonucleic acid (mRNA) that has the potential to improve the lives of people. The Group was spun out of the University of Tuebingen (Germany) and is primarily funded by its major shareholder, the dievini Hopp BioTech holding GmbH & Co. KG (dievini), which is an investment company dedicated to the support of companies in health and life sciences.

2. Significant accounting policies

These consolidated financial statements are prepared on a historical cost basis under the going concern assumption. The significant accounting policies adopted in the preparation of these consolidated financial statements are described below. These accounting policies have been consistently applied to all years presented, unless otherwise stated.

The preparation of financial statements requires the use of certain accounting estimates. It also requires management to exercise its judgment in applying the Group's accounting policies. The areas that require a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the financial statements, are disclosed below.

Basis of preparation

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and were authorized by Management Board for presentation to the Supervisory Board on April 29, 2020. The Group's consolidated financial statements are presented in Euros ("EUR"), which is also the parent company's functional currency. Unless otherwise stated, the numbers are rounded to thousands of Euros, except per share amounts.

Basis of consolidation

The consolidated financial statements include the Company's wholly owned subsidiaries CureVac Inc. (Cambridge, Massachusetts, USA) and CureVac Real Estate GmbH (Tuebingen, Germany). Control is achieved when the Company is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated upon consolidation.

The fiscal year of all Group entities corresponds to the calendar year ending December 31.

Foreign currency translation

For each entity, the Group determines the functional currency and items included in the financial statements of each entity are measured using that functional currency. Foreign currency transactions are initially translated at the spot rate applicable between the functional currency and the foreign currency on the date of the transaction. Monetary assets and liabilities in foreign currencies are translated to the functional currency using the prevailing rate at the reporting date. Foreign currency exchange differences are recorded to the statement of operations. Upon consolidation, the assets and liabilities of foreign operations are translated into Euro at the rate of exchange prevailing at the reporting date and their statements of operations

are translated at the average exchange rate of the fiscal period. The exchange differences arising on translation for consolidation are recognized in other comprehensive income (loss).

Revenue recognition

Revenue from the sale of products and services is recognized when the Group transfers control to the customer. Control generally transfers when the customer gains the ability to direct the use of and obtain substantially all of the remaining benefits from the good or service. If the contract contains more than one performance obligation, the consideration which the Group expects to receive is allocated to each of the performance obligations, using the relative stand-along selling price method. Revenue is recognized at the amount of consideration that the Group is expected to receive in exchange for these goods or services. The Group has concluded that it acts as a principal in sales transactions as it has control over the goods or services before transferring control to the customer.

The Group primarily generates revenue from its licensing and development agreements with collaboration partners for the development of mRNA medicines against a variety of targets in diseases and conditions. These arrangements contain multiple contractual promises, including (i) licenses, or options to obtain licenses, to the Group's mRNA technology, (ii) delivery of products and (iii) research and development services. Such arrangements provide for various types of payments to the Group, including upfront fees, funding of research and development services, payment for delivered products, development, regulatory and commercial milestone payments, license fees and royalties on product sales, all of which may be satisfied at different points in time. Outlicensing agreements may be entered into with or without any further significant contractual obligations.

Goods or services promised in collaborative arrangement are accounted for as separate performance obligations if such promises are distinct (i.e., if the customer can benefit from the good or service on its own or together with other resources readily available to it and if the promise is separately identifiable from other promises in the contract).

In determining whether contractual promises are separately identifiable, the Group considers whether:

- It provides a significant service of integrating the goods or services with other goods or services that represent the combined output or outputs for which the other party has contracted
- One or more of the goods or services significantly modifies or customizes one or more of the other goods or services promised in the agreement.
- The good or services the Group promised to transfer or to provide are highly interdependent or highly interrelated.

Based on these criteria, management evaluates whether the intellectual property (IP) licenses granted, and to which further research and development activities may apply under the terms of a collaboration agreement, are distinct from the unperformed obligations to the collaboration partner, considering the relevant facts and circumstances of each arrangement. Factors considered in this determination include the nature of the IP license, the stage of development of the IP license granted, the research capabilities of the partner and the availability of mRNA technology research expertise in the general marketplace.

When an IP license is not considered to be distinct, the Group generally recognizes revenue, including any upfront payment, attributable to the license on a straight-line basis, which reflects the performance of services by the Group towards satisfaction of the obligation, over the contractual or estimated performance period, which is typically from the effective date of the related collaboration agreement through the estimated date of market entry of a product developed under the agreement. The determination of the estimated date of market entry requires a significant amount of judgment given the uncertainty inherent in developing innovative pharmaceutical products and is based upon development plans with the customer, which are subject to change, clinical trials and approval of regulatory authorities. Changes in the estimated date of market entry could have a material impact on the amount and timing of revenue the Group records in future periods.

When an IP license is considered to be distinct, the Group determines whether it provides the customer with either (1) a right to access the IP throughout the license period (for which revenue is recognized over the license period) or (2) a right to use the IP as it exists at the point in time that the license is granted (for which revenue is recognized at a point in time where the customer can first use and benefit from the license).

If the transaction price in an agreement includes a variable amount, the Group estimates the amount of consideration to which the Group will be entitled in exchange for transferring the goods to the customer. At contract inception, the variable consideration is estimated based on the most likely amount of consideration expected from the transaction and constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognized will not occur when the associated uncertainty with respect the variable consideration is subsequently resolved. The estimated deferred contract liability is updated at each reporting date to reflect the current facts and circumstances.

Collaboration agreements may also provide a customer with the option to acquire additional goods or services. The accounting treatment for such options depends on the nature of these options. Options are considered to be substantive if, at the inception of an agreement, the Group is at risk as to whether the customer will choose to exercise the options to secure additional licenses. Factors that are considered in evaluating whether options are substantive include the overall objective of the arrangement, the benefit the customer might obtain from the agreement without exercising the options, the cost to exercise the options relative to the total upfront consideration, and the additional financial commitments or economic penalties imposed on the customer as a result of exercising the options.

Product sales related to collaboration agreements include RNA products and are recognized over time when the products have no alternative use and the Group has an enforceable right to payment. Otherwise, revenue for product sales is recognized at a point in time.

A receivable is recognized when the consideration is unconditional and only the passage of time is required before payment is due. The transaction price is quoted in the relevant contractually agreed pricing in force at the date of customer placing the respective order for such goods or services. Amounts received prior to satisfying the above revenue recognition criteria are recorded as contract liability in the statements of financial position.

The Group may present the following contract balances:

- Contract assets — Represents the Group's right to consideration in exchange for goods or services that the Group has transferred to the customer when that right is conditioned on something other than the passage of time
- Trade receivables — Represents the Group's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due).
- Contract liabilities — Represents the Group's obligations to transfer goods or services to a customer for which the Group has received consideration (or consideration is due) from the customer

The Group recognizes revenue from contracts with customers relating to its core business. All other operating proceeds are presented as other operating income in the statements of operations.

Grants from government agencies and similar bodies

The Group receives grants from government agencies and similar bodies for the active participation in specific research and development projects. The grants are recognized when there is reasonable assurance that the grant will be received and all grant conditions will be met. If grant funds are received prior to qualifying expenses being incurred or assets purchased, they are recorded as a liability in other liabilities. If the funds reimburse expenses, the liability is amortized into other operating income on a systematic basis over the period in which the corresponding expenses are incurred. If the funds reimburse purchased assets, the liability is reduced with a corresponding amount deducted from the asset's carrying amount upon recording

of the qualified asset. According to the terms of the grants, grantors generally have the right to audit qualifying expenses submitted by the Group.

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

i) Financial assets

Initial recognition and measurement

Financial assets are initially measured at fair value. After the initial measurement, the financial assets are subsequently classified as either amortized cost, fair value through other comprehensive income, or fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. The Group initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component are measured at the transaction price determined under IFRS 15.

For a financial asset to be classified and measured at amortized cost or fair value through other comprehensive income, it needs to give rise to cash flows that are "solely payments of principal and interest (SPPI)" on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level.

Subsequent measurement

For purposes of subsequent measurement, financial assets are classified into four categories:

- financial assets at amortized cost (debt instruments);
- financial assets at fair value through other comprehensive income with recycling of cumulative gains and losses (debt instruments);
- financial assets designated at fair value through other comprehensive income with no recycling of cumulative gains and losses upon derecognition (equity instruments); or
- financial assets at fair value through profit or loss.

In fiscal 2019 and 2018, the Group only had the following financial assets to be measured at amortized cost and/or at fair value through profit or loss:

- Cash and cash equivalents
- Other financial assets
- Trade receivables and contract assets

Financial assets at amortized cost are subsequently measured using the effective interest (EIR) method and are subject to impairment. Gains and losses are recognized in the statement of operations when the asset is derecognized, modified or impaired.

Derecognition

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized when the Group no longer has the contractual rights to the asset or the right to receive cash flows from the asset have expired.

Impairment of financial assets

An allowance for expected credit losses (ECLs) is be recognized for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in

accordance with the contract and all of the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For cash and cash equivalents, trade receivables and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date.

The Group considers a financial asset in default when contractual payments are 180 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

ii) Financial liabilities

Initial recognition and measurement

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings or as payables.

All financial liabilities are recognized initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

The Group’s financial liabilities include lease liabilities, convertible loans and trade payables.

Subsequent measurement

After initial recognition, interest-bearing loans and borrowings, trade payables and other financial liabilities are subsequently measured at amortized cost using the EIR method. Gains and losses are recognized in the statement of operations when the liabilities are derecognized as well as through the EIR amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included as finance costs in the statement of operations.

This category generally applies to interest-bearing loans and borrowings, including the convertible loans.

Derecognition

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires.

Acquired Intangible assets

Acquired intangible assets are initially measured at cost. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses.

The useful lives of intangible assets are assessed to be either finite or indefinite. Intangible assets with finite useful lives are amortized over their useful life, generally using the straight-line method. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least annually at each fiscal year end. Changes in the expected useful life or the expected pattern of

consumption of future economic benefits are accounted for prospectively. Amortization of an intangible asset is reported in the consolidated statement of operations in accordance with the function of the intangible asset.

Gains or losses arising from derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognized in the consolidated statement of operations in the period in which the asset is derecognized.

Acquired intangible assets are mainly comprised of software and licenses. The Group has entered into non-exclusive license agreements for patent rights and/or know-how with reputable universities, cancer research institutes and other research partners. The cost of these licenses includes fixed as well as contingent consideration mainly linked to specified events in the collaborations for which the licenses are used. The licenses are measured initially at cost which comprises the fixed purchase price components. The Group records a liability for contingent consideration and capitalizes such amounts as part of the cost of the acquired intangible asset, when the future event, upon which the contingent consideration depends, occurs or a present obligation exists.

The estimated useful lives for each intangible asset class are as follows:

Software and Licenses	3 to 8 years

One intangible asset with a net carrying amount of EUR 3,108k and a remaining useful life of 7 years, relates to the rights to access a third-party's LNP formulation technology.

The Group does not have any intangible assets with indefinite useful lives.

Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairments. These costs also comprise the costs for replacement parts, which are recognized at the time they are incurred, providing they meet the recognition criteria. All other repair and maintenance costs are expensed as incurred. Depreciation is recognized on a straight-line basis over the estimated useful lives as follows:

Buildings:	1 to 10 years
Technical equipment and machines:	3 to 14 years
Other equipment, furniture and fixtures:	3 to 14 years

Property, plant and equipment are derecognized upon disposal or when no further economic benefits are expected from their continued use or sale. The gain or loss on derecognition is determined as the difference between the net disposal proceeds and the carrying amount and recognized in profit or loss in the period in which the item is derecognized.

The residual values of the assets, useful lives and depreciation methods are reviewed at the end of each fiscal year and any changes are accounted for prospectively.

The estimated useful lives and depreciation methods remained unchanged from fiscal 2018 to fiscal 2019. The residual values of the assets are generally considered to be zero.

Non-current other assets — costs to obtain a contract

Amortization of assets recognized from the costs to obtain a contract with a customer within the scope of IFRS 15 is recognized on a straight-line basis over their associated estimated useful lives.

Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part

of the cost of the asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

The Group capitalizes borrowing costs when it meets all the following conditions: (a) it incurs expenditures for the asset; (b) it incurs borrowing costs; and (c) it undertakes activities that are necessary to prepare the asset for its intended use or sale.

The Group capitalized EUR 2,188k borrowing costs during fiscal 2019 (2018: 0k). The capitalization rate used to determine the amount of the borrowing costs eligible for capitalization was during fiscal 2019 with a weighted-average of 9.13%.

Impairment of assets

At each reporting date, the Group assesses whether there is an indication that an asset may be impaired. If there is any indication of impairment or if an annual impairment test is required, the Group estimates the recoverable amount of the asset. The recoverable amount of an asset is the higher of the asset's fair value less costs of disposal and its value-in-use. It is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets, in which case it is determined at the level of the cash-generating unit. If the carrying amount of an asset exceeds its recoverable amount, the asset is impaired and written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

When there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognized, any impairment loss previously recognized is reversed. The reversal may not exceed the carrying amount that would have been determined after amortization or depreciation had no impairment loss been recognized for the asset in prior periods. The amount of the reversal is recognized in profit or loss for the period.

There were no impairments or reversals of impairments in fiscal 2019 and 2018.

Leases

Through December 31, 2018, the Group applied the following policy: leases where the lessor retains substantially all the risks and benefits of ownership of the asset were classified as operating leases. Lease payments on operating leases were recorded as an expense in the income statement of operations on a straight-line basis over the term of the lease. However, a lease was classified as a finance lease if it transferred substantially all the risks and rewards incidental to ownership. If this were the case, the leased assets were initially recognized and measured at the fair value of the leased asset, or, if lower, the present value of the future minimum lease payments and depreciated using the straight-line method over the minimum contract term, taking any existing residual value into consideration. When it was reasonably certain that ownership passed to the Group at the end of the lease period, such assets were depreciated over their useful lives. The present value of the payment obligations associated with the minimum future lease payments was recognized as a liability.

Effective January 1, 2019, the Group adopted IFRS 16, which affects the Group's accounting policy for leases; refer to the section "Changes in accounting policies and disclosures — New and amended standards and interpretations" below for further information.

Inventories

Inventories are valued at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less estimated costs of completion and the estimated costs necessary to make the sale.

Costs incurred in bringing each product to its present location and condition are accounted for, as follows:

- Raw materials: purchased cost on a first-in/first-out basis

- Finished goods and work in progress: cost of direct materials and labor and a proportion of manufacturing overhead based on normal operating capacity, but excluding borrowing costs

Inventories are comprised of raw materials, work in progress and finished goods and are held for use in the fulfillment of collaboration agreements.

Cash and cash equivalents

Cash and cash equivalents include cash on hand, bank balances on demand and short-term deposits with an original maturity of three months or less.

Share-based payment awards

The Group operates a number of share-based payment programs.

An equity-settled share-based payment award is accounted for by recognizing the related expense over the vesting period of the award, with corresponding increase recorded in equity. The expense is based on the fair value determined at the grant date of the award and the number of awards expected to vest. The fair value remains unchanged after grant date. If there is no final grant date due to terms that have yet to be implemented, the fair value is based on an estimated grant date. Once the award has vested, there is no reversal of expense related to the award.

When a share-based payment award provides for different ways of settlement (i.e. cash versus shares) depending on the occurrence of contingent events, the award is accounted for based on the manner of settlement that is most probable. A change in the expected manner of settlement is accounted for as a modification.

The related share-based payment expense is recorded in the functional cost category to which the award recipient's costs are classified.

Taxes

Current tax assets and liabilities

Current tax assets and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities based on the tax rates and tax laws that are enacted or substantively enacted at the end of the reporting period.

Deferred taxes

Deferred tax is recognized using the liability method on all temporary differences as of the end of the reporting period between the carrying amounts of assets and liabilities and their tax bases.

Deferred tax liabilities are recognized for all taxable temporary differences. The only exception is if the deferred income tax arises from initial recognition of an asset or liability in a transaction other than a business combination which, at the time of the transaction, affects neither accounting profit nor loss nor taxable profit or loss.

Deferred tax assets are recognized for deductible temporary differences and to the extent that it is probable that future taxable income will allow the deferred tax asset to be realized.

Deferred tax assets and deferred tax liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

In the event that transactions and other events are recognized directly in equity, any related taxes on income are also recognized directly in equity.

Deferred tax assets and deferred tax liabilities are offset if there is a legally enforceable right to offset current tax assets and current tax liabilities and these relate to income taxes levied by the same tax jurisdiction.

Segments

An operating segment is defined as a component of an entity for which discrete financial information is available and whose operating results are regularly reviewed by the Chief Operating Decision Maker (CODM). The CODM is comprised of the Management Board of the Group. The Group operates as a single segment dedicated to the discovery and development of biotechnological applications and the CODM makes decisions about allocating resources and assessing performance based on the Group as a whole. Accordingly, the Group has determined it operates in one operating and reportable segment.

Significant accounting judgments, estimates and assumptions

The preparation of financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the reported amounts in the financial statements. Management continually evaluates its judgments and estimates in relation to assets, liabilities, contingent liabilities, revenues and expenses. Management bases its judgments and estimates on historical experience and on other various factors, it believes to be reasonable under the circumstances, the result of which forms the basis of the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions and conditions and may materially affect the financial results or the financial position reported in future periods.

Significant judgments

In the process of applying the accounting policies, management has made the following judgments, which have the most significant effect on the amounts recognized in the consolidated financial statements.

Accounting for share-based payments

The Group has multiple share-based payment programs. Significant judgments include classification as cash or equity-settled awards of the share-based payments and the determination of the fair value of the awards.

Since 2009, members of management and other key employees were awarded rights in a virtual shares program. In 2019, rights were awarded in a new virtual shares program and other terms specific to certain individuals. Under the terms of these programs, participants are entitled to cash payments that are contingent on the occurrence of specified exit events, which includes an initial public offering (IPO) of the Group. In the case of an IPO, the Group has a choice of setting the awards in either cash or shares. It is the Group’s intention to settle in shares if such scenario materializes.

The Group considers an IPO scenario as more probable than other, cash-settled, scenarios and accounts for the virtual shares program as equity-settled.

The new awards granted in 2019 are also accounted for as equity-settled share-based payments on that basis and thus requires an estimation of the grant date fair value of the awards at the time when they were granted. Such estimates require significant judgment and, depending on when the awards are granted, are subject to change in line with the Group’s development but are also dependent on the likelihood of occurrence of the exit scenario underlying the valuation. For further details, refer to Note 9.

Revenue recognition and collaboration agreements

The Group applied the following judgments in determining the amount and timing of revenue from collaboration agreements:

- Identification and determination of the nature of performance obligations in collaboration and license agreements.

The Group generates revenues from collaboration and license agreements under which the Group grants licenses to use, research, develop, manufacture and commercialize candidates and products. As these agreements comprise several promises, it must be assessed whether these promises are capable of being distinct within the context of the contract. If these promises are not distinct, they are combined until the

bundle of promised goods and services is distinct. For some agreements, this results in the Group accounting for all goods and services promised in a collaboration and license agreement as a single performance obligation with a single measure of progress.

For these combined performance obligations, it must be assessed which of these promises is the predominant promise to determine the nature of the performance obligation. The Group determined that the grant of the license is the predominant promise within the (combined) performance obligation to grant a license to the customers. It was assessed that the Group grants its customers a right to access or a right to use the Group's IP due to the collaboration and license agreements.

As a result, the promise to grant a license is accounted for as a performance obligation satisfied over time as the Group's customer simultaneously receive and consumes the benefits from the Group's performance.

- Estimation of variable consideration and assessment of the constraint when determining the amount of revenue of which to defer recognition

The Group's collaboration and license agreements comprise variable considerations which are contingent on the occurrence or non-occurrence of a future event (i.e., reaching a certain milestone). When determining the deferral of revenue in a collaboration and license agreement, the Group is required to estimate the amount of consideration to which it will be entitled in exchange for transferring the promised goods or services to the customer.

As there are usually only two possible outcomes (i.e., milestone is reached or not), the Group has assessed that the method of the most likely amount is the best method to predict the amount of consideration to which the Group will be entitled.

The most likely amount of these milestone payments (i.e., the full milestone payment) is only included in the transaction price if the occurrence of reaching future milestone is highly probable. The Group has assessed that the likelihood of achieving the respective milestone decreases depending on how far the expected date of achieving the milestone lies in the future.

The Group has concluded that future milestone payments are fully constrained at the end of the current fiscal year. Future milestone payments would become unconstrained at the satisfaction of the milestone event, specifically a development event, a regulatory approval or achievement of a sales milestone.

Research and development costs and internally generated intangible assets

Research activities undertaken with the prospect of gaining new scientific or technical knowledge and understanding are expensed as incurred.

Development activities relate to the planning or designing of substantially improved products and processes. Development expenses are capitalized only if the cost involved can be measured reliably, the product or process under development is technically feasible, future economic benefits are probable and the Group has the intention and resources to complete development and use or sell it. Cost capitalized comprises costs of material and employee services as well as other directly attributable expenses.

Due to the regulatory environment and other types of uncertainty, management has determined that the criteria for capitalizing development costs to intangible assets, as set out in IAS 38, have not been met and therefore the Group has not capitalized any development costs in 2019 and 2018. See Note 3.4 for information relating to research and development expenses incurred in the reporting period.

Accounting for convertible loans

IFRS requires that a convertible loan be bifurcated into a debt component and a conversion right if the latter is an equity instrument.

The Group assessed that the conversion right of the convertible loan is not an equity instrument, but a liability with an insignificant value.

The debt component of the convertible loan is measured using the market interest rate obtainable on similar debt instruments. The debt component is measured as liability at amortized cost until it is converted into equity or becomes due for repayment. The carrying amount of the debt component is based on an expected repayment in 2021, which is the earliest possible date at which repayment can be required by the lender, unless specified events occur.

The component of the loan proceeds allocated to equity represents the residual value between the consideration received for each single tranche and the fair value of the corresponding financial liabilities at initial recognition.

Based on these inputs, the carrying amount of the debt component was determined to be EUR 62,284k. The remainder of the proceeds is attributable to the below-market terms of the convertible loan. The amount is deemed to be a contribution by the related party and is recorded as such in equity (net of tax).

For further information on the convertible loan, see Note 12.

Changes in accounting policies and disclosures

New and amended standards and interpretations

IFRS 16 Leases

a) General

IFRS 16 supersedes IAS 17 Leases, IFRIC 4 Determining whether an Arrangement contains a Lease, SIC-15 Operating Leases-Incentives and SIC-27 Evaluating the Substance of Transactions Involving the Legal Form of a Lease. The standard sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model.

The Group adopted IFRS 16 using the modified retrospective method of adoption with the date of initial application of January 1, 2019. Under this method, the standard is applied retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application. The Group elected to use certain transition practical expedients, including applying the standard only to contracts that were previously identified as leases applying IAS 17 and IFRIC 4 at the date of initial application.

b) Nature of the effect of adoption of IFRS 16

The Group has lease contracts for the building, vehicles and equipment. Before the adoption of IFRS 16, the Group classified each of its leases (as lessee) at the inception date as either a finance lease or an operating lease. A lease was classified as a finance lease if it transferred substantially all of the risks and rewards incidental to ownership of the leased asset to the Group; otherwise it was classified as an operating lease. Finance leases were capitalized at the commencement of the lease at the inception date fair value of the leased property or, if lower, at the present value of the minimum lease payments. Lease payments were apportioned between interest (recognized as finance costs) and reduction of the lease liability. In an operating lease, the leased property was not capitalized and the lease payments were recognized as rent expense in the statement of operations on a straight-line basis over the lease term. Prepaid rent was recognized under “Non-current other assets.”

Leases previously classified as finance leases

The Group utilized the carrying amounts of recognized assets and liabilities at the date of initial application for leases previously classified as finance leases (i.e., the right-of-use assets and lease liabilities equal the lease assets and liabilities recognized under IAS 17). The requirements of IFRS 16 was applied to these leases from January 1, 2019.

Leases previously accounted for as operating leases

The Group recognized right-of-use assets and lease liabilities for those leases previously classified as operating leases, except for those exempted by the practical expedients listed below. The right-of-use

assets for all leases were recognized based on the amount equal to the lease liabilities. Lease liabilities were recognized based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at the date of initial application.

The Group also applied the available practical expedients wherein it:

- Relied on its assessment of whether leases are onerous immediately before the date of initial application
- Applied the short-term leases exemptions to leases with lease term that ends within 12 months at the date of initial application
- Excluded the initial direct costs from the measurement of the right-of-use asset at the date of initial application
- Used hindsight in determining the lease term where the contract contains options to extend or terminate the lease but did not use a single discount rate to a portfolio of leases with reasonably similar characteristics.

Based on the foregoing, as of January 1, 2019:

- Right-of-use assets of EUR 15,908k were recognized and presented separately in the statement of financial position. This includes the lease assets recognized previously under finance leases of EUR 69k that were reclassified from Property, plant and equipment and estimated costs to be incurred by the lessee for dismantling and removing the underlying asset.
- Additional lease liabilities of EUR 15,810k (included in “lease liabilities” from January 1, 2019; included in “finance lease liabilities” at December 31, 2018) were recognized.
- Prepaid rent recognized under “Non-current other assets” in the amount of EUR 4,333k was carried on forward in this line-item because the commencement date of the associated lease has not occurred as of January 1, 2019.
- Because there was no accrued rent related to previous operating leases at December 31, 2018 and Right-of-use asset equaled the additional lease liabilities and the provision for the restoration obligation, there was no deferred tax impact and no effect on accumulated deficit as of January 1, 2019.

The lease liabilities as at January 1, 2019 reconcile to the operating lease commitments as of December 31, 2018 as follows:

	EUR k
Existing commitments as at December 31, 2018	
Operating lease commitments	48,008
Minimum lease payments (notional amount) on finance lease liabilities	78
Relief option for short-term leases	(110)
Leases with commencement date after January 1, 2019 in the amounts included above as existing commitments as at December 31, 2018	(28,557)
Other	123
Gross lease liabilities as at January 1, 2019	**19,542**
Effect of discounting	(3,655)
Lease liabilities as at January 1, 2019	**15,887**
Present value of finance lease liabilities as at December 31, 2018	(77)
Lease liabilities upon initial application of IFRS 16 as at January 1, 2019	**15,810**
Weighted average incremental borrowing rate as at January 1, 2019	5.64%

The range of the incremental borrowing rate is between 2.32% and 7.90%.

c) Summary of new accounting policies

Set out below are the new accounting policies of the Group upon adoption of IFRS 16:

Right-of-use assets

The Group recognizes right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received as well as any estimated costs to be incurred by the lessee for dismantling and removing the underlying asset. Unless the Group is reasonably certain to obtain ownership of the leased asset at the end of the lease term, the recognized right-of-use assets are depreciated on a straight-line basis over the shorter of its estimated useful life, indicated below, and the lease term. Right-of-use assets are subject to impairment according to IAS 36.

Land and Buildings:	1 to 15 years
Vehicles:	3 to 4 years
Other equipment:	2 to 5 years

Lease liabilities

At the commencement date of the lease, the Group recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for terminating a lease, if the lease term reflects the Group exercising the option to terminate. The variable lease payments that do not depend on an index or a rate are recognized as expense in the period on which the event or condition that triggers the payment occurs. In calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the in-substance fixed lease payments or a change in the assessment to purchase the underlying asset. When the lease liability is remeasured, a corresponding adjustment is made to the carrying amount for the right-of-use asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to its short-term leases of machinery and equipment (i.e., leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered of low value. Lease payments on short-term leases and leases of low-value assets are recognized as expense on a straight-line basis over the lease term. Furthermore, the Group also elected to use the recognition exemptions for lease contracts that, at January 1, 2019, had a remaining lease term of 12 months or less.

Election (not) to separate lease- and non-lease components

As a practical expedient, the Group elected not to separate the fixed (but not variable) portion of non-lease components in respect of leases of building and instead accounts them as a single lease component.

d) Significant judgments

Determining the lease term of contracts with renewal options

The Group determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised.

The Group has the option, under some of its leases to lease the assets for additional terms of five to ten years. The Group applies judgment in evaluating whether it is reasonably certain to exercise the option to renew. The Group considers all relevant factors that create an economic incentive for it to exercise the renewal.

After the lease commencement date, the Group reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise (or not to exercise) the option to renew (e.g., a change in business strategy).

The Group included the renewal period (5 years) as part of the lease term for certain building lease arrangements. Optional lease payments from both of these aforementioned extension options not included in the measurement of the lease liability exist in a gross amount of EUR 12,548k.

Estimating the incremental borrowing rate

In most cases, the Group cannot readily determine the interest rate implicit in the lease. Therefore, it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The IBR therefore reflects what the Group 'would have to pay', which requires estimation when no observable rates are available (such as for subsidiaries that do not enter into financing transactions) or when they need to be adjusted to reflect the terms and conditions of the lease. The Group estimates the IBR using observable inputs (such as market interest rates, country risk premiums and credit spreads) when available and is required to make certain entity-specific estimates (such as the subsidiary's stand-alone credit rating and discounts for collateral).

e) Amounts recognized in the statement of financial position and statement of operations and other comprehensive income (loss)

Set out below, are the carrying amounts of the Group's right-of-use assets and the movements during the period:

	Right-of-use assets			
	Land and Buildings	Vehicles	Other equipment	Total
	EURk	EURk	EURk	EURk
As at January 1, 2019	15,536	132	239	15,907
Additions	82	59	13	154
Depreciation expense	(2,322)	(65)	(142)	(2,529)
Foreign currency translation	79	—	—	79
As at December 31, 2019	**13,375**	**126**	**110**	**13,611**

Below are the carrying amounts of lease liabilities and the movements during the period:

	EUR k
As at January 1, 2019	15,887
Additions	153
Accretion of interest	824
Payments	(2,812)
Foreign currency translation	78
As at December 31, 2019	**14,130**
Current	2,004
Non-current	12,126

A maturity analysis of lease liabilities is disclosed in Note 15.

The following are the amounts recognized in the statement of operations:

	EUR k
Depreciation expense of right-of-use assets	(2,529)
Interest expense on lease liabilities	(824)
Expense relating to short-term leases (included in cost of sales)	(167)
Expense relating to leases of low-value assets (included in administrative expenses)	(94)
Total amount recognized in profit or loss	**(3,614)**

The Group had total cash outflows for leases of EUR 3,073k in 2019.

The Group also had non-cash additions to right-of-use assets and lease liabilities of EUR 153k in 2019.

The non-cash additions to right-of-use assets and lease liabilities are the sum of the amounts disclosed above in the movements and the amounts resulting from the first-time adoption of IFRS 16 as at January 1, 2019 described above under b).

Leases not yet commenced to, which CureVac is committed at December 31, 2019, exist with fixed payment obligations for a lease of further two buildings in Tuebingen, Germany over a 15 year term in the gross amount of EUR 28,557k with a starting date of March 1, 2020 (and a respective earliest end date in 2035). In addition, optional lease payments for the renewal of this lease term for two 5 year extension options for the two buildings exist which could lead to further payments in a gross amount of EUR 21,653k (in addition to the EUR 12,548k) disclosed above under subsection d). Moreover, the Group is committed to further future cash outflows resulting from short-term leases in the amount of EUR 62k and leases of low-value assets in the amount of EUR 64k at December 31, 2019.

Other amendments of standards and/or new interpretations

The following several other amendments and interpretations apply for the first time in 2019:

- IFRIC Interpretation 23 Uncertainty over Income Tax Treatment
- Amendments to IFRS 9: Prepayment Features with Negative Compensation
- Amendments to IAS 19: Plan Amendment, Curtailment or Settlement
- Amendments to IAS 28: Long-term interests in associates and joint ventures
- Annual Improvements 2015-2017 Cycle
  - IFRS 3 Business Combinations
  - IFRS 11 Joint Arrangements
  - IAS 12 Income Taxes
  - IAS 23 Borrowing Costs

The standards did not have a material impact on the consolidated financial statements of the Group. The Group has not early adopted any standards, interpretations or amendments that have been issued but are not yet effective.

Standards issued but not yet effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements and that might have an impact on the Group's financial statements are disclosed below. The Group intends to adopt these new and amended standards and interpretations, if applicable, when they become effective.

- Amendments to IFRS 3: Definition of a Business
- Amendments to IAS 1 and IAS 8: Definition of Material
- Amendments to IAS 1: Presentation of Financial Statements: Classification of Liabilities as Current or Non-current
- Amendments to IFRS 9, IAS 39 and IFRS 7: Interest Rate Benchmark Reform
- Amendments to References to the Conceptual Framework in IFRS Standards

The amendments above are not expected to have a significant impact on the Group's consolidated financial statements.

3. Notes to the consolidated financial statements

3.1 Revenue from contract with customers

The Group recognized the following revenues in 2019 and 2018:

	December 31, 2018	December 31, 2019
	EUR k	EUR k
United States		
Eli Lilly and Company	8,927	14,319
Germany		
Boehringer Ingelheim	3,337	2,474
Others	5	104
Switzerland		
CRISPR	602	519
Total	**12,871**	**17,416**

Revenue recognized at a point-in-time	EUR 297k	EUR 3,022k
Revenue recognized over a period-of-time	EUR 12,574k	EUR 14,394k

Of these revenues, EUR 8,617k (2018: EUR 6,713k) and EUR 3,022k (2018: EUR 297k) were recognized from product sales and research and development services, respectively as part of collaboration agreements.

The Group has received upfront payments which were initially deferred and are subsequently recognized as revenue as the Group renders services over the performance period. Below is a summary of such payments and the related revenues recognized:

Customer	Upfront payments received or receivable at December 31, 2019 (in thousands)	Upfront payments included in contract liabilities at December 31, 2019 (in thousands of Euro)	Revenue recognized from upfront payments (in thousands of Euro)	
			2018	2019
Eli Lilly and Company	USD 50,000 (EUR 42,200)	34,854	3,516	3,516
CRISPR	USD 3,000 (EUR 2,524)	1,859	310	310
Boehringer Ingelheim	EUR 30,000	15,870	2,035	1,951
Genmab	USD 10,000 (EUR 8,937)	8,937	—	—
Total		**61,520**	**5,861**	**5,777**

Contract balances:

	January 1, 2018	December 31, 2018	December 31, 2019
	EUR k	EUR k	EUR k
Trade receivables	463	5,476	15,690
Contract assets	—	1,382	1,463
Contract liabilities	69,220	70,360	73,521

Trade receivables are non-interest bearing and are generally settled within 30 to 45 days.

At December 31, 2019, the Group had four collaboration partners (2018: three) that owed 100% (2018: two) of all the receivables and contract assets outstanding. There were two collaboration partners (2018: two) with balances greater than 10% of the total amounts of receivable and contract assets. Under the terms of the licenses and collaboration agreement with Genmab, CureVac recognized a receivable of USD 10,000k (EUR 8,937k). To mitigate currency risk CureVac entered into a currency forward contract for the entire value of the receivable. The settlement date of the forward contract is February 7, 2020. CureVac did not apply hedge accounting for this derivative.

Contract liabilities include advances received from the Group's major license and collaboration agreements. The outstanding balances of these accounts increased in 2019 and 2018 due to upfront and milestone payments received or receivable of EUR 8,937k and EUR 7,000k, respectively, which were deferred and exceeded the revenues recognized from contract liabilities recorded under the collaboration agreements in each respective year.

Contract liabilities allocated to the remaining performance obligations (unsatisfied or partially unsatisfied) as at year-end are as follows:

	Year ended	
	2018 EUR k	2019 EUR k
Within one year	5,777	7,481
More than one year	64,583	66,040
Total	**70,360**	**73,521**

The nature of expenses recognized in the functional categories of the statement of operations are as follows:

3.2 Cost of sales

The cost of sales consists of the following:

	2018	2019
	EUR k	EUR k
Personnel	(7,703)	(9,855)
Materials	(4,941)	(7,542)
Third-party services	(2,340)	(7,268)
Maintenance and lease	(1,758)	(1,060)
Amortization and depreciation	(893)	(2,038)
Other	(109)	(220)
Total	**(17,744)**	**(27,983)**

3.3 Selling and distribution expenses

Selling and distribution expenses consist of the following:

	2018	2019
	EUR k	EUR k
Personnel	(581)	(1,263)
Maintenance and lease costs	(300)	(167)
Amortization and depreciation	(95)	(81)
Other	(109)	(243)
Total	**(1,085)**	**(1,755)**

Personnel expenses mainly include salary and salary-related expenses of EUR 520k (2018: 581k) and expenses from share-based payments of EUR 743k (2018: 0k). Refer to Note 9 for further information.

3.4 Research and development expenses

R&D expenses consists of the following:

	2018	2019
	EUR k	EUR k
Materials	(5,867)	(4,015)
Personnel	(7,565)	(14,385)
Amortization and depreciation	(1,143)	(474)
Patents and fees to register a legal right	(4,847)	(4,551)
Third-party services	(19,921)	(18,626)
Maintenance and lease	(1,156)	(670)
Other	(1,223)	(521)
Total	**(41,722)**	**(43,242)**

Personnel expenses mainly include salary and salary-related expenses of EUR 14,127k (2018: 11,806k); additionally, in 2018, it includes a EUR 4,241k benefit recognized upon reversal of provisions due to expiration of certain virtual shares awarded under our Prior VSOP (see Note 9).

Third-party services mainly relate to research services provided by third-party laboratories, clinical services and R&D consulting services.

3.5 General and administrative expenses

General and administrative expenses include the following:

	2018	2019
	EUR k	EUR k
Personnel	(10,084)	(31,645)
Maintenance and lease costs	(3,239)	(4,604)
Third-party services	(4,006)	(5,970)
Legal and other professional services	(4,078)	(2,110)
Amortization and depreciation	(1,635)	(2,182)
Other	(2,247)	(2,458)
Total	**(25,289)**	**(48,969)**

Personnel expenses mainly include salary and salary-related expenses of EUR 13,083k (2018: 10,105k) and expenses from share-based payments of EUR 18,562k (2018: 0k). Other mainly consists of travel expenses of EUR 811k (2018: 853k) and office materials of EUR 1,647k (2018: 1,394k).

3.6 Other operating income

Other operating income relates to:

	2018 EUR k	2019 EUR k
Grants and other cost reimbursements from government agencies and similar bodies	808	5,385
Other	—	202
Total	**808**	**5,587**

In 2019 and 2018 income from grants with government agencies and similar bodies resulted from the following:

Coalition for Epidemic Preparedness Innovations

The Coalition for Epidemic Preparedness Innovations (CEPI) is an innovative partnership between public, private, philanthropic, and civil organizations, launched at the World Economic Forum in Davos in 2017, to develop vaccines to stop future epidemics. CEPI's priority diseases include Ebola virus, Lassa virus, Middle East Respiratory Syndrome coronavirus, Nipah virus, Rift Valley Fever and Chikungunya virus. CEPI also invests in platform technologies that can be used for rapid vaccine and immunoprophylactic development against unknown pathogens (i.e., Disease X).

In February 2019, CureVac entered into a partnership agreement worth up to USD 34,000k with CEPI to further develop CureVac's The RNA Printer™ prototype. Under the three-year partnership agreement, CureVac will use its mRNA platform for the preclinical development of a Lassa virus vaccine (a high-priority disease on the World Health Organization R&D list), a yellow fever vaccine and CureVac's rabies virus vaccine. Funds are to be received semi-annually in advance, to cover costs for the next six months. These payments are allocated to the agreed and signed statements of work. Management concluded that the arrangement should be accounted for by analogy to IAS 20.

CureVac is required to use reasonable efforts to achieve certain development milestones and is responsible for conducting certain clinical trials. In the event of an infectious disease outbreak, where such outbreak can be addressed by a Lassa virus, SARS-CoV-2 or future vaccine developed under the agreement, CureVac must manufacture such vaccine for use in the area affected by the outbreak on economic terms that satisfy CEPI's equitable access guidelines or otherwise allow CEPI or a third party to supply such vaccine in the affected area.

CureVac is required to grant certain approved manufacturers all necessary rights to use certain of CureVac's pre-existing IP and IP developed under the CEPI Agreement to further develop CureVac's automation solution and manufacture products for the treatment of certain diseases in geographic areas where there is an outbreak on economic terms that satisfy CEPI's equitable access guidelines. CureVac must provide all necessary commercially reasonable support to such approved manufacturers to facilitate such efforts.

CureVac solely owns all IP developed under the CEPI Agreement but is required to obtain CEPI's consent prior to exploiting any IP developed under the CEPI Agreement if such exploitation is in conflict with or goes against CEPI´s mission or policies.

In the event that CEPI terminates the agreement, CureVac will grant CEPI a license under CureVac's background IP and IP developed under the agreement to, among other things, develop and use CureVac's RNA Printer for use in treating certain infectious diseases and to manufacture products developed under the agreement.

During the year ended December 31, 2019, CureVac recognized the reimbursement of approved expenses of EUR 3,607k (2018: EUR 0k) as "other operating income" and EUR 2,325k (2018: EUR0k) were deducted from the carrying amount of qualifying assets recorded in property, plant and equipment.

As of December 31, 2019, EUR 2,886k in grant funds received have been deferred and are presented within other liabilities (as of December 31, 2018: EUR 0k).

Bill & Melinda Gates Foundation (BMGF)

BMGF finances, in the form of grants, various programs that CureVac operates for the development of vaccines, hence promoting and accelerating the development of CureVac's technology platform. Through its equity investment, BMGF supports mainly the development of CureVac's technology platform including the construction of a production plant in accordance with the GMP (Good Manufacturing Practice) standard on an industrial scale.

In 2015, CureVac entered into a Global Access Commitments Agreement with the Bill & Melinda Gates Foundation pursuant to which the Company is required to take certain actions to support the Bill & Melinda Gates Foundation's mission.

In November 2016, in connection with the Global Access Agreement, CureVac received a grant of USD 653k (EUR 614k) in funding for the development of a vaccine for picornaviruses. In November 2017, also in connection with the Global Access Agreement, the company received two additional grants: an amount of USD 1,000k (EUR 852k) was received for the development of a universal influenza vaccine and an amount of USD 800k (EUR 673k) was received for a malaria vaccine. In August 2019, the Company received a second payment for the universal influenza program amounting to USD 540k (EUR 486k).

During the year ended December 31, 2019 CureVac recognized EUR 768k (2018: EUR 486k) from the amortization of the grants on a straight-line basis as other operating income.

As of December 31, 2019, EUR 1,262 in grant funds received have been deferred and presented within other liabilities (as of December 31, 2018: EUR 1,544k).

3.7 Other operating expenses

Other operating expenses relates to:

	2018	2019
	EUR k	EUR k
Renumeration of supervisory board	(343)	(521)
Other	(320)	(30)
Total	**(663)**	**(552)**

4. Fixed Assets

4.1 Development of property, plant and equipment and intangible assets

The development of property, plant and equipment and of intangible assets for the year ended December 31, 2018 and 2019 were as follows:

Intangible assets

(in thousands of EUR)	Software and licenses	Advance payments	Total
Acquisition costs			
As of January 1, 2018	3,402	235	3,638
Additions	5,314	2	5,317
As of December 31, 2018	**8,717**	**238**	**8,954**
Cumulative amortization and impairment charges			
As of January 1, 2018	1,545	—	1,545
Amortization	1,197	—	1,197
As of December 31, 2018	**2,742**	**—**	**2,742**

(in thousands of EUR)	Software and licenses	Advance payments	Total
Acquisition costs			
As of January 1, 2019	8,717	238	8,954
Additions	738	44	782
Disposals	(6)	—	(6)
As of December 31, 2019	**9,449**	**282**	**9,731**
Cumulative amortization and impairment charges			
As of January 1, 2019	2,742	—	2,742
Amortization	1,295	—	1,295
Disposals	(4)	—	(4)
As of December 31, 2019	**4,033**	**—**	**4,033**
Carrying amount			
As of January 1, 2018	1,858	235	2,093
As of December 31, 2018	5,975	238	6,213
As of December 31, 2019	**5,416**	**282**	**5,698**

Property, plant and equipment

(in thousands of EUR)	Buildings	Technical equipment and machines	Other equipment, furniture and fixtures	Assets under construction	Total
Acquisition costs					
As of January 1, 2018	5,398	12,230	4,665	27,103	49,397
Additions	490	953	719	7,244	9,406
Disposals	—	(150)	(157)	—	(307)
Reclassifications	—	1,303	19	(1,323)	—
Currency translation	—	—	—	1	1
As of December 31, 2018	**5,888**	**14,336**	**5,247**	**33,025**	**58,497**
Cumulative depreciation and impairment charges					
As of January 1, 2018	1,337	4,610	2,654	7,120	15,721
Depreciation	371	1,299	890	—	2,559
Disposals	—	(99)	(157)	—	(255)
As of December 31, 2018	**1,708**	**5,810**	**3,387**	**7,120**	**18,025**

(in thousands of EUR)	Buildings	Technical equipment and machines	Other equipment, furniture and fixtures	Assets under construction	Total
Acquisition costs					
As of January 1, 2019	5,888	14,336	5,247	33,025	58,497
Additions	854	2,152	712	7,435	11,152
Disposals	(65)	(319)	(248)	—	(632)
Reclassifications	167	883	187	(1,237)	—
Currency translation	—	—	3	4	6
As of December 31, 2019	**6,844**	**17,051**	**5,902**	**39,226**	**69,023**
Cumulative depreciation and impairment charges					
As of January 1, 2019	1,708	5,810	3,388	7,120	18,026
Depreciation	779	1,637	899	—	3,315
Disposals	(37)	(190)	(164)	—	(392)
Currency translation	—	—	1	—	1
As of December 31, 2019	**2,449**	**7,257**	**4,123**	**7,120**	**20,949**
Carrying amount					
As of January 1, 2018	4,061	7,621	2,011	19,982	33,675
As of December 31, 2018	4,181	8,526	1,860	25,904	40,472
As of December 31, 2019	**4,395**	**9,795**	**1,779**	**32,105**	**48,075**

4.2 Non-current other assets

Non-current other assets of EUR 6,061k (2018: EUR 5,771k) consist of costs to obtain a contract of EUR 966k (2018: EUR 749k), a security deposit for a building of EUR 390k (2018: EUR 390k) as well as a deposit payment for a lease of EUR 4,705k (2018: EUR 4,632k).

The amortization of capitalized costs to obtain a contract in 2019 was EUR 25k (2018: EUR 25k).

5. Inventories

Inventories include the following:

	2018 EUR k	2019 EUR k
Raw materials	2,742	6,177
Finished goods	—	14
Other	209	6
Total	**2,951**	**6,197**

Raw materials were written-down by EUR 4,136k (2018: EUR 375k) due to obsolescence and net selling prices being lower than carrying cost related to a specific collaboration arrangement.

6. Other financial assets

Other financial assets include the following:

	2018 EUR k	2019 EUR k
Short-term investments	39,024	430
Other	229	1,028
Total	**39,253**	**1,458**

7. Prepaid expenses and other current assets

Prepaid expenses and other current assets of EUR 1,683k (2018: 2,628k) mainly include prepayments for future service agreements and goods in the amount of EUR 1,150k (2018: EUR 421k) and outstanding VAT refund claims of EUR 533k (2018: EUR 1,761k). The net amount of VAT refund claims and VAT payables does not bear interest and is reported to the tax authorities on a monthly basis.

8. Equity

The issued capital consists of Series A, B and C shares which have a nominal value of EUR 1, full voting rights and are fully paid-in. The amount of Series A, B and C shares issued as of December 31, 2019 and 2018 and January 1, 2018 are as follows:

Series	Shares
A	23,400
B	688,692
C	14,500
Total	**726,592**

Series B and C shares include preference rights in the case of a defined exit event (e.g., trade sale or merger) of CureVac. The Series C shares also include a liquidation preference which grants the shareholders the right to adjust their shares by a factor of between 1 and 3 depending on the proceeds generated in such defined exit event. The Series C shares were issued for share-based compensation (see Note 9). In case of an initial public offering (IPO) of CureVac, the liquidation preferences of the Series B and C shares lapse. This liquidation preference is classified as an equity-settled share-based payment.

At the Annual General Meeting of June 17, 2019, it was decided that the number of (virtual) option rights to be issued as part of a new employee program (taking into account the scope of the existing employee participation program) will be set at 15% of the issued capital of CureVac AG.

The Series B shares held by the Bill and Melinda Gates Foundation (BMGF) include certain further rights under which CureVac would be obliged to buy back the shares at a specified minimum amount under defined circumstances if the buy-back is allowed according to German corporate law (Aktiengesetz). However, management has concluded the defined circumstances are all under the control of the Company.

Capital reserves

Capital reserves may only be released and distributed to shareholders to the extent that the additional paid-in capital as reported in the Group’s statutory financial statements prepared under German GAAP is available for release and exceeds the accumulated deficit, including current year losses, as reported in those statutory financial statements.

Recent financing rounds

The following financings were initiated by the end of fiscal 2019:

Pursuant to an Investment and Shareholders` Agreement (“ISA”), effective December 19, 2019, Genmab A/S, a Danish corporation, agreed to purchase 16,345 Series B shares in the Company in exchange for EUR 20,000k in cash.

As of December 31, 2019, CureVac had received a total amount of EUR 16,345, corresponding to the par value of EUR 1 per share agreed to be purchased under the ISA. However, as the shares were not yet registered in the commercial register as of December 31, 2019, according to German law, the shares were not considered issued as of this date.

Convertible loans

The total amount recognized in equity in fiscal 2019 has been EUR 7,604k. Directly attributable transaction costs from this transaction have been determined to be immaterial and therefore recognized as an expense in fiscal 2019. See Note 12 for further information.

9. Share-based payments

During the years ended December 31, 2019 and December 31, 2018, the Group had the following share-based arrangements.

9.1 Management share option plans

At January 1, 2018, a total of 8,932 share options granted to five members of (former) management were outstanding and exercisable. All these options grant the holder the right to acquire shares of CureVac at nominal value and are classified as equity-settled share-based payments. These management share options were granted and vested prior to January 1, 2013. 3,650 of these options expired on December 31, 2018 and the remaining 5,282 options will expire on December 31, 2021.

According to the shareholder`s agreement in place, sufficient authorized capital ("genehmigtes Kapital") to enable CureVac AG to fulfill the rights under these 5,282 remaining share options at December 31, 2019 was authorized at the Annual General Meeting in 2016 and can be utilized until July 25, 2021.

See the description of the accounting for the Series C shares under Note 8. Equity.

No expenses have been recognized during the years ended December 31, 2019 and December 31, 2018 under these programs.

9.2 Virtual shares program I

Description of the program

In addition to the management share option plans described above, since 2009, CureVac has operated a virtual shares program for selected key employees of the Group ("Prior VSOP") originally up to 60,175 (2018: 60,175) Beteiligungspunkte (herein referenced as "virtual shares"). The main features of the Prior VSOP were originally as follows:

- The beneficiaries do not hold direct interests in CureVac but receive virtual shares at no cost, the notional value of which is equal to EUR 1 per ordinary share.
- The virtual shares are earned on a monthly basis (graded vesting) over a period of one to five years.
- Virtual shares allocated and earned are settled by CureVac in cash if an exit event occurs (e.g. trade sale, merger). In the event of a change of the former CureVac GmbH to an AG, CureVac may convert those virtual shares to share options.
- If no exit event or no modification into share options occurs within the term of the virtual shares program all rights from the virtual shares program lapse / have lapsed (which, depending on the individual agreements, is / has been September 30, 2018, December 31, 2018, September 30, 2020 or December 31, 2020).
- Vested virtual shares of former employees are measured based on the relevant valuation of the Company at the time leaving the company.

In July 2016, the Company modified the Prior VSOP adding an IPO as additional exit scenario. Under the terms of that scenario, participants would be able to exercise all or part of their (vested) virtual shares entitlement subject to further conditions such as the ability of the main shareholder to divest portions of its investment, minimum trading volumes or the ultimate marketing approval of relevant products. The Company may settle such entitlements in shares of the Company or in cash. As part of this modification the Company extended the term of the program until December 31, 2025 or by the end of 9 years after the day of the initial listing in the case of an IPO. Since then, the virtual shares program was accounted for as equity-settled.

However, according to the Investment and Shareholders` Agreement ("ISA") with an effective date as of December 19, 2019, in all defined exit events the economic burden of the Prior VSOP shall be borne

exclusively by the existing shareholders before the financing round which took place in October 2015 and therefore this group of shareholders will settle the claims of the Prior VSOP's beneficiaries by transferring their shares to CureVac for nominal amount or by transferring cash, if CureVac has to settle or settles voluntarily in cash.

The development of the virtual shares in this program granted to management and key employees was as follows:

	2018	2019
Outstanding at the beginning of the period	59,908	49,899
Granted during the period	—	5,000
Expired during the period	(10,009)	—
Outstanding at the end of the period	49,899	54,899
Thereof vested (and expensed)	49,899	54,899

The 5,000 virtual shares awarded in April 2019 (2018: none) were to the management.

As of December 31, 2019, and 2018, none of the virtual shares of the Prior VSOP are exercisable because an exit event or capital market transaction has not occurred.

(Expense) / benefit recognized in the statement of operations and other comprehensive income (loss)

The (expense) / benefit recognized for share-based payment plans during 2018 and 2019 is as follows:

	2018 EUR k	2019 EUR k
Research and development expenses	4,229	—
General and administrative expenses	21	(6,074)
Total	**4,250**	**(6,074)**

Refer to Note 3 for further information regarding the benefit recognized in 2018.

Measurement of Fair Values

The grant date fair value of the 5,000 virtual shares granted on April 18, 2019 was derived from the estimated equity value of CureVac on that date because the beneficiary is entitled to shares of CureVac for nominal amount in the case of an IPO without taking into consideration the liquidation preferences of the Series B and C shares (as described in Note 8. Equity), which lead to a fair value of one virtual share of EUR 1,215 at that time.

The grant date fair value of the equity-settled virtual shares granted in prior years was estimated when the modification occurred in July 2016, based on the valuations underlying the financing round in 2016 as this was the best indicator of the grant date fair value at that time.

The vested virtual share entitlements of former employees who are not participating in the modified award are accounted for as cash-settled and are measured by reference to the Company's value at the time they left the Company.

Since all virtual shares have, in the case of an IPO, no exercise price, common inputs to option pricing models include expected volatility, risk-free interest rate, life of the virtual shares, dividends expected, and did not significantly affect the fair value of the virtual shares and the total share option expense in fiscal 2019 and 2018.

9.3 Virtual shares program II (New VSOP)

Description of the program

Effective November 25, 2019, the Group granted 5,600 share options to 11 key employees of CureVac Inc. under the New VSOP program.

The main features of this program are as follows:

- Settlement conditions:
  - Options represent a cash-claim against CureVac if proceeds generated upon an exercise event exceed the exercise price
  - If CureVac's shares are publicly listed at the time of exercise, CureVac has the discretion to fulfill such cash-claim by delivering shares
- Exercise Price: USD 825.77 per share option
- Exercise Events include:
  - an Asset-, Share- or Merger-Deal,
  - an Equity Financing: if more than 50% of the investment is by parties other than the existing shareholders, or
  - after IPO subject to lock up restrictions and applicable trading windows,
- The awards vest over a period of 4 years, which starts on date of awardee was hired by the Group, whereby:
  - 25% of the Options vest after the end of the 1st year after vesting start and
  - the remaining 75% shall vest monthly thereafter
- Term of the program: 10 years, which is also approximately the weighted-average remaining life of the option awards as of December 31, 2019

As CureVac considers an IPO-scenario most probable and has the discretion and the stated intent to settle in shares instead of cash, CureVac accounts for this program as equity-settled.

Measurement of Fair Values

An advanced Black-Scholes Model (Enhanced American Stock Option Model) has been used to measure the fair value at the grant date of November 25, 2019. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value	EUR 505.48
Weighted average share price	EUR1,223.16
Exercise price (USD 825.77)	EUR 750.99
Expected volatility (%)	50.0%
Expected life (years)	1.16
Risk-free interest rate (%)	1.77%

The awards' per share exercise price is the Euro translation of November 25, 2019, which was 0.90 USD / EUR. Expected volatility was based on an evaluation of the historical volatilities of comparable listed biotech-companies over the historical period commensurate with the expected option life. The expected life of the awards was based on the assumptions that the beneficiaries would exercise their fully vested award at the first time possible (taking into account lock-up and potential trading windows restrictions). The risk-free interest was derived from US-government bonds because the granted awards were only to US employees on US territories in an IPO-scenario for a Nasdaq listed company.

Reconciliation of outstanding awards

The number of awards in this program granted to key employees in 2019 were as follows:

Outstanding at the beginning of the period	—
Granted during the period	5,600
Outstanding at the end of the period	5,600
Thereof vested	1,318
Thereof expensed	2,137

As of December 31, 2019, none of the awards are exercisable because an exit event or capital market transaction has not occurred.

Expense recognized in the statement of operations and other comprehensive income (loss)

The expense recognized for employee services received during the years ended December 31, 2019 is shown in the following table:

	2019 EUR k
Research and development expenses	(258)
Selling and distribution expenses	(743)
General and administrative expenses	(79)
Total	**(1,080)**

9.4 Former Chief Executive Officer Grant

Description of the program

On October 14, 2019 CureVac, granted 29,053 options, which corresponded to 4 % of the outstanding share capital of the Company at that time, to Dan Menichella, the then Chief Executive Officer (CEO) of CureVac from June 20, 2018 to March 10, 2020.

The main features of this program are as follows:

- Settlement conditions:
  - Option represents a cash-claim against CureVac if the proceeds generated in an exercise event exceed the exercise price
  - If CureVac's shares are publicly listed at the exercise date, CureVac has the discretion to fulfill such cash-claim by delivering shares, subject to further details
- Exercise Price: USD 1,101.03 per share option
- Exercise Events: The options are exercisable at any time, if the Exercise Price is exceeded in case of:
  - a financing round at the level of the Company if and to the extent more than 50 % of the funds raised per any financing round (equity or non-equity) are contributed by parties other than the existing shareholders subject to further conditions, especially minimum amounts, or
  - a Change of Control of the Company, or
  - an IPO of the Company, or
  - no later than September 11, 2020, subject to further conditions,

  and
  - subject to applicable law and corporate governance rules after the respective vesting as described below and, in any case, not later than 10 years after the effective date, i.e. all options that are not exercised by June 20, 2028 expire without replacement and without compensation, which is also considered the remaining life of the options of 8.69 years as of December 31, 2019
- Vesting period of 4 years, whereby:
  - 25% of the Options vest one year following the original effective date of January 8, 2017 and

- the remainder shall vest on the last day of each successive month thereafter, provided that the beneficiary remains employed by the company on vesting
- Options, once vested, are non-forfeitable.
- Furthermore, subject to the approval of the supervisory board of the company, the awards will vest in full (accelerated vesting) in the case a change of control or if the beneficiary leads the company to an IPO or a merger into a company listed at an internationally recognized stock market
- Options not yet vested lapse if the service agreement is terminated by the beneficiary. However, unvested options vest immediately if the Company terminates the service agreement, subject to further conditions.

As CureVac considers an IPO-scenario most probable and has the discretion and the stated intent to settle in shares instead of cash, CureVac accounts for this program as equity-settled as of December 31, 2019. Refer to Note 20 regarding the vesting of this award subsequent to December 31, 2019.

Measurement of Fair Values

An advanced Black-Scholes Model (Enhanced American Stock Option Model) has been used to measure the fair value at the grant date of October 14, 2019. The inputs used in the measurement of the fair value at grant date were as follows:

Weighted average fair value	EUR 514.93
Weighted average share price	EUR 1,223.16
Exercise price (USD 1,101.03)	EUR 998.38
Expected volatility (%)	50.0%
Expected life (years)	4.77
Risk-free interest rate(%)	1.71%

The options' per share exercise price is the Euro translation of October 14, 2019, which was 0.91 USD/EUR. Expected volatility was based on an evaluation of the historical volatilities of comparable listed biotech-companies over the historical period commensurate with the expected option life. The expected option life was based on the assumptions that the beneficiary would exercise his option in equal instalments from the date of the first time possible (taking into account lock-up and potential trading windows restrictions) until maturity. The risk-free interest was derived from US-Government bonds because the options were granted only to a US beneficiary on US territories in an IPO-scenario for a Nasdaq listed company.

Reconciliation of outstanding options

The number of options in this program granted to the beneficiary in 2019 were as follows:

Outstanding at the beginning of the period	—
Granted during the period	29,053
Outstanding at the end of the period	29,053
Thereof vested	21,184
Thereof expensed	24,099

As of December 31, 2019, none of the options are exercisable because an exit event or capital market transaction has not occurred.

Expense recognized in the statement of operations and other comprehensive income (loss)

The expense recognized for services received during the years ended December 31, 2019 is shown in the following table:

	2019
	EUR k
General and administrative expenses	(12,409)
Total	**(12,409)**

10. Trade and other payables

Trade payables and other payables are all due within one year and include the following:

	2018	2019
	EUR k	EUR k
Trade payables	(9,029)	(5,331)
License fees payable	(501)	(537)
Miscellaneous liabilities	(1,383)	(607)
Total	**(10,913)**	**(6,475)**

There is no concentration of risk. Miscellaneous liabilities consist mainly of payroll-related and withholding taxes of EUR 104k (2018: EUR 893k) and of other payroll taxes and social liabilities of EUR 504k (2018: EUR 490k).

11. Other liabilities

Other current liabilities include the following:

	2018	2019
	EUR k	EUR k
Accrued bonuses	1,903	2,477
Accrued vacation	682	780
Outstanding invoices	6,812	3,478
Professional fees	292	578
Grants from government agencies and similar bodies	1,186	4,148
Other	271	554
Total	**11,146**	**12,015**

In fiscal 2019 EUR 5,385k (2018: EUR 808k) of the grants from government agencies and similar bodies were recognized as other operating income.

12. Convertible loans

Dietmar Hopp (or the “Lender”), principal of dievini Hopp BioTech holding GmbH & Co. KG (dievini), the majority shareholder of the Group, granted on May 3, 2019 a loan (facility) fully convertible into equity of EUR 50,000k to CureVac (or the “Borrower”). Under the facility, CureVac had the right to use the loan in total or in tranches until March 1, 2020.

The loan was granted for an indefinite term and bears interest in the amount of 8.0% per annum. CureVac drew down the loan facility in tranches of

- EUR 20,000k at May 29, 2019
- EUR 20,000k at July 23, 2019 and

- EUR 10,000k at September 10, 2019

On October 24, 2019, the loan agreement was modified and fully replaced with a second loan agreement under which, in addition to the already disbursed amount of EUR 50,000k under the first loan, the lender granted the Borrower a second loan with a conversion option in a nominal amount of EUR 63,927k (equivalent to USD 70,000k calculated on the basis of the exchange rate applicable at the date of signing the modified agreement). Under the modified agreement, the interest on both loans is 8.0% per annum, is added to the amount of the loans and is due with the loans at maturity; compound interest is not due.

CureVac has the right to use this second loan in two tranches of EUR 20,000k and one final tranche of EUR 23,927k, if the Borrower's cash balance falls below EUR 15,000k, until December 31, 2021.

CureVac had drawn the first tranche of this second loan in the amount of USD 22,000k (EUR 19,888k) at December 19, 2019. As of December 31, 2019, the loans had accrued interest of EUR 1,960k.

According to the loan agreement in order to avoid the risk of indebtedness of the Borrower, the Lender subordinated its claim of repayment of the loans to all existing and future claims of the other creditors of the Borrower.

The potential effects the statement of operations resulting from foreign exchange fluctuations from the second loan are disclosed in the sensitivity analysis in the subsection "Foreign currency risk" in Note 15.

The effect on earnings per share in the case of a conversion of the loans is discussed at Note 14.

The loans can be terminated or converted into equity at any time in full or in part, however not before December 31, 2021 unless CureVac initiates or concludes a transaction amongst shareholders, issues further convertible loans or executes a cross-over financing round in direct or indirect preparation of an IPO. Upon conversion into equity, the amount of the loans and accrued interest converted would convert into a variable number of shares of the same class and at the same price per share as those issued in the financing enabling exercise of the conversion.

13. Income tax

CureVac has tax losses in Germany that are available indefinitely for offsetting against future taxable profits of the companies in which the losses arose. Under German tax law, tax profits in a given year can be offset against tax loss carryforwards up to an amount of EUR 1,000k. 60% of tax profit in excess of this amount can be offset against any remaining tax loss carryforwards. As a result, 40% of the profits in excess of EUR 1,000k are subject to taxation.

Tax loss carryforwards are examined by the German taxation authorities and may be adjusted. Furthermore, significant changes in the shareholder and company structure can lead to a reduction in the loss carryforwards under the current provisions of German tax law, which can be used to calculate the annual amount for offsetting against the future taxable income.

In fiscal 2019 and 2018, the Group recorded a consolidated income tax benefit and expense of EUR 252k and EUR -110k, respectively. The income tax benefit in fiscal 2019 results from income tax expenses from CureVac Inc. of EUR 203k (2018: EUR 243k) and deferred tax expenses on taxable temporary differences of EUR 656k (2018: EUR 472K), which were fully offset by deferred tax benefits of EUR 1,111k (2018: EUR 605K) recognized from net operating loss carryforwards. In fiscal 2019, the Group further recorded deferred tax liabilities of EUR 2,212k (2018: EUR 0) related to taxable temporary differences on the equity component of the convertible loans recognized in capital reserve. For outside basis differences of EUR 770k (2018: EUR 397k) which are indefinitely reinvested and associated with investments in subsidiaries, deferred tax liabilities have not been recognized.

The significant components of income tax for the years ending December 31, 2019 and 2018 were as follows:

Tax reconciliation:

	2018	2019
	EUR k	EUR k
Loss before tax	(71,131)	(100,125)
Expected tax benefit (based on statutory tax rate of 29.13% in 2019 and 2018)	20,744	29,162
Adjustments in respect of current income tax of previous years	42	—
Effects from differences between Group and local tax rates	10	8
Effects resulting from non-recognition of tax loss carryforwards	(22,428)	(22,836)
Effects resulting from non-recognition of DTA/DTL	—	—
First-time-recognition of tax loss carryforwards	430	—
Non-deductible expenses for tax purposes		
− Effects from non-deductible share-based-payments	1,209	(5,698)
− Effects from (additions/ deductions) for local trade taxes	(65)	(191)
− Other non-deductible expenses	(53)	(78)
Other effects	—	(114)
Effective tax benefit/ (expense)	(110)	252

The following unused tax losses had been carried forward as of the end of the reporting periods:

Tax loss carryforwards	2018	2019
	EUR k	EUR k
Unused tax losses for corporate income tax	330,753	407,434
Unused tax losses for trade tax	329,210	405,123

Deferred tax assets on tax loss carryforwards and deductible temporary differences in excess of taxable temporary differences have not been capitalized as management concluded that there is not sufficient probability as per IAS 12 that there will be future taxable profits available in the foreseeable future against which the unused tax losses can be utilized. The accumulated unused tax losses relate entirely to Germany.

14. Earnings per share

Earnings per share is calculated pursuant to *IAS 33 Earnings per Share* by dividing the consolidated net loss in CureVac AG by the average weighted number of shares outstanding in the fiscal period.

There were no share issuances in fiscal 2018 and 2019 and, therefore, the weighted number of shares outstanding was 726,592 in both of these periods. This has led to basic loss per share of EUR 137.45 for fiscal 2019 and of EUR 98.05 for fiscal 2018.

The 5,282 share options granted to members of management described under Note 9 as well as the new issue of 16,345 shares in fiscal 2020 are potential ordinary shares for the purpose of calculating diluted earnings per share. Since the conversion of the options to ordinary shares and the issue of the new shares at the beginning of fiscal would decrease loss per share in fiscal 2019 and 2018, they are considered antidilutive. Therefore, the diluted earnings per share equals basic earnings per share in fiscal 2019 and 2018.

The same considerations should be taken into account for the potentially issuable 51,265 shares under the New VSOP described under Note 9. as well as the convertible loan granted in fiscal 2019 and described under Note 12.

15. Disclosure of financial instruments and risk management

Type and management of financial risks

General information

CureVac is exposed to certain financial risks with respect to its assets and liabilities and the transactions associated with its business model. These risks generally relate to credit risks, liquidity risks and market risks (including currency risk, interest rate risk and price risk).

The aim of risk management is to limit the potential negative impact on expected cash flows and take advantage of any opportunities that arise. As a result, the management of CureVac assesses at least once a year whether risks have changed and whether the measures in place to limit risk are still sufficient.

Credit risk

Credit risk is managed by CureVac's finance department. Credit risk arises from cash and cash equivalents and other financial assets, including deposits with banks and financial institutions, as well as credit exposures to customers, including outstanding receivables and contract assets. Cash deposits and investments are placed only with reputable financial institutions with a credit rating of not less than A- (Standard & Poor's), A3 (Moody's) or A- (Fitch). Credit risk is further limited by investing only in liquid instruments.

CureVac is also exposed to a credit risk for all receivables and contract assets. Counterparty credit limits are reviewed by CureVac's Management Board on an annual basis and may be updated throughout the year. The limits are set to minimize the concentration of risks and therefore mitigate financial loss through a counterparty's potential failure to make payments. The Group manages its credit risk with customers by closely monitoring its receivables. The risk of default is considered to be low because the structure of customers consists of reputable collaborating parties and government grantors. Receivables management and financial accounting incorporates monitoring of payments received and any overdue receivables.

The carrying amount of other financial assets recognized determines the maximum theoretical credit risk. As of the end of fiscal 2019, available funds are deposited at two reputable financial institutions.

In connection with cash and cash equivalents, (other) financial assets, trade receivables and contract assets, CureVac uses the simplified approach under IFRS 9 in determining the loss allowance at an amount equal to the lifetime expected credit losses. As of December 31, 2019, the loss allowance for the "expected credit losses" totaled to EUR 76k (2018: EUR 447k), resulting in an effect recognized in profit and loss in the consolidated statement of operations and other comprehensive income in fiscal 2019 of EUR 371k (2018: EUR 264k).

Liquidity risk

In order to safeguard liquidity, the Group invests funds not required immediately for operating purposes in short-term investments at banks with high standing and call-deposit accounts with maturity up to three months. Liquidity risks are therefore expected to be low. The Group does not enter into trading of financial instruments and monitors its risk of a shortage of funds using a liquidity planning tool.

Historically, CureVac has relied on financing from shareholders and collaborators in order to ensure sufficient liquidity. Lack of external financial support could pose a risk of going concern. The liquidity management of CureVac ensures the availability of cash and cash equivalents for operational activities and further investments through appropriate budget planning.

Ultimately, the responsibility for liquidity risk management lies with management, who has established an appropriate approach to managing short-, medium- and long-term financing and liquidity requirements. CureVac manages liquidity risks by holding appropriate reserves, as well as by monitoring forecasted and actual cash flows and reconciling the maturity profiles of financial assets and liabilities.

The table below summarizes the maturity profile of the Group`s financial liabilities based on contractual undiscounted payments:

2019	less than 3 months EURk	3 to 12 months EURk	1 to 5 years EURk	> 5 years EURk	Total EURk
Convertible loans	—	—	(83,940)	—	(83,940)
Lease liabilities (Note 2)	(732)	(1,985)	(9,192)	(5,086)	(16,995)
Other liabilities	—	(12,015)	(362)	(167)	(12,544)
Trade and other payables	(5,938)	(537)	—	—	(6,475)
Total	**(6,670)**	**(14,537)**	**(93,494)**	**(5,253)**	**(119,954)**

2018	less than 3 months EURk	3 to 12 months EURk	1 to 5 years EURk	> 5 years EURk	Total EURk
Finance lease liabilities	(29)	(48)	—	—	(77)
Other liabilities	—	(11,146)	(688)	(175)	(12,009)
Trade and other payables	(10,378)	(535)	—	—	(10,913)
Total	**(10,407)**	**(11,729)**	**(688)**	**(175)**	**(22,999)**

Commitments according to IAS 17 as of December 31, 2018.

2018	less than 3 months EURk	3 to 12 months EURk	1 to 5 years EURk	> 5 years EURk	Total EURk
Operating lease commitments	—	(84)	(91)	—	(175)
Rental agreements	(683)	(2,576)	(21,160)	(23,589)	(48,008)
Total	**(683)**	**(2,660)**	**(21,251)**	**(23,589)**	**(48,183)**

Foreign currency risk

Foreign currency risk is the risk that the fair value or future cash flows of an exposure will fluctuate because of changes in foreign exchange rates. CureVac's exposure to the risk of changes in foreign exchange rates relates primarily to the Group's operating activities (when revenue or expense is denominated in a foreign currency) and the amounts held as cash and cash equivalents.

CureVac AG's and CureVac Real Estate GmbH's functional currency is the Euro. The functional currency of CureVac Inc. is the USD. CureVac AG's exposure in (foreign) currency at the end of fiscal 2019 and 2018 is as follows:

	2019 (in thousands)	
Cash and cash equivalents	22,608 EUR	25,398 USD
Trade and other receivables	9,458 EUR	10,585 USD
Other receivables	105 EUR	93 GBP
	84 EUR	92 CHF
	81 EUR	91 USD
Monetary assets in foreign currency	32,336 EUR	
Trade and other payables	505 EUR	567 USD
	219 EUR	186 GBP
	10 EUR	11 CHF
Monetary liabilities in foreign currency	734 EUR	

	2018 (in thousands)	
Cash and cash equivalents	16,941 EUR	19,398 USD
Trade and other receivables	2,059 EUR	3,374 USD
Monetary assets in foreign currency	19,000 EUR	22,772 USD
Trade and other payables	8,002 EUR	9,162 USD
	132 EUR	118 GBP
	46 EUR	51 CHF
Monetary liabilities in Foreign Currency	8,180 EUR	

As shown in the tables above, CureVac AG is exposed to a significant currency risk only in relation to the USD. Therefore, a foreign currency sensitivity analysis is only presented in respect to the net exposure in USD at fiscal year ends. CureVac's net exposure in USD is the difference between monetary assets in USD and monetary liabilities in USD and developed as follows:

Net exposure in USD

2018 (1 EUR= 1.1450 USD) **2019** (1 EUR = 1.1234 USD)
EUR 10,544k from USD 13,090k **EUR 30,656k from USD 34,400k**

At December 31, 2019, if the EUR had weakened 10 per cent against the US dollar with all other variables held constant, pre-tax loss for the year would have been EUR 3,406k (2018: EUR 1,172k) lower and post-tax loss would have been EUR 2,414k (2018: EUR 831k). Conversely, if the EUR had strengthened 10 per cent against the US dollar with all other variables held constant, pre-tax loss would have been EUR 2,787k (2018: EUR 959k) higher and post-tax loss would have been EUR 1,975k (2018: EUR 680k) higher. The effects on pre- and post-tax loss and (accumulated) other comprehensive income due to fact that CureVac Inc's functional currency is the USD would still have been immaterial at December 31, 2019.

CureVac did not have derivatives in fiscal 2018. Refer to Note 3 for discussion regarding a USD 10,000k forward contract in fiscal 2019.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. CureVac's exposure to the risk of changes in market interest rates relates primarily to the CureVac`s cash and cash equivalents with floating interest rates. Due to persistent low-interest-rates CureVac might be exposed to the risk of being charged negative interest rates on its bank deposits.

If interest rates as of December 31, 2019 had been 1% higher while all other variables had remained the same, the net loss for the year (before and after tax) would have been EUR 307k (2018: EUR 218k) lower because the higher interest income would have been generated from floating rates on invested cash and cash equivalents. Because interest rates on cash and cash equivalents as of December 31, 2019 and 2018 had been almost near zero, lower interest rates would have had an immaterial effect on the net loss for the year (before and after tax) and on other comprehensive income.

Fair value measurement

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized with the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1 — Inputs use quoted prices in active markets for identical assets or liabilities
- Level 2 — Inputs are inputs, other than quoted prices included in Level 1, which are directly or indirectly observable

- Level 3 — Inputs are unobservable and have values estimated by management based on market participant assumptions which are reasonably available

All financial instruments are measured at amortized cost at December 31, 2019 and December 31, 2018. Apart from this, liabilities from licenses agreements (i.e. acquired intangible assets) of EUR 848k (2018: EUR 850k), are classified as financial liabilities at fair value through profit or loss under the Level 2 input factors. Management assessed that the fair values of cash and cash equivalents, short-term investments, trade receivables and other financial assets, trade payables and other current liabilities as well as liabilities from licensing agreement approximate their carrying amounts. Moreover, management assessed that the potential differences between carrying amounts and fair value of liabilities to banks, (finance) lease liabilities and the liabilities for licensing agreements should be immaterial.

As of December 31, 2019, the amortized cost of the convertible loans approximate their fair value as the loans were agreed and drawn down on recently and there have been no significant changes in relevant interest rates since the agreement date. For further information regarding the convertible loan, see Note 13.

Capital management

For the purpose of CureVac's capital management, capital includes share capital and all other equity reserves attributable to the equity holders. The primary objective of CureVac's capital management is to maximize the shareholder value through investment in the development activities of the Group.

Based on its business as an active research Group, CureVac has to rely almost exclusively on debt and equity funding by its shareholders until the Group can refinance itself in the future from marketable products as a result of successful development projects.

The Group's finance department reviews the total amount of cash of the Group on a weekly basis. As part of this review, the committee considers the total cash and cash equivalents, the cash outflow, currency translation differences and refinancing activities. The Group monitors cash using a burn rate. The cash burn rate is defined as the average monthly net cash flow from operating and investing activities during a financial year.

In meeting its financing objectives, the Group negotiates and enters into research cooperation agreements. In general, the aim is to maximize the financial resources available for further research and development projects.

CureVac is not subject to externally imposed capital requirements. The objectives of CureVac's capital management were achieved in the reporting year.

No changes were made in the objectives, policies or processes for managing cash during the years ended December 31, 2019 and 2018.

16. Notes to the consolidated statements of cash flows

Changes in liabilities arising from financing activities

CureVac uses leases to acquire the right to use assets for a specified amount of time. Due to the first-time adoption of IFRS 16, lease liabilities at an amount of EUR 15,810k were recognized as of January 1, 2019. The liability arising from leases amounts to EUR 14,130k as of December 31, 2019.

in thousands of EUR	January 1, 2019	Cash flows	Reclassification	New leases	Accrued interest	Foreign Exchange Movements	December 31, 2019
Convertible loans	—	69,889	(7,604)	—	2,733	—	65,018
Lease liabilities	15,810	(1,910)	—	153	—	77	14,130
Total liabilities from financing activities	**15,810**	**67,979**	**(7,604)**	**153**	**2,733**	**77**	**79,148**

The reclassification of €7,604k results from an amount recorded as a component of equity. See Note 12.

in thousands of EUR	January 1, 2018	Changes from financing cash flows	December 31, 2018
Lease liabilities	188	(112)	77
Total liabilities from financing activities	**188**	**(112)**	**77**

17. Commitments and contingencies

In the course of its ordinary activities, no major claims have been made against the Company.

See Section “Changes in accounting policies and disclosures” for commitments and contingencies relating to IFRS 16 (Leases).

18. Remuneration of the Company’s key management personnel

Total remuneration of key management personnel

Remuneration of the Company’s key management personnel was as follows in fiscal 2019:

Remuneration of key management in 2019	Management Board	Supervisory Board
	EUR k	EUR k
Short-term benefits	3,166	521
Share-based payments	18,483	—
Total	**21,649**	**521**

The amounts disclosed in the table are the amounts recognized as an expense during the reporting period related to key management personnel.

The figures for fiscal 2018 were as follows:

Remuneration of key management in 2018	Management Board	Supervisory Board
	EUR k	EUR k
Short-term benefits	2,195	343
Total	**2,195**	**343**

19. Other related party disclosures

dievini Hopp BioTech holding GmbH & Co. KG

dievini Hopp BioTech holding GmbH & Co. KG (dievini) holds the majority of the share capital of the Company, is the controlling shareholder and is the ultimate parent of the Group.

Other related party transactions

Molecular Health GmbH

Molecular Health GmbH (Molecular Health) is a wholly-owned subsidiary of dievini. In December 2017 CureVac concluded a contract with Molecular Health, according to which Molecular Health provides services in conjunction with the Modeling of the biological and clinical effects of Toll-like receptor 7 and 8 agonists in cancer and immune cells. The Group incurred EUR 0k in fiscal 2019 and EUR 30k in July 2018 in research and development expenses in connection with this contract.

Rittershaus Rechtsanwaelte

Since December 15, 2005, a consultant agreement is in place for an indefinite term with Rittershaus. The agreement can be terminated without notice by CureVac and with notice of three months to the end of

the quarter by Rittershaus. In fiscal 2019, consulting fees of EUR 208k (2018: EUR 145k) were paid to the Rittershaus. Prof. Dr. Christof Hettich is a managing director of Rittershaus and dievini as well.

Dr. Ingmar Hoerr

Since June 2018, an advisory agreement between CureVac and Mr. Hoerr was in place. This contract was terminated in March 2020 after the transition of Dr. Hoerr from CureVac´s supervisory board to its management board on March 10, 2020. In fiscal 2019, advisory fees of EUR 240k (2018: 144k) were paid to Dr. Hoerr.

Dietmar Hopp

During 2019, Dietmar Hopp, principal of dievini Hopp BioTech holding GmbH & Co. KG (dievini), the majority shareholder of the Group, granted two convertible loans to the Group; see Note 12 Convertible loans for further information.

20. Subsequent events

In January 2020, CureVac AG and CEPI announced an additional collaboration to develop a vaccine against the new coronavirus SARS-CoV-2. The aim of the cooperation is to safely advance vaccine candidates into clinical testing as quickly as possible. The agreement will build on the existing partnership between CureVac and CEPI to develop a rapid-response vaccine platform and includes additional initial funding of up to USD 8,300k by CEPI for accelerated vaccine development, manufacturing and clinical tests. For information relating to the existing collaboration with CEPI, see Note 3.

In March 2020, CureVac collected EUR 19,984k in funds due from Genmab in connection with issuance of Series B shares under the ISA and the related capital increase came into effect upon registration of the shares in the commercial register in February 2020.

On March 10, 2020, the service agreement with Dan Menichella (the then-CEO of the Group) was discontinued. As a result, at this date, 6,053 of unvested options awarded to him vested immediately.

The COVID-19 pandemic, which began in December 2019 in China and has spread worldwide, has caused many governments to implement measures to slow the spread of the outbreak through quarantines, travel restrictions, heightened border scrutiny and other measures. The Company has taken a series of actions aimed at safeguarding the Company’s employees and business associates, including implementing a work-from-home policy for employees except for those related to our laboratory operations. The rapid development and fluidity of the situation presents uncertainty and risk with respect to the Company, its performance and its financial results.

Through and including , 2020 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

Shares

CureVac B.V.

Common Shares

PROSPECTUS

BofA Securities

Jefferies

Credit Suisse

Nomura

Kempen & Co

, 2020

PART II

INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 6. Indemnification of Directors and Officers

Under Dutch law, our managing directors and our supervisory directors may be held liable by the registrant for damages in the event of improper or negligent performance of their duties. They may be jointly and severally liable for damages to the registrant and third parties for infringement of our articles of association or certain provisions of Dutch law. In certain circumstances, they may also incur additional specific civil and criminal liabilities.

The liability of our managing directors and supervisory directors and other key employees will be covered by a directors' and officers' liability insurance policy. This policy will contain customary limitations and exclusions, such as willful misconduct or intentional recklessness (*opzet of bewuste roekeloosheid*).

Our current and former managing directors and supervisory directors (and such other current or former officer or employee as designated by the management board) have the benefit of the following indemnification provisions in our articles of association:

Indemnified persons shall be reimbursed for:

a. any financial losses or damages incurred by such indemnified person; and

b. any expense reasonably paid or incurred by such indemnified person in connection with any threatened, pending or completed suit, claim, action or legal proceedings of a civil, criminal, administrative or other nature, formal or informal, in which he becomes involved, in each case to the extent this relates to his current or former position with us and/or a group company and in each case to the extent permitted by applicable law.

No indemnification shall be given to an indemnified person:

a. if a competent court or arbitral tribunal has established, without having (or no longer having) the possibility for appeal, that the acts or omissions of such indemnified person that led to the financial losses, damages, expenses, suit, claim, action or legal proceedings as described above are of an unlawful nature (including acts or omissions, which are considered to constitute malice, gross negligence, intentional recklessness and/or serious culpability attributable to such indemnified person);

b. to the extent that his financial losses, damages and expenses are covered under insurance and the relevant insurer has settled, or has provided reimbursement for, these financial losses, damages and expenses (or has irrevocably undertaken to do so);

c. in relation to proceedings brought by such indemnified person against us, except for proceedings brought to enforce indemnification to which he is entitled pursuant to our articles of association, pursuant to an agreement between such indemnified person and us, which has been approved by the management board or pursuant to insurance taken out by us for the benefit of such indemnified person;

d. for any financial losses, damages or expenses incurred in connection with a settlement of any proceedings effected without the our prior consent.

Under our articles of association, our management board may stipulate additional terms, conditions and restrictions in relation to the indemnification described above.

Item 7. Recent Sales of Unregistered Securities

Set forth below are the sales of all securities sold by CureVac AG within the past three years (i.e., since January 1, 2017 up to the date of this registration statement) which were not registered under the Securities Act (and in each case not giving effect to the corporate reorganization):

As registered in the commercial register on December 27, 2017, CureVac AG issued 21,078 Series B shares. In addition to the nominal value of the shares (€21,078), the shareholders made cash contributions into the our capital reserves of €45,000,000.

As registered in the commercial register on February 18, 2020, CureVac AG issued 16,345 Series B shares. In addition to the nominal value of the shares (€16,345), the shareholders made cash contributions into our capital reserves of €19,983,655.

The issuances of restricted securities in the transactions described above were deemed to be exempt from registration under the Securities Act in reliance upon the Section 4(a)(2) of the Securities Act and/or Regulation S promulgated under the Securities Act.

Exhibits

(a) The following documents are filed as part of this registration statement:

1.1	Form of Underwriting Agreement.*
3.1	Form of Articles of Association of CureVac N.V. (translated into English), as they will be in effect immediately following the completion of the corporate reorganization.*
3.2	Form of internal rules of the management board of CureVac N.V., as they will be in effect immediately following the completion of the corporate reorganization.*
3.3	Form of internal rules of the supervisory board of CureVac N.V., as they will be in effect immediately following the completion of the corporate reorganization.*
3.4	Form of Share Issue Deed.
5.1	Form of opinion of NautaDutilh N.V., Dutch counsel of CureVac, as to the validity of the common shares.
8.1	Form of opinion of NautaDutilh N.V., Dutch counsel of CureVac, as to Dutch tax matters.
8.2	Form of opinion of FALK GmbH & Co KG, as to German tax matters.
8.3	Form of opinion of Davis Polk & Wardwell LLP, as to U.S. tax matters.
10.1	Collaboration and License Agreement by and between CureVac AG and Genmab B.V., dated December 19, 2019.†
10.2	Development and License Agreement by and between CureVac AG and CRISPR Therapeutics AG, dated November 9, 2017.†
10.3	Exclusive Collaboration and License Agreement by and between CureVac GmbH and Boehringer Ingelheim International GmbH, dated August 21, 2014.†
10.4	Amendment No. 1 to Exclusive Collaboration and License Agreement by and between CureVac GmbH and Boehringer Ingelheim International GmbH, dated June 30, 2015.†
10.5	Amendment No. 2 to Exclusive Collaboration and License Agreement by and between CureVac AG and Boehringer Ingelheim International GmbH, dated August 1, 2016.†
10.6	Amendment No. 3 to Exclusive Collaboration and License Agreement by and between CureVac AG and Boehringer Ingelheim International GmbH, dated August 8, 2019.†
10.7	Global Access Commitments Agreement, by and between Bill & Melinda Gates Foundation and CureVac GmbH, dated February 13, 2015.†
10.8	Definitive Agreement and Project Collaboration Plan for Assessment of RNA Vaccine Technology for Non-live Rotavirus Vaccines in Pre-clinical Models by and between Bill & Melinda Gates Foundation and CureVac GmbH, dated May 15, 2014.†
10.9	Framework Partnering Agreement between Coalition for Epidemic Preparedness Innovations and CureVac AG, dated February 15, 2019.†

10.10	Workpackage Statement (Development of CureVac Outbreak Response To Novel Coronavirus (2019-nCoV)) between Coalition for Epidemic Preparedness Innovations and CureVac AG, dated January 27, 2020.†
10.11	Development and Option Agreement, between CureVac AG and Acuitas Therapeutics Inc., dated April 29, 2016.†
10.12	Side Agreement and Amendment Number One to the Development and Option Agreement, between CureVac AG and Acuitas Therapeutics Inc., dated December 1, 2016. †
10.13	Development and Intellectual Property Agreement, between CureVac AG and Tesla Grohmann Automation GmbH, dated November 24, 2015. †
10.14	Development and Option Agreement, between CureVac AG and Arcturus Therapeutics Inc., dated January 1, 2018.†
10.15	Restated Amendment to Development and Option Agreement, between CureVac AG and Arcturus Therapeutics Inc., dated September 28, 2018.†
10.16	Third Amendment to Development and Option Agreement, between CureVac AG and Arcturus Therapeutics Inc., dated July 24, 2019.†
10.17	Convertible loan, between Mr. Dietmar Hopp and CureVac AG, dated October 24, 2019.
10.18	Collaborative Research Agreement, between CureVac AG and Yale University, dated July 1, 2019.†
10.19	Sponsored Research Agreement, between CureVac AG and The Schepens Eye Research Institute, Inc, dated March 15, 2019.†
10.20	First Amendment to Sponsored Research Agreement, between CureVac AG and The Schepens Eye Research Institute, Inc, dated May 19, 2019.†
10.21	Rental contract for commercial premises, between CureVac Real Estate GmbH and Technologieparks Tübingen-Reutlingen GmbH, dated January 31, 2018.
10.22	Rental Contract between CureVac Real Estate GmbH and Fränkel Immobilien-Service GmbH, dated June 6, 2018.
10.23	Supplement to the rental contract, between CureVac Real Estate GmbH and Fränkel Immobilien-Service GmbH, dated July 23, 2018.
10.24	Second Supplement to the rental contract, between CureVac Real Estate GmbH and Fränkel Immobilien-Service GmbH, dated August 20, 2018.
10.25	Third Supplement to the rental contract, between CureVac Real Estate GmbH and HSB Vermietungs- und Verpachtungs- GmbH & Co. KG, dated November 5, 2018.
10.26	Fourth Supplement to the rental contract, between CureVac Real Estate GmbH and HSB Vermietungs- und Verpachtungs- GmbH & Co. KG, dated October 22, 2019.
14.1	Form of Code of Ethics of CureVac, as it will be in effect immediately following the completion of the corporate reorganization.*
21.1	List of subsidiaries.
23.1	Consent of Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft.*
23.2	Consent of NautaDutilh N.V. (included in Exhibits 5.1 and 8.1).
23.3	Consent of FALK GmbH & Co KG (included in Exhibit 8.2).
23.4	Consent of Davis Polk & Wardwell LLP (included in Exhibit 8.3).
24.1	Powers of attorney (included on signature page to the registration statement). *

* To be filed by amendment.

† Certain information has been excluded from the exhibit because it both (i) is not material and (ii) would likely cause competitive harm to the Registrant if publicly disclosed.

(b) Financial Statement Schedules

None.

Item 9. Undertakings

The undersigned hereby undertakes:

(a) To provide to the underwriter at the closing specified in the underwriting agreements, certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

(b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the U.S. Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer, or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(c) The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form F-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of on , 2020.

CureVac B.V.

By: _____
Name: Ingmar Hoerr, PhD, MBA
Title: Chief Executive Officer

By: _____
Name: Pierre Kemula, B.Sc.
Title: Chief Financial Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints and and each of them, individually, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead in any and all capacities, in connection with this registration statement, including to sign in the name and on behalf of the undersigned, this registration statement and any and all amendments thereto, including post-effective amendments and registrations filed pursuant to Rule 462 under the U.S. Securities Act of 1933, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the U.S. Securities and Exchange Commission, granting unto such attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or his substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons on , 2020 in the capacities indicated:

Name	Title
Ingmar Hoerr, PhD, MBA	Chief Executive Officer (principal executive officer)
Pierre Kemula, B.Sc.	Chief Financial Officer (principal financial officer and principal accounting officer)
Florian von der Mülbe, PhD, MBA	Managing Director
Franz-Werner Haas, LLD, LLM	Managing Director
Mariola Fotin-Mleczek, PhD	Managing Director
Baron Jean Stéphenne, MSc, MBA	Supervisory Director
Friedrich von Bohlen und Halbach, PhD	Supervisory Director
Ralf Clemens, MD, PhD	Supervisory Director
Mathias Hothum, PhD	Supervisory Director
Chris Tanner, PhD	Supervisory Director
Timothy M. Wright, MD, MD	Supervisory Director
Craig A. Tooman	Supervisory Director

SIGNATURE OF AUTHORIZED U.S. REPRESENTATIVE OF REGISTRANT

Pursuant to the requirements of the Securities Act of 1933, as amended, the undersigned, the duly authorized representative in the United States of CureVac B.V. has signed this registration statement on , 2020.

CureVac Inc.

Name:
Title:

Exhibit 3.4

DEED OF ISSUE OF SHARES
AGAINST NON-CASH CONTRIBUTION

On this day, the [***day***] day of [***month***] two thousand and twenty, appeared before me, Paul Cornelis Simon van der Bijl, civil law notary in Amsterdam, the Netherlands:

[***NautaDutilh employee, under proxy***], acting for the purposes of this Deed as the holder of written powers of attorney from:

1. [***shareholder***] (the "**Subscriber**"); and

2. **CureVac B.V.**, a private limited liability company (*besloten vennootschap met beperkte aansprakelijkheid*) under Dutch law, having its corporate seat in Amsterdam, the Netherlands (address: Friedrich-Miescher-Strasse 15, 72076 Tübingen, Germany, trade register number: 77798031) (the "**Company**").

The person appearing, acting in the above capacities, declared the following:

DEFINITIONS

Article 1

In this Deed the following definitions shall apply:

CureVac	CureVac AG, a limited liability company (*Aktiengesellschaft*) under German law, having its address at Friedrich-Miescher-Strasse 15, 72076 Tübingen, Germany.
Contribution Agreement	the contribution agreement laid down in article 7.1 of this Deed.
Contribution Shares	[***number***] [***type***] shares in the capital of CureVac, with all rights and obligations attached thereto, including any rights to receive dividends or other distributions from CureVac for the current fiscal year and, if any, for previous fiscal years which have not been declared or distributed.
DCC	the Dutch Civil Code.
Deed	this deed of issue of shares against non-cash contribution.
Description	the description relating to the Contribution Shares prepared in accordance with Section 2:204b(1) DCC.
General Meeting	the general meeting of the Company.
IRC	the United States Internal Revenue Code of 1986, as amended.
Parties	the parties to this Deed.
Resolution	the written resolution of the General Meeting dated the [***day***] day of [***month***] two thousand and twenty, a copy of which will be attached to this Deed as an annex.
Shares	[***number***] ordinary shares in the capital of the Company, having a nominal value of twelve eurocents (EUR 0.12) each and numbered [***number***] up to and including [***number***].

REORGANIZATION

Article 2

It is intended that the acts contemplated by this Deed be treated as an exchange described in Section 351(a) of the IRC.

RESOLUTION TO ISSUE SHARES

Article 3

3.1 As is evidenced by the Resolution, the General Meeting has resolved to issue the Shares to the Subscriber against contribution of the Contribution Shares.
3.2 Under the Company's articles of association, the Company's management board may perform juristic acts (*rechtshandelingen*) in respect of non-cash contributions for shares in the capital of the Company without the prior approval of the General Meeting.

PRE-EMPTION RIGHTS

Article 4

As is evidenced by the Resolution, the General Meeting has resolved to exclude pre-emption rights (*voorkeursrechten*) in relation to the present issuance of the Shares.

ISSUE OF SHARES

Article 5

In giving effect to the Resolution, the Company hereby issues the Shares to the Subscriber and the Subscriber hereby accepts the Shares from the Company.

DESCRIPTION

Article 6

6.1 The Description has been prepared by the Company.
6.2 To the best of the Company's knowledge, there has not been a substantial decline in the value of the Contribution Shares since the date to which the Description relates.
6.3 The Company shall file the Description at its office for inspection by the Company's shareholders and others with meeting rights (*vergaderrecht*) under Dutch law.

CONTRIBUTION

Article 7

7.1 The Subscriber and the Company agree that the Subscriber will pay up the Shares in full by transferring the Contribution Shares to the Company promptly following the execution of this Deed on the legal basis of contribution (*ten titel van inbreng*) on the Shares. The Subscriber is not required to make any other contribution (in cash or in kind) on the Shares.
7.2 The Subscriber must effect, and hereby undertakes towards the Company to effect, the transfer of the Contribution Shares without delay in accordance with applicable law. The Company shall cooperate, and hereby undertakes towards the Subscriber to cooperate, with such transfer of the Contribution Shares. Subject to the completion of such transfer, the Company discharges the Subscriber from its obligation to pay up the Shares.
7.3 To the extent that the value of the Contribution Shares, as such value shall be recorded in the Company's books and records, exceeds the aggregate nominal amount of the Shares, such excess amount shall be considered to be share premium (*agio*) and shall be added to the Company's share premium reserve.

REGISTER

Article 8

The Company shall enter the present issuance of the Shares in its register of shareholders.

RESCISSION

Article 9

The Parties waive the right to rescind or to nullify, or to commence legal proceedings to rescind, nullify or amend on any ground whatsoever, the Contribution Agreement and any other agreements underlying the present issuance of the Shares.

CHOICE OF LAW AND JURISDICTION

Article 10

This Deed shall be governed by and construed in accordance with the laws of the Netherlands. Any dispute arising in connection with this Deed shall be submitted to the exclusive jurisdiction of the competent court in Amsterdam, the Netherlands.

CIVIL LAW NOTARY

Article 11

11.1 The Parties are aware that the undersigned civil law notary works with NautaDutilh N.V., the firm that has advised the Company in this transaction.
11.2 With reference to the Code of Conduct (*Verordening beroeps- en gedragsregels*) laid down by the Royal Notarial Professional Organisation (*Koninklijke Notariële Beroepsorganisatie*), the Parties explicitly consent to:

a. the undersigned civil law notary executing this Deed; and
b. the Company being assisted and represented by NautaDutilh N.V. in relation to this Deed and any agreements that may be concluded, or disputes that may arise, in connection therewith.

POWER OF ATTORNEY

Article 12

The person appearing has been authorised to act under two (2) powers of attorney in the form of private instruments, copies of which will be attached to this Deed as annexes.

FINALLY

The person appearing is known to me, civil law notary.

This Deed was executed in Amsterdam on the date mentioned in its heading.

After I, civil law notary, had conveyed and explained the contents of the Deed in substance to the person appearing, the person appearing declared to have taken note of the contents of the Deed, to be in agreement with the contents and not to wish them to be read out in full. Following a partial reading, the Deed was signed by the person appearing and by me, civil law notary.

Exhibit 5.1

ATTORNEYS • CIVIL LAW NOTARIES • TAX ADVISERS

NautaDutilh

P.O. Box 7113
1007 JC Amsterdam
Beethovenstraat 400
1082 PR Amsterdam
T +31 20 71 71 000
F +31 20 71 71 111

Amsterdam, [●], 2020.

To the Company

Ladies and Gentlemen:

We have acted as legal counsel as to Dutch law to the Company in connection with the Offering. This opinion letter is rendered to you in order to be filed with the SEC as an exhibit to the Registration Statement.

Capitalised terms used in this opinion letter have the meanings set forth in Exhibit A to this opinion letter. The section headings used in this opinion letter are for convenience of reference only and are not to affect its construction or to be taken into consideration in its interpretation.

This opinion letter is strictly limited to the matters stated in it and may not be read as extending by implication to any matters not specifically referred to in it. Nothing in this opinion letter should be taken as expressing an opinion in respect of any representations or warranties, or other information, contained in the Reviewed Documents.

In rendering the opinions expressed in this opinion letter, we have reviewed and relied upon drafts of the Reviewed Documents and pdf copies or drafts, as the case may be, of the Corporate Documents and we have assumed that the Reviewed Documents shall be entered into for bona fide commercial reasons. We have not investigated or verified any factual matter disclosed to us in the course of our review.

This opinion letter sets out our opinion on certain matters of the laws with general applicability of the Netherlands, and, insofar as they are directly applicable in the Netherlands, of the European Union, as at today's date and as presently interpreted under published authoritative case law of the Dutch courts, the General Court and the Court of Justice of the European Union. We do not express any opinion on Dutch or European competition law, data protection law, tax law or regulatory law. No undertaking is assumed on our part to revise, update or amend this opinion letter in connection with or to notify or inform you of, any developments and/or changes of Dutch law subsequent to today's date. We do not purport to opine on the consequences of amendments to the Reviewed Documents or the Corporate Documents subsequent to the date of this opinion letter.

The opinions expressed in this opinion letter are to be construed and interpreted in accordance with Dutch law. The competent courts at Amsterdam, the Netherlands, have exclusive jurisdiction to settle any issues of interpretation or liability arising out of or in connection with this opinion letter. Any legal relationship arising out of or in connection with this opinion letter (whether contractual or non-contractual), including the above submission to jurisdiction, is governed by Dutch law and shall be subject to the general terms and conditions of NautaDutilh. Any liability arising out of or in connection with this opinion letter shall be limited to the amount which is paid out under NautaDutilh's insurance policy in the matter concerned. No person other than NautaDutilh may be held liable in connection with this opinion letter.

In this opinion letter, legal concepts are expressed in English terms. The Dutch legal concepts concerned may not be identical in meaning to the concepts described by the English terms as they exist under the law of other jurisdictions. In the event of a conflict or inconsistency, the relevant expression shall be deemed to refer only to the Dutch legal concepts described by the English terms.

For the purposes of this opinion letter, we have assumed that:

a. drafts of documents reviewed by us will be signed in the form of those drafts, each copy of a document conforms to the original, each original is authentic, and each signature is the genuine signature of the individual purported to have placed that signature;

b. the Registration Statement has been declared effective by the SEC in the form reviewed by us;

c. (i) no internal regulations *(reglementen)* have been adopted by any corporate body of the Company which would affect the validity of the resolutions recorded in the Resolutions and (ii) the Current Articles are the Articles of Association currently in force and the Revised Articles are the Articles of Association as they will be in force at each Relevant Moment;

d. the resolutions recorded in the Resolutions are in full force and effect, the factual statements made and the confirmations given in the Resolutions and each Deed of Issue are complete and correct at each Relevant Moment and the Resolutions correctly reflect the resolutions recorded therein;

e. each Deed of Issue has been validly signed and executed on behalf of the Company;

f. the Offering, to the extent made in the Netherlands, has been, is and will be made in conformity with the Prospectus Regulation, the DFSA and the rules promulgated thereunder;

g. the Option (i) has been validly granted as a right to subscribe for Common Shares *(recht tot het nemen van aandelen)*, (ii) shall be in full force and effect upon being exercised and (iii) shall have been validly exercised in accordance with the terms of the Underwriting Agreement; and

h. at the Relevant Moment, each of the assumptions made in this opinion letter will be correct in all aspects by reference to the facts and circumstances then existing.

Based upon and subject to the foregoing and subject to the qualifications set forth in this opinion letter and to any matters, documents or events not disclosed to us, we express the following opinions:

Corporate Status

1. The Company has been duly incorporated as a *besloten vennootschap met beperkte aansprakelijkheid* and, upon the execution of the Deed of Conversion, shall be validly existing as a *naamloze vennootschap*.

Offer Shares and Option Shares

2. Subject to receipt by the Company of payment in full for the Offer Shares and the Option Shares as provided for in the Reviewed Documents, and when issued and accepted in accordance with the Resolutions and the Reviewed Documents, the Offer Shares and the Option Shares shall be validly issued, fully paid and non-assessable.

The opinions expressed above are subject to the following qualifications:

A. Opinion 1 must not be read to imply that the Company cannot be dissolved *(ontbonden)*. A company such as the Company may be dissolved, inter alia by the competent court at the request of the company's board of directors, any interested party *(belanghebbende)* or the public prosecution office in certain circumstances, such as when there are certain defects in the incorporation of the company. Any such dissolution will not have retro-active effect.

B. Pursuant to Section 2:7 DCC, any transaction entered into by a legal entity may be nullified by the legal entity itself or its liquidator in bankruptcy proceedings (*curator*) if the objects of that entity were transgressed by the transaction and the other party to the transaction knew or should have known this without independent investigation (*wist of zonder eigen onderzoek moest weten*). The Dutch Supreme Court (*Hoge Raad der Nederlanden*) has ruled that in determining whether the objects of a legal entity are transgressed, not only the description of the objects in that legal entity's articles of association (*statuten*) is decisive, but all (*relevant*) circumstances must be taken into account, in particular whether the interests of the legal entity were served by the transaction. Based on the objects clause contained in the Current Articles and in the Revised Articles, we have no reason to believe that, by entering into the Reviewed Documents, the Company would transgress the description of the objects contained in its Articles of Association. However, we cannot assess whether there are other relevant circumstances that must be taken into account, in particular whether the interests of the Company are served by entering into the Reviewed Documents since this is a matter of fact.

C. Pursuant to Section 2:98c DCC, a naamloze vennootschap may grant loans (*leningen verstrekken*) only in accordance with the restrictions set out in Section 2:98c DCC, and may not provide security (*zekerheid stellen*), give a price guarantee (*koersgarantie geven*) or otherwise bind itself, whether jointly and severally or otherwise with or for third parties (*zich op andere wijze sterk maken of zich hoofdelijk of anderszins naast of voor anderen verbinden*) with a view to (*met het oog op*) the subscription or acquisition by third parties of shares in its share capital or depository receipts. This prohibition also applies to its subsidiaries (*dochtervennootschappen*). It is generally assumed that a transaction entered into in violation of Section 2:98c DCC is null and void (*nietig*). Based on the content of the Reviewed Documents, we have no reason to believe that the Company or its subsidiaries will violate Section 2:98c DCC in connection with the issue of the Offer Shares or the Option Shares. However, we cannot confirm this definitively, since the determination of whether a company (or a subsidiary) has provided security, has given a price guarantee or has otherwise bound itself, with a view to the subscription or acquisition by third parties of shares in its share capital or depository receipts, as described above, is a matter of fact.

D. The opinions expressed in this opinion letter may be limited or affected by:

a. any applicable bankruptcy, insolvency, reorganisation, moratorium or other similar laws or procedures now or hereafter in effect, relating to or affecting the enforcement or protection of creditors' rights generally;

b. the provisions of fraudulent preference and fraudulent conveyance (*Actio Pauliana*) and similar rights available in other jurisdictions to insolvency practitioners and insolvency office holders in bankruptcy proceedings or creditors;

c. claims based on tort (*onrechtmatige daad*);

d. sanctions and measures, including but not limited to those concerning export control, pursuant to European Union regulations, under the Sanctions Act 1977 (*Sanctiewet 1977*) or other legislation;

e. the Anti-Boycott Regulation and related legislation; and

f. the rules of force majeure (*niet toerekenbare tekortkoming*), reasonableness and fairness (*redelijkheid en billijkheid*), suspension (*opschorting*), dissolution (*ontbinding*), unforeseen circumstances (*onvoorziene omstandigheden*) and vitiated consent (i.e., duress (*bedreiging*), fraud (*bedrog*), abuse of circumstances (*misbruik van omstandigheden*) and error (*dwaling*)) or a difference of intention (*wil*) and declaration (*verklaring*).

E. The term "non-assessable" has no equivalent in the Dutch language and for purposes of this opinion letter such term should be interpreted to mean that a holder of a share will not by reason of merely being such a holder be subject to assessment or calls by the Company or its creditors for further payment on such share.

F. This opinion letter does not purport to express any opinion or view on the operational rules and procedures of any clearing or settlement system or agency.

We consent to the filing of this opinion letter as an exhibit to the Registration Statement and also consent to the reference to NautaDutilh in the Registration Statement under the caption "Legal Matters". In giving this consent we do not admit or imply that we are a person whose consent is required under Section 7 of the United States Securities Act of 1933, as amended, or any rules and regulations promulgated thereunder.

Sincerely yours,

NautaDutilh N.V.

EXHIBIT A
LIST OF DEFINITIONS

"**Anti-Boycott Regulation**"	The Council Regulation (EC) No 2271/96 of 22 November 1996 on protecting against the effects of the extra-territorial application of legislation adopted by a third country, and actions based thereon or resulting therefrom.
"**Articles of Association**"	The Company's articles of association (*statuten*) as they read from time to time.
"**Commercial Register**"	The Dutch Commercial Register (*handelsregister*).
"**Common Shares**"	Common shares in the Company's capital, with a nominal value of EUR 0.12 each.
"**Company**"	CureVac B.V., a private company with limited liability (*besloten vennootschap met beperkte aansprakelijkheid*), registered with the Commercial Register under number 77798031, to be renamed CureVac N.V. in connection with the Offering.
"**Corporate Documents**"	The Deed of Incorporation, the Deed of Conversion, the Current Articles, the Revised Articles, the Resolutions and the Registration Statement.
"**Current Articles**"	The Articles of Association as contained in the Deed of Incorporation.
"**DCC**"	The Dutch Civil Code (*Burgerlijk Wetboek*).
"**Deed of Incorporation**"	The Company's deed of incorporation (*akte van oprichting*), dated April 7, 2020.
"**Deed of Conversion**"	The draft deed of conversion and amendment to the Articles of Association prepared by us with reference number 82043829 M 29083764.
"**Deed of Issue**"	The draft deed of issue of the Offer Shares or Option Shares, as the case may be, prepared by us with references [●] and [●], respectively.
"**DFSA**"	The Dutch Financial Supervision Act (*Wet op het financieel toezicht*).

"**General Meeting**"	The Company's general meeting (*algemene vergadering*).
"**Management Board**"	The Company's management board (*bestuur*).
"**NautaDutilh**"	NautaDutilh N.V.
"**the Netherlands**"	The European territory of the Kingdom of the Netherlands.
"**Offering**"	The offering of the Offer Shares and, if any, the Option Shares as contemplated by the Registration Statement.
"**Offer Shares**"	[●] Common Shares.
"**Option**"	The option to acquire Option Shares to be granted to the Underwriters pursuant to the Underwriting Agreement and the Resolutions.
"**Option Shares**"	Up to [●] Common Shares or such lesser number of Common Shares in respect of which the Option is exercised.
"**Prospectus Regulation**"	Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017 on the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Directive 2003/71/EC.
"**Registration Statement**"	The Company's registration statement on Form F-1 filed or to be filed with the SEC in connection with the Offering in the form reviewed by us.
"**Relevant Moment**"	Each time that Offer Shares or Option Shares are issued pursuant to the execution of a Deed of Issue.
"**Resolutions**"	The written resolutions of the Management Board, dated April 24, 2020 and [●], 2020; The draft written resolutions of the Supervisory Board prepared by us with reference 82043829 M 29065574; The written resolutions of the General Meeting, dated April 24, 2020 and [●], 2020; and The draft written resolution of the pricing committee established in connection with the Offering prepared by us with reference 82043829 M 29065572.

"**Reviewed Documents**"	Each Deed of Issue and the Underwriting Agreement.
"**Revised Articles**"	The Articles of Association as they will read immediately after the execution of the duly completed Deed of Conversion.
"**SEC**"	The United States Securities and Exchange Commission.
"**Supervisory Board**"	The Company's supervisory board (*raad van commissarissen*).
"**Underwriters**"	The Underwriters, as defined in the Underwriting Agreement.
"**Underwriting Agreement**"	The draft underwriting agreement to be entered into between the Company and the Underwriters in connection with the Offering, in the form reviewed by NautaDutilh.

Exhibit 8.1

ATTORNEYS • CIVIL LAW NOTARIES • TAX ADVISERS

NautaDutilh

P.O. Box 7113
1007 JC Amsterdam
Beethovenstraat 400
1082 PR Amsterdam
T +31 20 71 71 000
F +31 20 71 71 111

Amsterdam, [●], 2020

To the Company

Ladies and Gentlemen:

We have acted as tax counsel as to Dutch law to the Company in connection with the Offering. This opinion letter is rendered to you in order to be filed with the SEC as an exhibit to the Registration Statement.

Capitalised terms used in this opinion letter have the meanings set forth in Exhibit A to this opinion letter. The section headings used in this opinion letter are for convenience of reference only and are not to affect its construction or to be taken into consideration in its interpretation.

This opinion letter is strictly limited to the matters stated in it and may not be read as extending by implication to any matters not specifically referred to in it. Nothing in this opinion letter should be taken as expressing an opinion in respect of any representations or warranties, or other information, contained in any document reviewed by us.

In rendering the opinion expressed in this opinion letter, we have reviewed and relied upon a draft of the Registration Statement. We have not investigated or verified any factual matter disclosed to us in the course of our review.

This opinion letter sets out our opinion on certain matters of the tax laws with general applicability of the Netherlands, and, insofar as they are directly applicable in the Netherlands, of the European Union, as at today's date and as presently interpreted under published authoritative case law of the Dutch courts, the General Court and the Court of Justice of the European Union. We do not express any opinion on Dutch or European competition law, data protection law or regulatory law. No undertaking is assumed on our part to revise, update or amend this opinion letter in connection with or to notify or inform you of, any developments and/or changes of Dutch law subsequent to today's date. We do not purport to opine on the consequences of amendments to the Registration Statement subsequent to the date of this opinion letter.

The opinion expressed in this opinion letter is to be construed and interpreted in accordance with Dutch tax law. The competent courts at Amsterdam, the Netherlands, have exclusive jurisdiction to settle any issues of interpretation or liability arising out of or in connection with this opinion letter. Any legal relationship arising out of or in connection with this opinion letter (whether contractual or non-contractual), including the above submission to jurisdiction, is governed by Dutch law and shall be subject to the general terms and conditions of NautaDutilh. Any liability arising out of or in connection with this opinion letter shall be limited to the amount which is paid out under NautaDutilh's insurance policy in the matter concerned. No person other than NautaDutilh may be held liable in connection with this opinion letter.

In this opinion letter and in the Dutch Tax Summary, legal and tax concepts are expressed in English terms. The Dutch legal and tax concepts concerned may not be identical in meaning to the concepts described by the English terms as they exist under the law of other jurisdictions. In the event of a conflict or inconsistency, the relevant expression shall be deemed to refer only to the Dutch legal and tax concepts described by the English terms.

For the purposes of this opinion letter, we have assumed that:

a. the Registration Statement has been or will be declared effective by the SEC in the form reviewed by us; and

b. the place of effective management of the Company is in Germany, and not in the Netherlands, and the Company will therefore be solely a tax resident of Germany under German national tax law.

Based upon and subject to the foregoing and subject to any matters, documents or events not disclosed to us, we express the following opinion:

Fair Dutch Tax Summary

The Dutch Tax Summary constitutes our opinion, is true and accurate and provides a fair summary of the matters of Dutch tax law described therein.

We consent to the filing of this opinion letter as an exhibit to the Registration Statement and also consent to the reference to NautaDutilh in the Registration Statement under the caption "Legal Matters". In giving this consent we do not admit or imply that we are a person whose consent is required under Section 7 of the United States Securities Act of 1933, as amended, or any rules and regulations promulgated thereunder.

Sincerely yours,

NautaDutilh N.V.

EXHIBIT A
LIST OF DEFINITIONS

"**Commercial Register**"	The Dutch Commercial Register (*handelsregister*).
"**Common Shares**"	Common shares in the Company's capital, with a nominal value of EUR 0.12 each.
"**Company**"	CureVac B.V., a private company with limited liability (*besloten vennootschap met beperkte aansprakelijkheid*), registered with the Commercial Register under number 77798031, to be renamed CureVac N.V. in connection with the Offering.
"**Dutch Tax Summary**"	The statements contained in the Registration Statement under the caption "Taxation — Material Dutch Tax Considerations".
"**NautaDutilh**"	NautaDutilh N.V.
"**the Netherlands**"	The European territory of the Kingdom of the Netherlands.
"**Offering**"	The offering of Common Shares as contemplated by the Registration Statement.
"**Registration Statement**"	The Company's registration statement on Form F-1 filed or to be filed with the SEC in connection with the Offering in the form reviewed by us.
"**SEC**"	The United States Securities and Exchange Commission.

Exhibit 8.2

FALK GmbH & Co KG
Postfach 10 22 80
69012 Heidelberg

Im Breitspiel 21
69126 Heidelberg

Telefon: +49 6221 399-0
Telefax: +49 6221 399-238
falk-heidelberg@falk-co.de

Attn
Pierre Kemula
Chief Financial Officer
CureVac AG
Friedrich-Miescher-Str. 15
72076 Tübingen

[date]
Me/Mth/Oz
14917
28901674

US SEC F-1 Registration Statement for CureVac B.V.

Dear Mr. Kemula,

We act as German Tax Advisors to the Issuer in connection with the Registration. Certain terms used in this opinion are defined in Annex 1 (Definitions).

This opinion is limited to German tax law in effect on the date of this opinion. This opinion (including all terms used in it) is to be construed in accordance with German tax law.

For the purpose of this opinion, we have examined the Registration Statement which we determined to be the only document relevant to rendering this opinion, while relying upon the accuracy of the factual statements therein.

For the purpose of this opinion, we have made the following assumptions:

- The Registration Statement has been or will be filed with the SEC in the form referred to in this opinion.
- The effective place of management of the Issuer is located in Tübingen, Germany.
- The factual statements in the Registration Statement are true and correct in all respects.

Opinion

Based on the documents referred to and the assumptions made above, we hereby confirm that the statements set forth in the Registration Statement under the section “Taxation-Material German Tax Considerations” constitute the opinion of FALK as to the material German tax consequences of purchasing, owning or transferring the shares in the capital of the Issuer.

This opinion is an exhibit to the Registration Statement and may only be relied upon for the purpose of the Registration. It may not be supplied, and its contents or existence may not be disclosed, to any person other than as an Exhibit to (and therefore together with) the Registration Statement and may not be relied upon for any purpose other than the Registration.

Each person relying on this opinion agrees, in so relying, that only FALK shall have any liability in connection with this opinion.

The Issuer may:

- file this opinion as an exhibit to the Registration Statement, and
- refer to FALK giving this opinion under the heading “Taxation-Material German Tax Considerations” in the prospectus included in the Registration Statement.

The previous sentence is no admittance from us (or FALK) that we are (or FALK is) in the category of persons whose consent for the filing and reference in that paragraph is required under Section 7 of the Securities Act or any rules or regulations of the SEC promulgated under it.

Yours faithfully,

(Gerhard Meyer)

(Dr. Michael Vituschek)

FALK GmbH & Co KG
Wirtschaftsprüfungsgesellschaft
Steuerberatungsgesellschaft

Annex 1 – Definitions

"German Tax" means any tax pursuant to Section 3 (1) through to (3) German Fiscal Code (*Abgabenordnung*) levied by or on behalf of Germany or any of its subdivisions or taxing authorities.

"FALK" means FALK GmbH & Co KG Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft.

"Issuer" means CureVac N.V. with corporate seat in Amsterdam, the Netherlands.

"Registration" means the registration of shares in the capital of the Issuer with the SEC under the Securities Act.

"Registration Statement" means the registration statement on form F-1 (Registration No 333-[●]) in relation to the Registration to be filed with the SEC in the date hereof (excluding any documents incorporated by reference in it and any exhibits to it).

"SEC" means the U.S. Securities and Exchange Commission.

"Securities Act" means the U.S. Securities Act of 1933, as amended.

Exhibit 8.3

New York	**Paris**
Northern California	**Madrid**
Washington DC	**Tokyo**
São Paulo	**Beijing**
London	**Hong Kong**

Davis Polk & Wardwell LLP
450 Lexington Avenue
New York, NY 10017

212 450 4000 tel
212 701 5800 fax

[●], 2020

CureVac N.V.
Friedrich-Miescher-Strasse 1572076
Tübingen, Germany

Ladies and Gentlemen:

We are acting as United States counsel to CureVac N.V., a Dutch public company with limited liability (*naamloze vennootschap*) (the "**Company**"), in connection with the preparation of the Registration Statement on Form F-1 (the "**Registration Statement**") filed with the United States Securities and Exchange Commission.

We, as your counsel, have examined originals or copies of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary or advisable for the purpose of rendering this opinion.

We hereby confirm that our opinion as to the material U.S. federal income tax consequences to U.S. holders of an investment in the Company's common shares is set forth in full under the caption "Material U.S. Federal Income Tax Considerations to U.S. Holders" in the Registration Statement.

We are members of the Bar of the State of New York and the foregoing opinion is limited to the laws of the State of New York and the federal laws of the United States.

We hereby consent to the use of our name under the captions "Material U.S. Federal Income Tax Considerations to U.S. Holders" and "Legal Matters" in the Registration Statement and to the filing, as an exhibit to the Registration Statement, of this letter. In giving this consent we do not admit that we come within the category of persons whose consent is required under Section 7 of the United States Securities Act of 1933.

Very truly yours,

Davis Polk & Wardwell LLP

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

COLLABORATION AND LICENSE AGREEMENT

dated

19 DECEMBER, 2019

by

CUREVAC AG
("**CureVac**")

and

GENMAB B.V.
("**Genmab**")

Table of Contents

Exhibits

Exhibit 1.13	Patent Rights licensed to BioNTech
Exhibit 1.54	CureVac Know How
Exhibit 1.59	CureVac Patent Rights
Exhibit 1.77	First Program Antibody
Exhibit 1.90	Genmab Know-How
Exhibit 1.111	LNP Technology
Exhibit 1.144	Other Technologies
Exhibit 3.2.2	Templates for clearance of proposed Research Program Antibody and Research Program Antibody Combination
Exhibit 5.1.1	First Program Research Plan
Exhibit 5.11	Approved Subcontractors
Exhibit 6.2	Summary of key terms of the Early Clinical Supply Agreement
Exhibit 10.6.2	Examples of calculations of royalties
Exhibit 11.3	List of non-limiting examples of ownership of different types of potential Inventions
Exhibit 13.6	Draft Press Release
Exhibit 14.4	Disclosure Letter

COLLABORATION AND LICENSE AGREEMENT

between

CUREVAC AG

And

GENMAB B.V.

This **COLLABORATION AND LICENSE AGREEMENT** ("**Agreement**") is effective as of the 19th of December, 2019 ("**Effective Date**") and is entered into by and between:

CUREVAC AG, a German corporation, having a place of business at Paul-Ehrlich-Strasse 15, 72076 Tübingen, Germany

on the one side;

and

GENMAB B.V., KvK No. 3016 9902, a Dutch corporation, having a place of business at Uppsalalaan 15, 3584 CM Utrecht, the Netherlands

on the other side.

INTRODUCTION

A. WHEREAS, CureVac is a biotechnology company that is a pioneer and technology leader in messenger ribonucleic acid ("**mRNA**") based therapeutic approaches and especially discovers, designs and optimizes first-in-class mRNA therapies for, *inter alia*, the treatment of oncological diseases with unmet medical need.

B. WHEREAS, Genmab is a pharmaceutical company and has expertise and intellectual property relating to the identification, design and optimization of recombinant antibodies and validated proprietary antibody technologies, including the DuoBody® platform, HexaBody® and HexaBody® related platforms and other antibody-engineering platforms for, *inter alia*, the generation of bispecific antibodies and antibodies with enhanced effector functions.

C. WHEREAS, the Parties wish to collaborate in (i) the further development of one mRNA- encoded antibody designed to express Genmab's proprietary [*****] and (ii) the generation of preclinical data packages for up to four (4) other Product candidates from which a maximum of three (3) could be selected for further development and commercialization by Genmab; all such products incorporating (a) CureVac's mRNA technology; (b) monoclonal, bispecific and/or multispecific antibodies (or combination of antibodies) proprietary to Genmab; and (c) a selected lipid nanoparticle (LNP) delivery technology.

D. WHEREAS, CureVac wishes to grant to Genmab an exclusive license to the product referenced under (C)(i); and exclusive options for exclusive licenses to the products referenced under (C)(ii) above; provided that CureVac wishes to retain certain opt-in rights for up to one (1) of the products referenced under (C)(ii) that is a Cocktail Product (as defined below).

NOW THEREFORE, in consideration of the foregoing premises and the following mutual covenants and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. DEFINITIONS.

For purposes of this Agreement, the following capitalized terms shall have the following meanings, whether used in the singular or plural:

1.1 "**Acuitas License**" shall mean licenses available to CureVac at the Effective Date under the Development and Option Agreement made between Curevac and Acuitas Therapeutics Inc. dated April 29, 2016 and amended as of December 1, 2016 relating to LNP Technology owned by Acuitas.

1.2 "**Affiliate**" shall mean any corporation or other entity that controls, is controlled by, or is under common control with a Party. A corporation or other entity will be regarded as under the control of another corporation or entity if the latter corporation or entity owns or directly or indirectly controls fifty percent (50%) or more of the voting stock or other ownership interest of the former corporation or other entity, or if the latter corporation or entity possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of the former corporation or other entity or the power to elect or appoint more than fifty percent (50%) of the members of the governing body of the former corporation or other entity, *provided, however,* that regarding CureVac, Affiliate shall not include Mr. Dietmar Hopp, dievini Hopp BioTech holding GmbH & Co.KG and/or any other companies controlled by Mr. Dietmar Hopp and/or dievini Hopp BioTech holding GmbH & Co.KG that are not subsidiaries of CureVac. For avoidance of doubt, the term "Affiliate" shall include CureVac's subsidiary company currently called CureVac Real Estate GmbH.

1.3 "**Agreement**" shall have the meaning set forth in the Preamble.

1.4 "**Alliance Manager**" shall have the meaning set forth in Section 9.1.1.

1.5 "**Antibody**" shall mean a molecule, defined by its amino acid sequence, including an engineered molecule that comprises one (1) or more immunoglobulin variable domains or functional parts of such domains. [*****] shall be considered one and the same Antibody; *provided, however,* that any such [*****]. For clarity, an "**Antibody**" can be a [*****]. The maximum number of Targets that a single Antibody can bind to is [*****]. For purposes of this Agreement, and unless otherwise set forth herein, Antibody shall include an Antibody Combination, as applicable.

1.6 "**Antibody Combination**" shall mean a combination of [*****] Antibodies and so binding to a maximum of [*****] distinct Targets.

1.7 "**Applicable Laws**" shall mean all applicable provisions of all national, supranational regional, state and local, laws, treaties, statutes, rules, regulations, directives, administrative codes, ordinances, decrees, orders, decisions, guidance documents, injunctions, awards, judgments, and permits of or from any court, arbitrator, stock exchange, regulatory authority or governmental authority having jurisdiction over or related to the subject item.

1.8 "**Arcturus License**" shall mean licenses available to CureVac at the Effective Date under the Development and Option Agreement made between Curevac and Arcturus Therapeutics Inc. dated January 1, 2018 and amended as of May 3, 2018, as of September 28, 2018 and as of July 24, 2019 relating to LNP Technology owned by Arcturus.

1.9 "**Assigning Party**" shall have the meaning set forth in Section 7.8.2.

1.10 "**Assigned Invention**" shall have the meaning set forth in Section 11.4.

1.11 "**Background Technology**" shall mean the CureVac Background Technology and/or Genmab Background Technology, as applicable.

1.12 "**Breaching Party**" shall have the meaning set forth in Section 15.4.

1.13 "**BioNTech License**" shall mean the non-exclusive license made between CureVac and BioNTech AG dated [*****] granting BioNTech certain non-exclusive rights under [*****] listed in **Exhibit 1.13**. For the purposes of this Agreement, the term "BioNTech License" shall not include any amendments made to the non-exclusive license agreement between CureVac and BioNTech AG after the Effective Date.

1.14 "**BLA**" shall mean (i) a Biologic License Application or New Drug Application submitted and filed with the FDA (or successor regulatory agency) necessary for approval of a drug or biologic in connection with the commercial sale or use of such drug or biologic in conformance with Applicable Laws and regulations in the United States or (ii) the equivalent application submitted to another Regulatory Agency including a Marketing Authorization Application ("**MAA**").

1.15 "**Business Day**" shall mean any day other than Saturday, Sunday, or any day that banks are authorized or required to be closed in Tübingen, Germany or Utrecht, the Netherlands.

1.16 "**Calendar Quarter**" shall mean each successive period of three (3) months ending on March 31, June 30, September 30 and December 31 of each Calendar Year; provided, that the first Calendar Quarter under this Agreement will be the period beginning on the Effective Date and ending on the end of the Calendar Quarter in which the Effective Date is encompassed and the last Calendar Quarter of the Term will be the period beginning on January 1, April 1, July 1 or October 1, as applicable, and ending on the effective date of expiration or termination of this Agreement.

1.17 "**Calendar Year**" shall mean each successive period of twelve (12) months commencing on January 1 and ending on December 31; *provided, however,* that the first Calendar Year under this Agreement will be the period beginning on the Effective Date and ending on the end of the Calendar Year in which the Effective Date is encompassed and the last Calendar Year of the Term will be the period beginning on January 1 and ending on the effective date of expiration or termination of this Agreement.

1.18 "**CDO**" shall mean Chief Development Officer (or equivalent C-level manager) of each Party.

1.19 "**CDR**" shall mean complementarity-determining regions.

1.20 "**Change of Control**" shall mean, with respect to CureVac, (i) the sale or disposition to a Third Party of all or substantially all of the assets of CureVac to which the subject matter of this Agreement relates (including as part of the sale or disposition to a Third Party of all or substantially all of the assets of CureVac); (ii) the acquisition by a single Third Party, or two (2) or more Third Parties acting in concert, of beneficial ownership of fifty percent (50%) or more of the shares in CureVac; or (iii) the acquisition, merger or consolidation of CureVac with or into another Person, other than, in the case of this definition, an acquisition or a merger or consolidation of CureVac in which the holders of shares of voting capital stock of CureVac, immediately prior to such acquisition, merger or consolidation will beneficially own, directly or indirectly, at least fifty percent (50%) of the shares of voting capital stock of the acquiring Third Party or the surviving entity in such acquisition, merger or consolidation, as the case may be, immediately after such acquisition, merger or consolidation.

1.21 "**Clinical Phase I Study**" shall mean a clinical study of a product as further defined in 21 CFR §312.21(a) or the non-United States equivalent thereof. A Clinical Phase I Study is a clinical study in humans, the primary objective of which is to determine preliminary safety in healthy volunteers or patients. Such clinical study may also have secondary objectives, including tolerability, pharmacological activity or pharmacokinetics and preliminary efficacy parameters and may therefore be regarded as a phase I/II clinical trial. For the purposes of this Agreement, (i) the term Clinical Phase I Study shall also cover such phase I/II clinical trial; and (ii) at the point in such study when the cohort is expanded beyond the original phase I/II design so that the study becomes prospectively designed to generate sufficient data (if successful) to commence a Pivotal Study, a Clinical Phase II Study shall be deemed to have commenced.

1.22 "**Clinical Phase II Study**" shall mean a clinical study in humans of the safety, dose ranging and efficacy of a product, which is prospectively designed to generate sufficient data (if successful) to commence Pivotal/Clinical Phase III Studies, as further defined in 21 CFR §312.21(b) or (or the non-United States equivalent thereof).

1.23 "**Clinical Phase III Study**" shall mean a controlled, and usually multicenter, clinical study in humans of the efficacy and safety of a product, which is prospectively designed to demonstrate statistically whether such product is effective and safe for use in humans in the indication being investigated in a manner sufficient to submit a BLA to obtain Regulatory Approval to market such product, as further defined in 21 CFR §312.21(c) (or the non-United States equivalent thereof).

1.24 "**Clinical Studies**" shall mean all Clinical Phase I Studies, Clinical Phase II Studies and Clinical Phase III Studies, including Pivotal Studies.

1.25 "**CMC Development**" shall mean all research and development activities conducted in respect of the Manufacture of Products, including chemistry, manufacturing and control (CMC), creation of master and working cell banks, test method development and stability testing, process development, manufacturing scale-up, qualification and validation, quality assurance and quality control processes and techniques.

1.26 "**CMO**" shall mean a contract manufacturing organization.

1.27 "**Cocktail Product**" shall mean a Product that is designed to express a Program Antibody Combination.

1.28 "**CoGs**" shall mean the total cost of Manufacture of a unit of Product and shall include **Direct Cost, Indirect Cost** and **Pass-Through Cost** as defined below:

1.28.1 "**Direct Costs**" within CoGs shall include:

(i) direct labor costs, based on the actual hours consumed by manufacturing and facility personnel charged at an average hourly wage rate which is designed to approximate actual cost for each employee's position; and

(ii) direct labor fringe benefit costs, including, without limitation, compensation expense (other than wages included in direct labor cost in paragraph (i), payroll taxes and benefits allocated based on a proportionate percentage of direct labor costs charged to the manufacture of the Product to total actual plant-wide labor costs.

1.28.2 "**Indirect Costs**" within CoGs shall include:

(i) facility and occupancy cost including, without limitation, rent, site insurance, depreciation, electricity and water charges, other services, waste removal, such cost to be allocated pro-rata to (i) the percent time-utilization of the manufacturing line in the Calendar Year out of the total time the manufacturing line is potentially capable of being utilized (including idle time); and (ii) the percent occupancy represented by the manufacturing line to the total plant;

(ii) the cost of plant support services, which includes quality control, process sciences, quality assurance and validation services and being labor, payroll taxes and fringe benefit costs, allocated to the cost of supplies based on the proportion of actual labor hours consumed in relation to the Manufacture of the supplies to total actual labor hours consumed on all of the Products being Manufactured in the plant; and

(iii) the cost of allocable overhead, being an amount added to an item of cost to reflect central or other overhead costs incurred by a Party or for its account including overhead costs attributable to the operation by it of its information systems, payroll, purchasing, supervisory and other internal groups being such costs normally allocated by such Party to its departments or project groups based on space occupied or headcount or other activity-based method consistently applied. Allocable overhead shall not include costs for general corporate activities including, by way of example only, investor relations, business development, legal affairs, human resources and finance, and any other activities not supporting activities conducted under this Agreement.

1.28.3 "**Pass-Through Costs**" within CoGs shall include the actual invoiced amounts paid by a Party to a CMO, excluding recoverable taxes such as VAT, and cost of materials and supplies for Manufacturing Product, based on actual costs including any applicable freight, taxes, duties, customs or import fees, less any discounts or free goods.

1.29 "**Collaboration Committee**" shall have the meaning set forth in Section 9.8.

1.30 "**Collaboration Target**" shall mean a Target in relation to which the Parties have agreed to seek to Develop a Product under this Agreement. For purposes of this Agreement, and unless otherwise set forth herein, Collaboration Target shall include Collaboration Target Combinations, the First Collaboration Target, the Replacement Target, the Reserved Targets, and the Optioned Targets, as applicable.

1.31 "**Collaboration Target Combination**" shall mean a Target Combination in relation to which the Parties have agreed to seek to Develop a Product under this Agreement. For purposes of this Agreement, and unless otherwise set forth herein, Collaboration Target Combination shall include Reserved Target Combinations, and Optioned Target Combinations, as applicable.

1.32 "**Combination Product**" shall mean:

(i) a single pharmaceutical formulation containing as its active pharmaceutical ingredients both the active ingredients licensed hereunder and one or more other therapeutically or prophylactically active pharmaceutical ingredients;

(ii) any combination therapy comprised of the Product and one or more other therapeutically or prophylactically active products, that is (i) priced and sold in a single package containing such multiple products; or (ii) packaged separately but sold together for a single price; or

(iii) a product comprised of a Product and a companion or complementary diagnostic, priced and sold in a single package containing such multiple products or packaged separately but sold together for a single price;

in each case, including all dosage forms, formulations, presentations, line extensions, and package configurations.

1.33 "**Commercialization**" shall mean any and all activities directed to the preparation for sale of, offering for sale of, or sale of a Product, including activities related to marketing, promoting, distributing, importing and exporting such Products, interacting with Regulatory Agencies regarding any of the foregoing and medical affairs functions. For the avoidance of doubt, "Commercialization" shall not include the Manufacture of Products. When used as a verb, to "**Commercialize**" and "**Commercializing**" shall mean to engage in Commercialization, and "**Commercialized**" has a correlative meaning.

1.34 "**Commercialization Agreement**" shall mean the meaning set forth in Section 7.7.

1.35 "**Commercially Reasonable Efforts**" shall mean, with respect to a Party, those efforts, expertise and resources commensurate with efforts, expertise and resources commonly used in the biotechnology industry by a company of comparable size in connection with the development, manufacture and/or commercialization of a comparable pharmaceutical product which is of similar market potential at a similar stage of development or commercialization in light of issues of safety and efficacy, product profile, the competitiveness of the marketplace, the proprietary position of the compound or product, the regulatory structure involved, the profitability of the applicable products, product reimbursement, and other relevant factors such as technical, legal, scientific, or medical factors. For purposes of clarity, Commercially Reasonable Efforts will be determined on a country-by-country basis within the Territory, and it is anticipated that the level of effort may be different for different countries and may change over time, reflecting changes in the status of such product and the country(ies) involved.

1.36 "**Confidential Information**" shall mean all Know-How, Development Data or other information of a Party whether or not marked confidential or proprietary, including:

(i) all communications between the Parties or information of whatever kind whether recorded or not and, if recorded, in whatever medium, relating to or arising out of this Agreement, whether disclosed prior to or after entering into this Agreement; and

(ii) all copies and excerpts of the communications, information, notes, reports and documents in whatever form referred to in paragraph (i) of this definition.

For purposes of the confidentiality obligations set forth herein, (a) Genmab Know-How, Genmab Materials and Genmab Inventions shall be deemed Confidential Information of Genmab; and CureVac Know-How, CureVac Materials and CureVac Inventions (to the extent not incorporated in any Genmab Inventions) shall be deemed Confidential Information of CureVac; (b) Confidential Information jointly owned by the Parties shall be deemed Confidential Information of both Parties; and (c) the terms and conditions of this Agreement shall be deemed Confidential Information of both Parties (and both Parties shall be deemed the Receiving Party with respect thereto). "**Confidential Information**" also includes all information exchanged between the Parties pursuant to the Confidentiality Agreements and Material Transfer Agreement. Without limiting the foregoing, all Know-How and Development Data generated under this Agreement that is specific to a Genmab Invention, Genmab Other Invention, Collaboration Target, Collaboration Target Combination, Program Antibody, Program Antibody Combination, an mRNA construct expressing a Program Antibody or Program Antibody Combination, and/or Product shall be deemed the Confidential Information of Genmab. All Know-How and CMC Development data generated under this Agreement that is specific to any CureVac Invention or CureVac Other Invention shall, to the extent such CureVac Invention or CureVac Other Invention is not incorporated in any Genmab Invention, be considered Confidential Information of CureVac.

1.37 "**Confidentiality Agreements**" shall mean Confidentiality Agreement No. 1 and Confidentiality Agreement No. 2.

1.38 "**Confidentiality Agreement No. 1**" shall mean that certain Mutual Confidentiality and Nondisclosure Agreement entered into between the Parties as of October 10, 2016.

1.39 "**Confidentiality Agreement No. 2**" shall mean that certain Mutual Confidentiality and Nondisclosure Agreement entered into between the Parties as of 12 April 2018.

1.40 "**Control**" shall mean, with respect to any material, information or intellectual property right, that a Party (i) owns such material, information or intellectual property right; or (ii) has a license to or right to use or grant access to such material, information or intellectual property right, in each case of (i) or (ii), without violating the terms of any agreement or other arrangement with a Third Party.

1.41 "**Co-Promote**" shall mean, with respect to the Co-Promotion Territory, to promote a Product through Genmab's and CureVac's respective sales forces under a single trademark in such Co-Promotion Territory. "**Co-Promotion**" shall have a correlative meaning.

1.42 "**Co-Promotion Agreement**" shall have the meaning as set forth in Section 8.2.

1.43 "**Co-Promotion Committee**" shall have the meaning set forth in Section 8.2(i).

1.44 "**Co-Promotion Product**" shall have the meaning set forth in Section 8.1.

1.45 "**Co-Promotion Territory**" shall have the meaning as set forth in Section 8.1.

1.46 "**Co-Promotion Territory Commercialization Plan**" shall have the meaning as set forth in Section 8.2(iii).

1.47 "**Cover**" shall mean, with respect to a claim of a Patent Right, that such claim would be infringed, absent a license, by the Development, Manufacture or Commercialization of a Product.

1.48 "**CRO**" shall mean a contract research organization.

1.49 "**CureVac Alliance Manager**" shall have the meaning set forth in Section 9.1.1.

1.50 "**CureVac Background Technology**" shall have the meaning set forth in Section 11.1.

1.51 "**CureVac Co-Promotion Option**" shall have the meaning set forth in Section 8.1.

1.52 "**CureVac Indemnified Parties**" shall have the meaning set forth in Section 14.1.

1.53 "**CureVac Invention**" shall have the meaning set forth in Section 11.3.2.

1.54 "**CureVac Know-How**" shall mean all Know-How within the CureVac Background Technology and all Know-How, including Know-How comprised in the CureVac Manufacturing Technology, Controlled by CureVac or its Affiliates arising or generated during the Research Period in connection with the performance of activities under this Agreement, in including performance of activities under the R&D Plans (to be determined on a Collaboration Target-by-Collaboration Target basis) that is required for the Parties to Develop the Programs and/or to Develop, Manufacture and Commercialize Products under this Agreement, *provided, however,* that CureVac Know-How does not include (i) Know-How included in the LNP Technology; (ii) Know-How included in CVCMs; (iii) Know-How included in the Other Technologies; and (iv) Know-How that may be Controlled by CureVac in the future as a result of a Change of Control; i.e., that was Developed by a Third Party prior to such Change of Control, or by CureVac after the Change of Control, and is fully or partly based on technology Controlled by a Third Party prior to such Change of Control. CureVac Know-How shall also include Know-How related to CureVac Inventions and other Know-How generated by CureVac under a Program. The CureVac Know-How as so defined existing at the Effective Date is further described in **Exhibit 1.54**.

1.55 "**CureVac Manufacturing Technology**" shall mean Patent Rights and Know-How Controlled by CureVac or its Affiliates (including CureVac Real Estate GmbH even if it does not remain an Affiliate) related to CMC Development and/or the Manufacture of Products actually used in the CMC Development and/or Manufacture of a Product by or on behalf of CureVac and/or its Affiliates during the Development and/or Manufacture of such Product under an R&D Plan during the Research Period. For the avoidance of doubt, such CureVac Manufacturing Technology shall be licensed to Genmab for all subsequent Products under this Agreement no matter whether CureVac or its Affiliates (or their approved subcontractor or approved CMO) Manufactures the particular Product.

1.56 "**CureVac Materials**" shall mean any compounds, assays or other materials that are disclosed or otherwise made available by or on behalf of CureVac and/or its Affiliate(s) to Genmab hereunder for the purposes of this Agreement, including the compounds, assays, negative and positive mRNA control constructs (excluding, for clarity, any Product) and other materials set forth on **Exhibit 5.1.1**, and progeny, modifications or derivatives thereof that do not include use of Genmab Materials.

1.57 "**CureVac Other Invention**" shall have the meaning set forth in Section 11.3.3.

1.58 "**CureVac Other Invention Patent Right**" shall have the meaning set forth in Section 11.7.4

1.59 "**CureVac Patent Right(s)**" shall mean (i) all Patent Rights within the CureVac Background Technology Controlled by CureVac or its Affiliates as of the Effective Date; and (ii) all CureVac Program Patent Rights, CureVac Other Invention Patent Rights and CureVac's interest in Joint Patent Rights that (in case of each of (i) and (ii)) are required for the Development of the Programs and/or for the Development, Manufacture and Commercialization of Products (including Product candidates under the research license) under the Agreement; and (iii) all Patent Rights within the CureVac Manufacturing Technology to the extent not within (i) or (ii); and (iv) any New Patent Rights that Genmab notifies CureVac it desires to include pursuant to Section 2.9. *provided, however,* that CureVac Patent Rights do not include (i) Patent Rights included in the LNP Technology or the Patent Rights referred to in Section 1.63 (Definition of CVCM); (ii) Patent Rights included in the Other Technologies; and (iii) Patent Rights that may be Controlled by CureVac in the future as a result of a Change of Control; i.e., that were Developed by a Third Party prior to such Change of Control. The CureVac Patent Rights as of the Effective Date are listed in **Exhibit 1.59**. For avoidance of doubt, the CureVac Patent Rights shall include any future Patent Rights Controlled by CureVac or its Affiliates that claim priority from any of the patents and patent applications listed in **Exhibit 1.59**.

1.60 "**CureVac Program Patent Right**" shall mean a Program Patent Right owned by CureVac, as set forth in Section 11.3 below, that Covers a CureVac Invention.

1.61 "**CureVac Project Leader**" shall have the meaning set forth in Section 9.1.2.

1.62 "**CureVac Technology**" shall mean CureVac Patent Rights, CureVac Inventions, CureVac Other Inventions, CureVac Know-How, CureVac Manufacturing Technology (to the extent not within the foregoing) and Third Party IP that is deemed to be CureVac Technology pursuant to Section 2.8.

1.63 "**CVCM**" shall mean CureVac's next generation mRNA delivery vehicle, also referred to as CureVac Carrier Molecule™, which is disclosed in CureVac's patent families [*****], that is appropriate for formulation of an mRNA construct.

1.64 "**Development**" shall mean all research, non-clinical, and clinical testing and drug development activities conducted in respect of the Collaboration Targets, Program Antibodies and Products, including those necessary or reasonably useful or otherwise requested or required by a Regulatory Authority as a condition or in support of obtaining or maintaining Regulatory Approvals and to successfully Develop, Manufacture and Commercialize the Products for use in the Field. "**Development**" shall include CMC Development, delivery system development, non-clinical testing, mechanism studies, toxicology, pharmacokinetics, clinical studies, regulatory affairs activities, statistical analysis and report writing, submission of documents, market research, pharmacoeconomic studies, and epidemiological/real world data studies. Development shall mean both (a) non-clinical and clinical Development; and (b) CMC Development. "**Develop**" and "**Developed**" have a correlative meaning.

1.65 "**Development Data**" shall mean (i) reports of non-clinical studies and Clinical Studies, (ii) CMC Development data; and (iii) all other documentation containing or embodying any non- clinical or clinical data relating to the Collaboration Targets, Program Antibodies and the Products or the use of the Products in the Field, such data in each case (i), (ii) and (iii) required for the Development and Commercialization of the Products, including but not limited to, registration dossiers.

1.66 "**Disclosing Party**" shall have the meaning set forth in Section 13.1

1.67 "**Disclosure Letter**" shall have the meaning set forth in Section 14.4.

1.68 "**Early Clinical Supply Agreement**" shall the meaning set forth in Section 6.1.

1.69 "**Effective Date**" shall have the meaning set forth in the Preamble.

1.70 "**FDA**" shall have the meaning set forth in the definition of Regulatory Agency.

1.71 "**Field**" shall mean any and all uses for the prophylaxis or treatment of human conditions and diseases.

1.72 "**Financial Partner**" shall have the meaning set forth in Section 13.4.1(vi) below.

1.73 "**First Collaboration Program**" shall mean the Program addressing the First Collaboration Target and First Program Antibody, as described in the First Program Research Plan.

1.74 "**First Collaboration Target**" shall mean the target named [*****]. For purposes of this Agreement, and unless otherwise set forth herein, First Collaboration Target shall include the Replacement Target, as applicable.

1.75 "**First Commercial Sale**" shall mean, on a Product-by-Product and country-by-country basis, the first sale by Genmab or its Affiliates or Sublicensees or subcontractors to, such as but not limited to, a Third Party wholesaler, pharmacy, outpatient clinic, inpatient clinic, hospital, or dispensing physician in a given country after necessary Regulatory Approval has been granted with respect to such Product in such country. For avoidance of doubt, any sale of a Product by Genmab to an Affiliate or Sublicensee or subcontractor is not a First Commercial Sale.

1.76 "**First Composition of Matter Patent Rights**" shall mean, Product-by-Product, all Patent Rights within the first "composition of matter" Genmab Program Patent Rights (i.e. Genmab Program Patent Rights where the earliest priority date is the same) that Cover and claim the specific composition of matter of the particular Product. For clarity, such first "composition of matter" Genmab Program Patent Rights may not be the first to be filed Patent Rights Covering the particular Product if such first to be filed Patent Rights do not also claim the specific composition of matter of such Product.

1.77 "**First Program Antibody**" shall mean Genmab's proprietary [*****] as described in detail in **Exhibit 1.77**, that binds to the First Collaboration Target.

1.78 "**First Program Research Plan**" shall have the meaning set forth in Section 5.1.1, such First Program Research Plan as of the Effective Date being attached hereto as **Exhibit 5.1.1**.

1.79 "**FTE**" shall mean, with respect to a person, the equivalent of the work of one (1) employee full time for one (1) year (consisting of at least [*****] working hours per year (with no further reductions for vacations and holidays)). Overtime, and work on weekends, holidays and the like will not be counted with any multiplier (e.g., time-and-a-half or double time) toward the number of hours that are used to calculate the FTE contribution. The portion of a FTE billable by CureVac or Genmab for one (1) individual during a given accounting period shall be determined by dividing the number of hours worked by said individual on the work to be conducted under the Agreement during such accounting period and the number of FTE hours applicable for such accounting period based on [*****] working hours per calendar year. For clarity, no individual person can ever constitute more than a single FTE.

1.80 "**FTE Rate**" shall mean, for the period commencing on the Effective Date until such time as the Parties mutually agree otherwise, an annual rate of [*****]. The FTE Rate shall include all fully loaded costs, including costs of salaries, benefits, supplies, other employee costs, consumables, overhead and supporting general and administration allocations. In the event of Opt-In by CureVac, the Parties will renegotiate and agree in good faith on a new FTE Rate which should be reflective of the stage of development and market conform.

1.81 "**FTO License**" shall have the meaning set forth in Section 10.6.4.

1.82 "**Force Majeure**" shall have the meaning set forth in Section 17.2.

1.83 "**Generally Applicable Patent Right**" shall mean a claim of a Genmab Program Patent Right Covering (i) a [*****] ("**Target Class Inventions**"); (ii) an Antibody or Antibody Combination functionally defined in such claim as [*****] and (iii) a [*****] *provided*, however, that for each of (i), (ii) and (iii), where the Invention is made, conceived and/or reduced to practice after the Research Period, such claim shall only be considered a Generally Applicable Patent Right if [*****] with respect to such claim. For avoidance of doubt, the term Generally Applicable Patent Right shall not include any claim where the Program Antibody or Program Antibody Combination is functionally defined as binding to a Collaboration Target or Collaboration Target Combination or even more specifically, such as e.g. where the Program Antibody or Program Antibody Combination is functionally defined as binding to an epitope on a Collaboration Target or epitopes on the Collaboration Targets included in the Collaboration Target Combination or where the Program Antibody or Program Antibody Combination is defined by sequences.

1.84 "**Generic Product**" shall mean, with respect to a particular Product in a particular country in the Territory, any pharmaceutical product (other than the Product) that (i) contains the same active ingredient(s) (including biosimilar or bioequivalent biologic API) in a comparable quality and quantity as such Product, irrespective of its pharmaceutical form, and is approved for the same indication as such Product, as applicable, and (ii) is approved for sale in the country pursuant to a regulatory approval process governing the approval of generic, interchangeable, biosimilar or bioequivalent biologic products, with the Product being the reference product.

1.85 "**Generic Therapeutic Concept**" shall mean an Invention consisting of a new approach to therapy or treatment that has general applicability beyond use of such approach in relation to the Collaboration Target or specific Collaboration Target Combination (i.e. the Optioned Target Combination) that is targeted by a Program Antibody or Program Antibody Combination, as applicable. By way of non-limiting examples, a Generic Therapeutic Concept would include (i) an Invention consisting of combining [*****] different Antibodies targeting [*****] different pathways such as an anti-apoptotic pathway, an anti-proliferative pathway and an anti- metastatic pathway to obtain a certain therapeutic effect; and (ii) an Invention relating to a [*****]. The term Generic Therapeutic Concept shall not comprise Target Class Inventions. Further, the term Generic Therapeutic Concept shall not comprise the therapeutic or treatment approach to the extent that such approach applies to a Collaboration Target or specific Collaboration Target Combination.

1.86 "**Genmab Alliance Manager**" shall have the meaning set forth in Section 9.1.1.

1.87 "**Genmab Background Technology**" shall have the meaning as set forth in Section 11.1.

1.88 "**Genmab Indemnified Parties**" shall have the meaning set forth in Section 14.2.

1.89 "**Genmab Invention**" shall have the meaning set forth in Section 11.3.1.

1.90 "**Genmab Know-How**" shall mean all Know-How Controlled by Genmab or its Affiliates as of the Effective Date or thereafter during the Term that (a) is necessary for CureVac to perform the obligations and other activities pursuant to this Agreement, or (b) is used by or on behalf of Genmab its Affiliates or Sub-licensees to Develop, Manufacture and Commercialize Products under this Agreement. Genmab Know-How shall include (i) Know-How comprised in the Genmab Background Technology; (ii) Know-How related to Genmab Inventions; and (iv) other Know-How generated by Genmab under a Program. Notwithstanding the foregoing, if any Third Party becomes an Affiliate of Genmab after the Effective Date, Genmab Know-How will exclude any Know-How that is Controlled by such Third Party before such Third Party became Genmab's Affiliate. The Genmab Know-How as so defined existing at the Effective Date is further described in **Exhibit 1.90**.

1.91 "**Genmab Materials**" shall mean any compounds, assays or other materials, including sequences and recombinant proteins, that are disclosed or otherwise made available by or on behalf of Genmab and/or its Affiliate(s) to CureVac hereunder for the purposes of this Agreement, including materials set forth on **Exhibit 5.1.1**, and progeny, modifications or derivatives thereof that do not include use of CureVac Materials.

1.92 "**Genmab Other Invention**" shall have the meaning set forth in Section 11.3.3.

1.93 "**Genmab Other Invention Patent Right**" shall have the meaning set forth in Section 11.7.5.

1.94 "**Genmab Patent Right(s)**" shall mean all Patent Rights Controlled by Genmab or its Affiliates as of the Effective Date or thereafter during the Term that (a) is necessary for CureVac to perform the obligations and other activities pursuant to this Agreement, or (b) [*****] Genmab its Affiliates or Sub-licensees to Develop, Manufacture and Commercialize Products under this Agreement. Genmab Patent Rights shall include Patent Rights comprised in the Genmab Background Technology, Genmab Program Patent Rights, Genmab Other Invention Patent Rights and Genmab's interest in Joint Patent Rights.

1.95 "**Genmab Program Patent Right**" shall mean a Program Patent Right owned by Genmab, as set forth in Section 11.3 below, that Covers a Genmab Invention.

1.96 "**Genmab Project Leader**" shall have the meaning set forth in Section 9.1.2.

1.97 "**Genmab Technology**" shall mean any and all Genmab Patent Rights, Genmab Inventions and Genmab Know-How.

1.98 "**GxP**" shall mean the good practice regulations in the pharmaceutical industry with respect to distribution, manufacturing, clinical and laboratory practices (GDP, GMP, GCP and GLP).

1.99 "**IND**" shall mean an investigational new drug application filed with, and accepted by, the FDA prior to beginning clinical trials in humans in the USA, or any comparable application to and acceptance by the Regulatory Authority of a country or group of countries other than the USA thereto including the European Medicines Authority ("**EMA**") prior to beginning clinical trials in humans in that country or in that group of countries.

1.100 "**Indication**" shall mean, with respect to a particular Product, the use of such Product for treating a separate and distinct disease or medical condition.

1.101 "**Invention**" shall mean an invention or discovery, whether or not patentable, discovered, made, conceived and/or first reduced to practice during the Term by or on behalf of CureVac or Genmab or Affiliates of CureVac or Genmab, alone or jointly with each other and/or any Third Party, which arise from the performance of activities under this Agreement, including performance of activities under the R&D Plans, or under the Material Transfer and Technology Evaluation Agreement.

1.102 "**IP Sub-committee**" shall mean the sub-committee to be established pursuant to Section 9.6.

1.103 "**Joint Commercialization Committee**", and "**JCC**" shall have the meaning set forth in Section 7.7(i).

1.104 "**Joint Development and Manufacturing Agreement**" shall have the meaning set forth in Section 7.6.

1.105 "**Joint Invention**" shall have the meaning set forth in Section 11.3.3.

1.106 "**Joint Patent Rights**" shall have the meaning set forth in Section10.8.1

1.107 "**Joint Research Committee**", and "**JRC**" shall have the meaning set forth in Section 9.2.

1.108 "**Joint Steering Committee**", and "**JSC**" shall have the meaning set forth in Section 7.2.

1.109 "**Know-How**" shall mean all technical, scientific and other information, inventions, discoveries, trade secrets, knowledge, technology, means, methods, processes, practices, formulae, instructions, skills, techniques, procedures, expressed ideas, technical assistance, designs, drawings, assembly procedures, computer programs, apparatuses, specifications, Development Data, results, non-clinical, clinical, safety, process and Manufacturing and quality control data and information (including trial designs and protocols), registration dossiers, in each case, solely to the extent confidential and proprietary and in written, electronic or any other form now known or hereafter Developed.

1.110 "**LNP**" shall mean a lipid nanoparticle system comprised of individual lipid components at specific ratios, which are manufactured in such a manner to encapsulate and deliver mRNA into a target cell.

1.111 "**LNP Technology**" shall mean Patent Rights and Know-How covering an LNP system (i.e. a lipid nanoparticle system which is used to formulate and deliver mRNA), as further defined in **Exhibit 1.111** hereto.

1.112 "**LNP Technology License Documentation Package**" shall have the meaning set forth in Section 4.2 below.

1.113 "**Major Markets Countries**" shall mean [*****].

1.114 "**Manufacture**" shall mean all manufacturing operations (including for mRNA, lipids and drug product as well as formulation, fill and finish, packaging and labelling) for Products, including all activities related to the preparation and use of master and working cell banks, making, production, processing, purifying, formulating, filling, and finishing, of the Product, or any intermediate thereof, pre-clinical, clinical and commercial production, product, stability testing, quality assurance, and quality control. "**Manufacturing**" has a correlative meaning.

1.115 "**Materials**" shall mean CureVac Materials and Genmab Materials.

1.116 "**Material Transfer and Technology Evaluation Agreement**" shall mean that certain Material Transfer and Technology Evaluation Agreement entered into between the Parties as of April 12, 2017.

1.117 "**mRNA**" shall have the meaning set forth in the Introduction.

1.118 "**MSA**" shall have the meaning set forth in Section 6.4.2 below.

1.119 "**Negotiation Period**" shall have the meaning as set forth in Section 7.8.2.

1.120 "**Net Sales**" shall mean, with respect to each Product, the gross amount invoiced for sales of such Product by or on behalf of Genmab and its Affiliates and Sublicensees to unrelated Third Parties (i.e., excluding Sublicensees), less the following deductions [*****]:

a. [*****]

b. [*****]

c. [*****]

d. [*****]

e. [*****]

f. [*****] and

g. [*****]

[*****].

Disposition of Product for, or use of the Product in, clinical trials or other scientific testing, as free samples, or under compassionate use, patient assistance, or test marketing programs or other similar programs or studies where a Product is supplied without charge shall not result in any Net Sales, however if Genmab or any of its Affiliates or Sublicensees charges for such Product, the amount billed will be included in the calculation of Net Sales, but for the sake of clarity such disposition or use of the Product shall never constitute a First Commercial Sale.

In the event a Product is sold as a Combination Product, Net Sales of the Combination Product will be calculated, on a [*****] as follows:

(i) [*****].

(ii) [*****].

(iii) [*****].

(iv) [*****].

(v) [*****].

1.121 "**New Patent Right**" shall have the meaning set forth in Section 2.9.

1.122 "**Non-Assigning Party**" shall have the meaning set forth in Section 7.8.2.

1.123 "**Non-Breaching Party**" shall have the meaning set forth in Section 15.4.

1.124 "**Non-Terminating Party**" shall have the meaning set forth in Section 7.9.

1.125 "**Opt-In**" shall have the meaning set forth in Section 7.1.

1.126 "**Opt-In Data Package**" shall have the meaning set forth in Section 7.1.

1.127 "**Opt-In Product**" shall have the meaning set forth in Section 7.1.

1.128 "**Opt-In Product Assignment**" shall have the meaning set forth in Section 7.8.2.

1.129 "**Opt-In Program**" shall mean a Program (for a [*****]) for which CureVac has exercised its right to Opt-In.

1.130 "**Opt-In R&D Plan**" shall have the meaning set forth in Section 7.2.

1.131 "**Opt-In Target**" shall have the meaning set forth in Section 7.1.

1.132 "**Opt-In Termination Notice**" shall have the meaning set forth in Section 7.9.

1.133 "**Option Exercise**" shall have the meaning set forth in Section 3.4.

1.134 "**Option Exercise Fee**" shall have the meaning set forth in Section 10.2.

1.135 "**Option Period**" shall have the meaning set forth in Section 3.4 below.

1.136 "**Optioned Target**" shall mean a Reserved Target for which Genmab has exercised its option under Section 3.4 below. For purposes of this Agreement, and unless otherwise set forth herein, Optioned Target shall include an Optioned Target Combination, as applicable.

1.137 "**Optioned Target Combination**" shall have the meaning set forth in Section 3.4.

1.138 "**Other Pre-IND Program**" shall mean a Program envisaged in Section 5.2.3 directed against an Optioned Target and including an Other Program Antibody (for clarity, excluding the First Collaboration Program) and LNP Technology.

1.139 "**Other Pre-IND Program Research Plan**" shall have the meaning set forth in Section 5.2.3 below.

1.140 "**Other Program Antibody**" shall mean a Program Antibody (i) that binds to an Optioned Target, or to an Optioned Target Combination; and (ii) that Genmab has elected to use and is to be used in an Other Pre-IND Program as described in Section 5.2.3. To the extent applicable, and unless otherwise set forth, Other Program Antibody shall include Other Program Antibody Combinations.

1.141 "**Other Program Antibody Combination**" shall mean a Program Antibody Combination that (i) binds to an Optioned Target, or to an Optioned Target Combination; and (ii) Genmab has elected to use and is to be used in an Other Pre-IND Program as described in Section 5.2.3.

1.142 "**Other Invention**" shall have the meaning set forth in Section 11.3.3.

1.143 "**Other Invention Patent Right**" shall mean a CureVac Other Invention Patent Right or Genmab Other Invention Patent Right, as applicable.

1.144 "**Other Technologies**" shall mean the technologies licensed to CureVac (i) by GeneArt AG under a license agreement dated [*****] concerning [*****]; (ii) by TriLink Biotechnologies LLC under a license Agreement dated [*****], [*****]. The respective Patent Rights are listed in **Exhibit 1.144**.

1.145 "**Parties**" shall mean CureVac and Genmab.

1.146 "**Party**" shall mean CureVac or Genmab.

1.147 "**Patent Rights**" shall mean any and all patents and patent applications, including provisional and non-provisional applications, reissues, extensions, substitutions, confirmations, re-registrations, re-examinations, re-validations, patents of addition, supplementary protection certificates or the equivalents thereof, continuations, continuations-in-part and divisionals thereof and all foreign counterparts, and the like of any of the foregoing.

1.148 "**Patent Term Extensions**" shall have the meaning set forth in Section 10.9.

1.149 "**Person**" shall mean an individual, firm, company, corporation, association, trust, estate, state or agency of a state, government or government department or agency, municipal or local authority and any other entity, whether or not incorporated and whether or not having a separate legal personality.

1.150 "**Pivotal Study**" shall mean a Clinical Study of Product in human patients intended to provide evidence for drug marketing approval. Clinical Phase III Studies are typically Pivotal Studies, and in exceptional cases a Clinical Phase II Study may become a Pivotal Study, and may require additional confirmatory studies post approval.

1.151 "**Product**" shall mean any product that contains one or more mRNA construct(s) that is designed to express a Program Antibody or a Program Antibody Combination, and formulated with [*****]. Product includes both a [*****] or a [*****]. For clarification, a Product may consist of several mRNA constructs that together express a Program Antibody or Program Antibody Combination.

1.152 "**Product Development Plan(s)**" shall mean the development plans to be prepared upon Product Selection under any Program for the further Development of a Product, as set forth in Section 5.3.

1.153 "**Product Selection**" shall have the meaning set forth in Section 5.3.

1.154 "**Product Selection Notice**" shall have the meaning set forth in Section 5.3.

1.155 "**Product Development Program**" shall mean a program for the further Development of a Product pursuant to a Product Development Plan.

1.156 "**Program**" shall mean, on a Collaboration Target-by-Collaboration Target basis, any and all Development, Manufacturing and Commercialization activities conducted under R&D Plans. Programs shall include the First Collaboration Program. Save in respect of the First Collaboration Program, the sequence of a Program shall be (i) Research Program; then (ii) Other Pre-IND Program; then (iii) Product Development Program.

1.157 "**Program Antibody**" shall mean a [*****] that [*****] and that Genmab has elected to use in a Program and which has been finally cleared under Section 3.2.2. To the extent applicable, and unless otherwise set forth, [*****].

1.158 "**Program Antibody Combination**" shall mean an Antibody Combination that Genmab has elected to use in a Program and which has been finally cleared under Section 3.2.2.

1.159 "**Program Breach**" shall have the meaning set forth in Section 15.4.

1.160 "**Program Patent Rights**" shall mean Patent Rights Covering Inventions.

1.161 "**Project Leaders**" shall have the meaning set forth in Section 9.1.2 below.

1.162 "**R&D Plan(s)**" shall mean the research and development plans to be prepared under this Agreement and shall include the First Program Research Plan in **Exhibit 5.1.1**, the Reserved Target Research Plans, the Other Pre-IND Program Research Plans, the Opt-In R&D Plan, and the Product Development Plans.

1.163 "**Receiving Party**" shall have the meaning set forth in Section 13.1.

1.164 "**Regulatory Agency**" shall mean any one of the following: United States Food and Drug Administration ("**FDA**") or any successor agency; or any counterparts thereof in jurisdictions outside of the U.S.

1.165 "**Regulatory Approval**" shall mean any and all approvals (including supplements, amendments, pre- and post-approvals, pricing and reimbursement approvals), licenses, registrations or authorizations (including marketing and labeling authorizations) of any national, supra-national (e.g., the European Commission or the Council of the European Union), regional, state or local Regulatory Agency, department, bureau, commission, council or other governmental entity, that are necessary for the development, registration, manufacture (including formulation), distribution, use, sale, import or export of a Product in a given jurisdiction.

1.166 "**Regulatory Exclusivity**" shall mean any exclusive marketing rights or data exclusivity rights conferred by any Regulatory Agency with respect to a Product, other than Patent Rights.

1.167 "**Relevant Infringement**" shall have the meaning set forth in Section 11.1.

1.168 "**Replacement Target**" shall have the meaning set forth in Section 3.1.

1.169 "**Replacement Target Exclusivity Period**" shall have the meaning set forth in Section 2.1.2.

1.170 "**Replacement Target Antibody**" shall mean a single Antibody directed at a Replacement Target.

1.171 "**Research Completion Deadline**" shall have the meaning set forth in Section 5.2.1.

1.172 "**Research Period**" shall mean, on a Target-by-Target basis, the period during which research and Development activities under this Agreement are being conducted (i) under the First Program Research Plan (whether in relation to the First Program Antibody or in relation to a Replacement Target Antibody); and (ii) the Reserved Target Research Plans (to be determined on a Research Target-by-Research Target basis); and/or (iii) the Other Pre-IND Program Research Plans (to be determined on an Optioned Target -by- Optioned Target basis).

1.173 "**Research Program**" shall mean a program of research relating to a Reserved Target, a Research Program Antibody and LNP Technology.

1.174 "**Research Program Antibody**" shall mean a Program Antibody (i) that [*****] as applicable; and (ii) that Genmab has elected to use and is to be used in a Reserved Target Research Plan as described in Section 5.2.1.

1.175 "**Research Program Antibody Combination**" shall mean a Program Antibody Combination that [*****].

1.176 "**Reservation Fee**" shall have the meaning set forth in Section 3.3 below.

1.177 "**Reservation Period**" shall have the meaning set forth in Section 3.2.1 below.

1.178 "**Reserved Target**" shall have the meaning set forth in Section 3.2.1 below. For purposes of this Agreement, and unless otherwise set forth herein, Reserved Target shall include a Reserved Target Combination, as applicable.

1.179 "**Reserved Target Combination**" shall have the meaning set forth in section 3.2.1 below.

1.180 "**Reserved Target Data Package**" shall have the meaning set forth in Section 5.2.2.

1.181 "**Reserved Target Research Plan**" shall have the meaning set forth in Section 5.2.1 below.

1.182 "**Roche License**" shall mean the non-exclusive license made between CureVac and F.Hoffmann-La Roche Ltd dated [*****] granting Roche [*****]. For the purposes of this Agreement, the term Roche License shall not include any amendments made to the non- exclusive license agreement between CureVac and Roche after the Effective Date.

1.183 "**Royalty Product Patent Rights**" shall mean, on a Product-by-Product basis the First Composition of Matter Patent Rights. For the avoidance of doubt, the term Royalty Product Patent Rights shall not include any later filed Patent Rights not claiming priority from or comprised in the First Composition of Matter Patent Rights, such as later filed Patent Rights that relate to other aspects of the Product (e.g., Patent Rights relating to formulation, processes, uses or other applications of the Product).

1.184 "**Royalty Term**" shall have the meaning set forth in Section 10.6.3.

1.185 "**Single Antibody Product**" shall mean a Product that is designed to express one Program Antibody. Single Antibody Product includes the First Program Antibody and the Replacement Target Antibody.

1.186 "**Sub-Committee**" shall have the meaning set forth in Section 9.4 below.

1.187 "**Sublicensee**" shall mean any Third Party licensee (aside from Genmab's Affiliates and any Third Party contractors used by Genmab in the Development, Manufacture or Commercialization of the Products on Genmab's behalf), which obtains rights to the CureVac Technology or LNP Technology under a license granted by Genmab, its Affiliates or another such Third Party that was sublicensed such rights by Genmab, its Affiliates or another Sublicensee.

1.188 "**Successful GLP Tox**" shall mean the earlier of (i) the date where a formal decision by Genmab's relevant project board or equivalent to file for IND submission is communicated to CureVac, whether or not the JRC has received data confirming that the success criteria as defined in the R&D Plan for the formal toxicology studies required for such IND submission have been fulfilled; or (ii) [*****] after the JRC has received data confirming that the success criteria as defined in the R&D Plan for the formal toxicology studies required for such IND submission have been fulfilled.

1.189 "**Switching Costs**" shall mean those incremental additional payments to be made by CureVac to a provider of LNP Technology other than under the Acuitas License or Arcturus License resulting from the decision by Genmab to switch from the First Collaboration Target to a Replacement Target, including payment of additional license or reservation fees and/or increased royalties because a new license of LNP Technology is required other than the Arcturus License or Acuitas License. For clarity, the term "Switching Costs" shall only comprise the delta between what CureVac would have had to pay to Arcturus under the Arcturus License or to Acuitas under the Acuitas License for an LNP Technology license relating to the First Collaboration Target and what CureVac will have to pay to a provider of LNP Technology other than under the Acuitas License or Arcturus License for an LNP Technology license relating to the Replacement Target. The Switching Costs shall be determined from time to time when any payment relating to the Replacement Target is due under such LNP Technology license other than Acuitas License or Arcturus License by comparing the actual total payments made or due under such other LNP Technology license with the payments that would have been made by or due from CureVac under the Arcturus License or Acuitas License with respect to the given Product. Whether the Arcturus License or Acuitas License will be used as reference point when making such calculations of the then current total Switching Costs will depend on which of the two LNP Technologies that were used for Product based on the First Program Antibody.

1.190 "**Target**" shall mean a distinct single antigen defined by its unique UniProt/SwissProt number. For purposes of this Agreement, and unless otherwise set forth herein, Target shall include a Target Combination, as applicable.

1.191 "**Target List**" and "**Target List Rep**" shall have the meanings set forth in Section 3.2.2.

1.192 "**Target Combination**" shall mean a combination of up to [*****] distinct antigens per Product, as defined by their unique UniProt/SwissProt numbers.

1.193 "**Target Subset**" shall mean any individual Targets or subcombinations thereof within an Optioned Target Combination which does not contain the specific combination of Targets constituting an Optioned Target Combination targeted by an Other Program Antibody or Other Program Antibody Combination (e.g., if Genmab has exercised an Optioned Target Combination consisting of "a+b+c", then any individual Target or other subcombination of Targets within the Optioned Target Combination of "a+b+c", i.e. the combinations of "a+b", "b+c" or "a+c" or the individual Targets "a" or "b" or "c"), would each constitute a Target Subset.

1.194 "**Term**" shall have the meaning set forth in Section 15.1.

1.195 "**Terminating Party**" shall have the meaning set forth in Section 7.9.

1.196 "**Territory**" shall mean the world.

1.197 "**Third Party**" shall mean any Person, other than CureVac or Genmab and their respective Affiliates.

1.198 "**Third Party IP**" shall have the meaning set forth in Section 2.8.

1.199 "**Valid Claim**" shall mean either (i) a claim of an issued and unexpired patent within (A) CureVac Patent Rights, excluding any claim within the CureVac Program Patent Rights, CureVac Other Invention Patent Rights or Joint Patent Rights Covering a Product where such CureVac Program Patent Right(s), CureVac Other Invention Patent Right(s) or Joint Patent Right(s) has a later priority date than any Royalty Product Patent Right Covering such Product; (B) Patent Rights within LNP Technology Controlled by CureVac and licensed by CureVac to Genmab under or in connection with this Agreement; or (C) Royalty Product Patent Rights, and, in each case of (A), (B) and (C), which has not been revoked or held permanently unenforceable, unpatentable or invalid by a decision of a court or other governmental agency of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, and which has not been found or admitted to be abandoned, disclaimed, denied, invalid or unenforceable through re-examination, reissue or disclaimer or otherwise; or (ii) a claim of a pending patent application within the CureVac Patent Rights, (excluding any claim within the CureVac Program Patent Rights, CureVac Other Invention Patent Rights or Joint Patent Rights Covering a Product where such CureVac Program Patent Right(s), CureVac Other Invention Patent Rights or Joint Patent Right(s) has a later priority date than any Royalty Product Patent Right Covering such Product), Patent Rights within LNP Technology Controlled by CureVac and licensed by CureVac to Genmab under or in connection with this Agreement, or Royalty Product Patent Rights, which claim has not been cancelled, withdrawn, abandoned or finally disallowed, and which claim has been prosecuted in good faith and not been pending for more than [*****] from the date of its earliest priority date. For avoidance of doubt, the term "Valid Claim" shall not include any claim of Third Party IP that has been deemed part of CureVac Technology pursuant to Section 2.8.

1.200 Interpretation

In this Agreement, unless the context otherwise requires, a reference to:

(i) a paragraph, section, exhibit or schedule is a reference to a paragraph, section, exhibit or schedule to this Agreement;

(ii) any document includes a reference to that document (and, where applicable, any of its provisions) as amended, novated, supplemented or replaced from time to time;

(iii) a statute or other law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them;

(iv) the singular includes the plural and vice versa, except as it regards the definitions of Party and Parties;

(v) one gender includes the other;

(vi) “written” and “in writing” include any means of reproducing words, figures or symbols in a tangible and visible form, including acknowledged email or facsimile;

(vii) a month or year is a reference to a calendar month or Calendar Year, as the case may be;

(viii) “include”, “includes” and “including” means including without limitation, or like expression unless otherwise specified, and “for example”, “e.g.”, “such as” and similar words or phrases are descriptive, not limiting; and

(ix) the official text of this Agreement and any Exhibits shall be in English, and any notices given or accounts or statements for communication between the Parties will be in English and in the event of any dispute concerning the construction or interpretation of this Agreement, reference shall be made only to this Agreement as written in English and not to any other translation into any other language.

2. LICENSES; EXCLUSIVITY.

2.1 License Grants to Genmab.

2.1.1 **First Collaboration Target License.** With respect to the First Collaboration Target and the First Program Antibody, subject to the terms and conditions of the Agreement, and for the Term, CureVac hereby grants to Genmab, and Genmab hereby accepts, an exclusive (subject to Section 2.1.6) license under the CureVac Technology to Develop, Manufacture and Commercialize a Single Antibody Product in the Field and in the Territory. This license shall automatically terminate upon final clearance by CureVac of a Replacement Target and related Program Antibody nominated by Genmab in accordance with Section 3.2.2 below. For clarity, the grant of a license under this Section 2.1.1 to [*****], unless otherwise specified in this Agreement.

2.1.2 **Replacement Target License.** With respect to a Replacement Target nominated by Genmab and cleared by CureVac under the provisions of Section 3.2.2, as of the final clearance of such Replacement Target and related Program Antibody(-ies), and subject to the terms and conditions of this Agreement, and for a term starting upon clearance of the Replacement Target and ending at the earlier of (i) [*****], or (ii) [*****] after clearance of the respective Replacement Target ("**Replacement Target Exclusivity Period**"), CureVac hereby grants to Genmab, and Genmab accepts, an exclusive (subject to Section 2.1.6) license under the CureVac Technology to Develop, Manufacture and Commercialize a Single Antibody Product in the Field in the Territory. For clarity, the grant of a license under this Section 2.1.2 to Manufacture shall not require CureVac to transfer any Know-How comprised in the CureVac Manufacturing Technology, unless otherwise specified in this Agreement.

2.1.3 **Reserved Target License.** With respect to a Reserved Target, subject to the terms and conditions of this Agreement, and for a period of [*****] after the Effective Date, CureVac hereby grants to Genmab, and Genmab hereby accepts an exclusive (subject to Section 2.1.6) license under the CureVac Technology to conduct or have conducted research and pre-clinical Development on Antibody-based Products in the Field and in the Territory, such research and pre-clinical Development to enable Genmab to make a decision as to whether it wants to advance the Reserved Target to an Optioned Target. If the Reserved Target is a Reserved Target Combination, the exclusivity under this Section 2.1.3 shall apply to all combinations, including subsets of combinations within the respective Reserved Target Combination, but does not apply to individual Targets within such Reserved Target Combination. For illustration purposes, if the Reserved Target Combination was a+b+c, the exclusivity would also apply to the combination of a+b, b+c and a+c, but not to a, b or c individually.

2.1.4 **Optioned Target License.** With respect to any Optioned Target, subject to an Option Exercise under Section 3.4 below, and subject to the terms and conditions of this Agreement, and for a term starting upon Option Exercise and ending at the earlier of (i) [*****]; or (ii) [*****] after the Option Exercise ("**Optioned Target Exclusivity Period**"), CureVac hereby grants to Genmab, and Genmab hereby accepts an exclusive (subject to Section 2.1.6) license under the CureVac Technology to Develop, Manufacture and Commercialize Single Antibody Products or Cocktail Products, as applicable. If the Optioned Target is an Optioned Target Combination, the exclusivity under this Section 2.1.4 applies to the specific combination within the respective Optioned Target Combination, and neither applies to any other combinations, nor to individual Targets within such Optioned Target Combination. The grant of a license under this Section 2.1.4 to Manufacture shall not require CureVac to transfer any Know-How comprised in the CureVac Manufacturing Technology, unless otherwise specified in this Agreement.

2.1.5 **Other Product Licenses.** With respect to any Product (and related Program Antibodies and Program Antibody Combinations) generated during Replacement Target Exclusivity Period, Reservation Period or Optioned Target Exclusivity Period, subject to the terms and conditions of this Agreement, and for the Term, CureVac hereby grants to Genmab, and Genmab hereby accepts, an exclusive (subject to Section 2.1.6) license under the CureVac Technology to Develop, Manufacture and Commercialize such Products in the Field and in the Territory. For clarity, the grant of a license under this Section 2.1.5 to [*****].

2.1.6 **BioNTech License and Roche License.** Notwithstanding the above, until [*****] the licenses under the CureVac Technology granted to Genmab pursuant to this Section 2.1 shall be non-exclusive with respect to rights under Patent Rights [*****] listed in **Exhibit 1.13** to the extent the non-exclusive license granted by CureVac to BioNTech AG is overlapping with the license granted to Genmab under said Patent Rights. Further, until [*****] the licenses under the CureVac Technology granted to Genmab pursuant to this Section 2.1 shall be non-exclusive with respect to rights under [*****] to the extent the non-exclusive license granted by CureVac to F.Hoffmann-La Roche Ltd is overlapping with the licenses granted to Genmab under [*****]".

2.1.7 **Other Technologies Licenses.** The rights granted under this Section 2.1 (2.1.1, 2.1.2, 2.1.3, 2.1.4, and 2.1.5) include (i) an extension of CureVac's rights to Genmab, its Affiliates, subcontractors and permitted Sublicensees as "Direct Collaboration Partner" or "Indirect Collaboration Partner" under the Patent Rights identified by the patent family identifier CV-P- Geneart in **Exhibit 1.144**; and (ii) a non-exclusive sublicense of CureVac to Genmab, under the Patent Rights identified by the patent family identifier [*****] in **Exhibit 1.144**.

2.2 **Sublicenses.** Subject to the terms and conditions of this Agreement, Genmab shall have the right to sublicense any and all rights licensed to Genmab under Section 2.1 to its Affiliates. With respect to any and all rights licensed to Genmab under Section 2.1, and subject to the terms and conditions of this Agreement, Genmab shall have the right to sublicense to any Third Party (with the right to sublicense in multiple tiers) [*****] only upon CureVac's prior written consent which CureVac may grant or withhold in its sole discretion. [*****], Genmab shall have the right to sublicense any and all rights licensed to Genmab under Sections 2.1.1 (First Collaboration Target) or 2.1.2 (Replacement Target), Section 2.1.5 (other Product license) and Section 2.1.7 (Other Technologies License) to any Third Party (with the right to sublicense in multiple tiers) upon CureVac's prior written consent which shall not be unreasonably withheld; and such consent is only required if such Third Party is either a direct competitor of CureVac within the field of the development of mRNA-based products (such as, but not limited to, [*****] and/or is residing in [*****] at the time when Genmab wishes to grant such sublicense. After [*****] Genmab shall have the right to sublicense any and all rights licensed to Genmab under Sections 2.1.1 or 2.1.2 Section 2.1.5 and Section 2.1.7 (Other Technologies License) without CureVac's prior written consent. Any sublicense by Genmab to a Third Party shall be in writing and consistent with and subject to the terms of this Agreement, and shall include an obligation for each such Sublicensee to comply with the applicable obligations of Genmab set forth in this Agreement. Genmab will provide CureVac with written notice of any [*****].

2.3 **License Grants to CureVac.** Subject to the terms and conditions of the Agreement, Genmab hereby grants to CureVac, and CureVac hereby accepts, a non-exclusive, royalty-free license under the Genmab Technology to perform CureVac's obligations under the Agreement with respect to the research and Development of Products on behalf of Genmab.

2.4 **Exclusivity.**

2.4.1 **Genmab.** Except for the exercise of rights hereunder with respect to Products, neither Genmab, its Affiliates nor its Sublicensees holding exclusive rights to the CureVac Technology in the Field and in the Territory, shall develop or commercialize an mRNA-based [*****] Antibody (including a [*****] Antibody) product or a [*****] Antibody that is based on [*****] as described in Exhibit 1.77.

2.4.2 **CureVac on the First Collaboration Target.** During the term of this Agreement, CureVac, itself or through its Affiliates, shall not, directly or indirectly, offer any rights to a Third Party under the LNP Technology for the First Collaboration Target or conduct or participate in the research, development, manufacture, use, offer for sale, or other exploitation of any mRNA-based product that is designed to express a Single Antibody (including monoclonal, bispecific or multispecific Antibody) product that is directed at the First Collaboration Target or any recombinant single Antibody (including monoclonal, bispecific or multispecific Antibody) product directed at the First Collaboration Target. Notwithstanding the above, if Genmab replaces the First Collaboration Target with a Replacement Target pursuant to Section 3.1, then CureVac shall be released from its exclusivity obligations set out above in this Section 2.4.2 as of the date of such replacement and instead Section 2.4.3 shall apply with respect to the Replacement Target.

2.4.3 **CureVac on the Replacement Target.** CureVac, itself or through its Affiliates, shall not, directly or indirectly, offer any rights to a Third Party under the CureVac Technology or LNP Technology for the Replacement Target or conduct or participate in the research, development, manufacture, use, offer for sale, or other exploitation of any recombinant or mRNA-based Antibody product directed at the Replacement Target until the earlier of (i) [*****]; and (ii) [*****] after final clearance of the Replacement Target under Section 3.2.2.

2.4.4 **CureVac on Reserved Targets and Reserved Target Combinations; Optioned Targets and Optioned Target Combinations; Opt-In Target.** Once a Target or Target Combination, as applicable, becomes a Reserved Target or Reserved Target Combination, CureVac, itself or through its Affiliates, shall not directly or indirectly, offer any rights to a third party under the CureVac Technology or LNP Technology for such Reserved Target or Reserved Target Combination or conduct or participate in the research, development, manufacture, use, offer for sale, or other exploitation of any mRNA-based product that is designed to express an Antibody or Antibody Combination that is directed at such Reserved Target or Reserved Target Combination, or any recombinant Antibody product or Antibody Combination product directed at such Reserved Target or Reserved Target Combination. The non-compete obligations under this Section 2.4.4 shall continue until expiry of the Reservation Period for such Reserved Target or Reserved Target Combination, as applicable, unless Genmab exercises an Option with respect to a Reserved Target or Reserved Target Combination, as applicable, in which case the non-compete obligations with respect to such Target or Target Combination (then an Optioned Target or Optioned Target Combination) shall remain in effect until the end of the Optioned Target Exclusivity Period. CureVac retains its rights to conduct or participate in the research, development, manufacture, use, offer for sale, or other exploitation of mRNA or recombinant based products directed at single Targets of a Reserved Target Combination during the Reservation Period, but not for combinations of individual Targets within a Reserved Target Combination (e.g., a combination of a+b where the Reserved Target Combination consists of a+b+c). After the Reservation Period, the non-compete obligations under this Section 2.4.4 automatically expire with respect to any Target Combinations within the Reserved Target Combination that is not the Optioned Target Combination (e.g., if Genmab exercises an option for the combination a+b+c, then CureVac will get the rights back to work on e.g.; "a+b" or "a+b+c+d"); and after the Optioned Target Exclusivity Period, the non-compete obligations under this Section 2.4.4 automatically expire with respect to any Optioned Target and Optioned Target Combination that is not addressed by an Other Program Antibody. Notwithstanding anything to the contrary above, in the event of an Opt-In by CureVac under Section 7.1 and until the earlier of (i) an assignment by CureVac under Section 7.8 or (ii) CureVac's termination of its [*****] collaboration of the Opt-In Program pursuant to Section 7.9, CureVac, itself or through its Affiliates, shall not, directly or indirectly, offer any rights to a Third Party under the CureVac Technology or LNP Technology for the Opt-In Target, or conduct or participate in the research, development, manufacture, use, offer for sale, or other exploitation of any mRNA-based product that is designed to express an Antibody product that is directed at the Opt-In Target or any recombinant Antibody product directed at the Opt-In Target. For avoidance of doubt, in the event of assignment by CureVac under Section 7.8 the exclusivity obligation set out above shall continue to apply with respect to the Third Party assignee.

2.5 **Trademarks.** Genmab will be free to use and to register in any trademark office in the Territory any trademark for use with a Product in its sole discretion; *provided*, *however*, nothing herein shall grant Genmab any right to use any trademark Controlled by CureVac and/or its Affiliates. Genmab will own all right, title and interest in and to any such trademark it selects in its own name during and after the Term.

2.6 **Know-How Transfer; Availability of Employees.** As and when required in relation to an R&D Plan (and from time to time during the Term if new Know-How comes to be Controlled by CureVac) or as soon as reasonably practicable upon Genmab's request, CureVac shall disclose and/or deliver to Genmab copies of all Development Data and information in CureVac's possession relating to the CureVac Know-How which is reasonably required for Genmab's research and Development activity in accordance with the respective R&D Plan (including for regulatory purposes), with the exception, however, of all Know-How comprised in the CureVac Manufacturing Technology which shall be made available to Genmab or its designee as set forth in Sections 6.5 and/or pursuant to Tech Transfer Plan, the Early Clinical Supply Agreement and/or the MSA. [*****]. The technology transfer to be undertaken under Sections 2.6 and 6.5 shall be overseen by the Joint Research Committee.

2.7 **No Implied License.** Nothing in this Agreement shall be deemed to constitute the grant of any license or other right to either Party in respect of any technology of the other Party, except as expressly set forth herein, and no license rights shall be created hereunder by implication, estoppel or otherwise. Neither Party shall represent to any Third Party that it enjoys, possesses, or exercises any proprietary or property right or otherwise has any other right, title or interest in the technology of the other Party except for such rights as are expressly set forth herein. Any rights of a Party not expressly granted to the other Party under the provisions of this Agreement shall be retained by such Party.

2.8 **Third Party Intellectual Property – CureVac Activities.** If, during the Term, CureVac obtains a sub-licensable license to any Patent Rights or Know-How Controlled by a Third Party that is necessary or useful to Develop, Manufacture, Commercialize or otherwise exploit Products in the Field in the Territory ("**Third Party IP**"), then CureVac shall notify Genmab of the rights that CureVac has obtained with respect such Third Party IP (including details of the financial and commercial terms and other obligations that would be placed on Genmab as a sublicensee) promptly after obtaining such rights or, if reasonably possible before obtaining such rights and only in the circumstances that the license relates solely to a Product, allow Genmab to provide input to the draft terms to be taken into good faith consideration by CureVac. Genmab shall notify CureVac within [*****] after receipt of such notice whether Genmab desires to include such Third Party IP under the licenses granted to Genmab by CureVac pursuant to Section 2.1. If Genmab notifies CureVac that it desires to include Third Party IP under the license granted to Genmab by CureVac pursuant to Section 2.1, then (a) such Third Party IP is and shall be automatically included in the definition of CureVac Technology and in the licenses under Section 2.1, and (b) as a sublicensee of CureVac Genmab will meet all obligations of CureVac that are applicable to Genmab's activities as a sub-licensee and have been disclosed by CureVac to Genmab; and (c) to the extent necessary CureVac will grant to Genmab a formal sublicense, and (d) subject to the below in this Section 2.8, [*****]. For avoidance of doubt, in the event that CureVac uses the Third Party IP for its own products or other Third Party products, [*****]. The proportionate amount shall be judged at the time of any payment by CureVac under the license, and shall be calculated by reference to the number of Products under Development by Genmab at that time in comparison to the number of products under research or development by CureVac or any licensee of CureVac and, if applicable, the number of available product slots (license options). For illustration purposes only, if Genmab then had one Product under Development, and CureVac and its licensees had five products under research or development and four available product slots (license options), the proportionate amount would be [*****] Genmab shall make such [*****] within [*****] after receipt of an invoice therefor from CureVac. For the avoidance of doubt, the obligations of [*****] amounts payable by CureVac to a Third Party as set forth in this Section 2.8 apply solely with respect to licenses under Third Party IP that are entered into by CureVac after the Effective Date. CureVac shall be solely responsible for any amounts payable with respect to licenses to Third Party IP entered into by CureVac (or an Affiliate to CureVac) prior to the Effective Date and forming part of CureVac Background Technology or Other Technologies. Notwithstanding anything to the contrary above, to the extent the Patent Rights comprised in the Third Party IP sublicensed hereunder to Genmab were granted Patent Rights as of the Effective Date and are referenced in the Disclosure Letter, then Genmab shall have the right to deduct one hundred per cent (100%) of the amounts [*****] to CureVac under this Section 2.8 from milestone payments due to CureVac under Section 10.5 and/or from royalties due to CureVac under Section 10.6 subject always to the provisions of Section 10.6.9. If Genmab decides that it does not wish to take a sublicense to such Third Party IP from CureVac it shall not be treated as part of CureVac Technology. If Genmab subsequently takes a license to such Third Party IP to which CureVac holds a license and where CureVac has previously offered an equivalent sublicense, [*****]. For avoidance of doubt, with respect to sublicenses from CureVac to Third Party IP not referenced in the Disclosure Letter or Third Party Patent Rights referenced in the Disclosure Letter that are not granted as of the Effective Date, then to the extent that such sublicenses qualify as FTO Licenses, Genmab shall have the right to deduct [*****] made to CureVac in accordance with the provisions set out in Section 10.6.6 (Other Third Party Payments) and subject always to the provisions of Section 10.6.9.

2.9 **CureVac New Patent Rights**. CureVac shall notify Genmab of any Patent Right and related Know-How Controlled by CureVac that (a) Cover an invention made by CureVac during the Term outside the scope of this Agreement and are unrelated to CVCM or LNP technology, and, for clarity, that are not in-licensed from a Third Party, and (b) are necessary or reasonably useful to Develop, Manufacture, Commercialize or otherwise exploit Products in the Field in the Territory (each, a "**New Patent Right**"). For avoidance of doubt this does not include Patent Rights and related Know-How Covering manufacturing processes outside the scope of CureVac Manufacturing Technology. Genmab shall notify CureVac within [*****] after receipt of such notice whether Genmab desires to include such New Patent Right under the licenses granted to Genmab by CureVac pursuant to Section 2.1. If Genmab notifies CureVac that Genmab desires to include such New Patent Right under the licenses granted to Genmab by CureVac pursuant to Section 2.1, then such New Patent Right is and shall be automatically included in the definitions of the CureVac Patent Rights and shall be considered within 1.199 (i) (Valid Claim) regardless of the priority date of the New Patent Right and shall be included in the licenses granted to Genmab by CureVac pursuant to Section 2.1.

3. REPLACEMENT TARGET; RESERVED TARGETS; OPTIONED TARGETS.

3.1 Replacement of the First Collaboration Target. If the pre-clinical Program with respect to the First Collaboration Target does not meet the success criteria set forth in the First Program Research Plan attached hereto as **Exhibit 5.1.1** (as may be modified by JRC), Genmab has the [*****] right, [*****] after the Effective Date, to seek to replace the First Collaboration Target by another Target ("**Replacement Target**"). Genmab shall nominate a Replacement Target by written notice to CureVac, and CureVac will then operate the clearance procedures, in accordance with Section 3.2.2. If CureVac gives written notice to Genmab that the Replacement Target is cleared and, upon written notice by Genmab that it wishes to replace the First Collaboration Target by such Replacement Target, the Replacement Target will replace the First Collaboration Target for purposes of this Agreement. Upon replacement, the Parties through the JRC will amend the First Program Research Plan as required to address any differences between the Replacement Target and the First Collaboration Target, as well as the changes in timeline resulting from the change of Target.

3.2 Target Reservation.

3.2.1 Reserved Targets and Reservation Period. During a period starting on the first anniversary of the Effective Date and ending [*****] after the Effective Date, Genmab shall have the right to exclusively reserve up to four (4) Targets or Target Combinations, in order to enable Genmab, to exercise up to three (3) options, to Develop, Manufacture and Commercialize Products against the Targets or Target Combinations, as applicable, for which the option is exercised, in addition to the Products against the First Collaboration Target or Replacement Target, as applicable. A Target or Target Combination shall become a "**Reserved Target**" or a "**Reserved Target Combination**" as applicable, upon (i) [*****], and (ii) [*****]. Such Reserved Target shall remain a Reserved Target until [*****] or such period as extended in accordance with Section 5.2.2 below ("**Reservation Period**"). If Genmab notifies CureVac that it does not wish to exercise an option with respect to a Reserved Target, latest upon expiry of the Reservation Period, the respective Target shall cease to be a Reserved Target; and upon exercise of three (3) options, any fourth (4th) Reserved Target shall cease to be such a Reserved Target.

3.2.2 Clearance of Targets. CureVac shall appoint a representative of CureVac ("**Target List Rep**") who is a legal counsel in the legal department or IP department of CureVac or employed with an external law firm, to keep a list of all Targets and Target Combinations that are the subject of or related to any ongoing evaluation or research project of CureVac and/or in collaboration with or under option or license to any Third Party ("**Target List**"). CureVac shall provide to Genmab contact details of the Target List Rep. If Genmab wishes to reserve a Target or Target Combination, Genmab shall in writing request CureVac to perform a Target or Target Combination clearance. Clearance will be conducted in accordance with the following process: First, Genmab shall inform the Target List Rep in writing that Genmab wishes to conduct a Target or Target Combination clearance. Second, within [*****] from receipt of such information from Genmab the Target List Rep updates the Target List and confirms to Genmab that the Target List is updated. Third, Genmab shall set out details of the Target or Target Combination to the Target List Rep and within [*****] the Target List Rep shall indicate to Genmab whether the Target or Target Combination is available. If the Target or Target Combination, as applicable, is available and Genmab wishes to go ahead, Genmab shall then submit to CureVac the full sequences of the proposed Research Program Antibody(-ies) as specified in the clearance templates in **Exhibit 3.2.2**, as applicable. Unless Genmab informs CureVac that it will independently secure rights to an appropriate LNP Technology, CureVac shall within a further [*****] review and investigate whether LNP Technology for a Product based on the Target or Target Combination and proposed Research Program Antibody(-ies) is potentially available through CureVac. In connection with such review and investigation, CureVac shall be authorized to provide the full sequences of the proposed Research Program Antibody(-ies) to the in-house legal or IP counsel of the potential LNP Technology provider or an external legal or IP representative handling any gatekeeping clearance procedures that it operates, provided that the LNP Technology provider and, if applicable, its external legal or IP representative is subject to confidentiality obligations at least as stringent as the confidentiality obligations on the Parties set forth herein as well as an obligation not to disclose the sequence to any Third Party. If CureVac determines that LNP Technology for a Product based on the Target or Target Combination and proposed Research Program Antibody(-ies) is available through CureVac, it shall give notice to Genmab hereof. If CureVac cannot identify any such LNP Technology the JRC shall consider the position to recommend a way forward. The Reserved Target or Reserved Target Combination, as applicable, shall be deemed finally cleared for purposes of this Agreement, if CureVac informs Genmab that the LNP Technology is available for the respective Product(s) and related Program Antibody/Program Antibody Combination, or if Genmab waives CureVac's obligations to support Genmab with respect to the LNP Technology under this Agreement.

3.2.3 **Costs.** Subject to CureVac's Opt-in Right and except as otherwise stated in this Agreement, all Development costs under any Program relating to Reserved Targets shall be borne by Genmab.

3.3 **Reservation Fee.** Within [*****] after a Target or Target Combinations becomes a Reserved Target or Reserved Target Combination, as applicable, in accordance with Section 3.2.1, Genmab shall pay to CureVac a reservation fee of US Dollars [*****] per Reserved Target or Reserved Target Combination, as applicable, ("**Reservation Fee**"), *provided, however,* that in the event the Reservation Fee has not been paid within [*****] after the date that the Target or Target Combination became a Reserved Target or Reserved Target Combination, as applicable, pursuant to Section 3.2.1, such Target or Target Combination shall no longer be reserved for purpose of this Agreement. The Reservation Fee shall be creditable against the Option Exercise Fee for the respective Reserved Target or Reserved Target Combination, in the event Genmab advances such Reserved Target or Reserved Target Combination to an Optioned Target or Optioned Target.

3.4 **Exclusive Option.** As of the Effective Date and in consideration for the respective Option Exercise Fee as set forth in Section 10.2, CureVac hereby grants to Genmab, and Genmab hereby accepts, three (3) exclusive options for the shorter of (i) a term of [*****] after the Effective Date; or (ii) on a Reserved Target-by-Reserved Target basis, the Reservation Period ("**Option Period**"), to obtain exclusive licenses to Reserved Targets, as set forth in Section 2.1.3 above. Genmab may exercise the option under this Section 3.4 on a Reserved Target-by-Reserved Target basis by way of written notice to CureVac during the Option Period ("**Option Exercise**"). As of the date of the Option Exercise, and provided the Option Exercise Fee has been timely paid in accordance with Section 10.2 below, the Reserved Target or Reserved Target Combination shall become an "**Optioned Target**" or "**Optioned Target Combination**", as applicable. For clarity, in order to protect Genmab's exclusive option, during the Option Period the exclusivity obligations set out in Section 2.4 shall apply.

4. LNP TECHNOLOGY.

4.1 **First Program Antibody.** CureVac will at its own cost secure the rights to the LNP Technology required for Genmab to Develop, Manufacture and Commercialize a Single Antibody Product identified under the First Program Research Plan (whether in relation to the First Collaboration Target or a Replacement Target) with the exception of any Switching Costs which will be borne by Genmab and/or CureVac pursuant to the mechanism set forth below in this Section 4.1. The rights may be exclusive or non-exclusive, and may be under the Arcturus License, the Acuitas License or utilizing any other suitable LNP Technology of a Third Party other than Arcturus or Acuitas. CureVac shall hold the license required and, if CureVac decides to source other suitable LNP Technology, shall be responsible for (i) investigating the availability of such other suitable LNP Technology and in connection with such investigation, upon Genmab's prior written approval (not to be unreasonably withheld), CureVac shall be authorized to provide the full sequences of the First Program Antibody or Replacement Target Antibody to the in-house legal or IP counsel of the potential LNP Technology provider or an external legal or IP representative handling any gatekeeping clearance procedures that it operates on behalf of said provider, provided that the LNP Technology provider and, if applicable, its external legal or IP representative is subject to confidentiality obligations at least as stringent as the confidentiality obligations on the Parties set forth herein and, in addition, an obligation not to share the sequences with any Third Party; and (ii) negotiating and agreeing the terms for the license under the LNP Technology for the conduct of the First Collaboration Program for the First Collaboration Target and, if applicable and subject to the below in this Section 4.1 and in Section 4.2, the Replacement Target. Prior to CureVac deciding on the use of a particular LNP Technology for the First Collaboration Target that is not the LNP Technology licensed under the Arcturus License or the Acuitas License, Genmab shall have the right to review and consider all terms relevant to Genmab for such LNP Technology license, including any relevant agreements with any Third Party provider for such LNP Technology, relevant Patent Rights, and FTO reports (if any). If CureVac decides to source other suitable LNP Technology and Genmab, having considered the terms available from the provider of the LNP Technology, suggests certain amendments to such terms, CureVac will use Commercially Reasonable Efforts to obtain such amendments, but if CureVac cannot obtain such amendments, CureVac shall be entitled to proceed with such LNP Technology license for the First Collaboration Target without such amendments. For avoidance of doubt, CureVac shall not enter into any LNP Technology license other than the Acuitas License or Arcturus License for the Replacement Target without Genmab's prior written consent. In the event that the First Program Research Plan is amended to include a Replacement Target, the procedure for selection of a suitable LNP Technology set out in Section 4.2 below shall apply. CureVac shall obtain the LNP Technology license in relation to the Single Antibody Product identified under the First Program Research Plan and grant to Genmab a sublicense in the form required by the license to CureVac from the LNP Technology provider. If an LNP Technology license other than Acuitas License or Arcturus License is chosen with respect to the Replacement Target and Genmab is granted a sublicense pursuant to the procedure set out in Section 4.2, [*****] any applicable Switching Costs within [*****] of the date of CureVac invoice therefor, *provided*, *however,* that if the Switching Costs at a given time exceed [*****] of the total costs for such LNP Technology license, then [*****] the then current total costs for such LNP Technology license for the Replacement Target pursuant to the principles applicable to Reserved Targets and Optioned Targets set out in Section 4.3 below. Upon Genmab's reasonable request at any time following the Effective Date, CureVac shall provide to a representative of Genmab's legal department (and on the basis that such legal department representative may share such copies with other representatives of Genmab's legal department as reasonably necessary and may also summarize the contents for other Genmab stakeholders who need to know the relevant information) accurate, current and unredacted copies of (i) the Acuitas License, including any future amendments thereto and (ii) the Arcturus License, including any future amendments thereto.

4.2 **Selection of LNP Technology for Replacement Target Antibody and Other Program Antibodies.** Genmab shall not have the right to source the LNP Technology to be used in the First Program Research Plan for the First Collaboration Target (including any Replacement Target). Genmab may request CureVac in writing to source LNP Technology itself for use in a Reserved Target Research Plan. Subject to the below in this Section 4.2, such request shall be made by Genmab prior to submitting to CureVac the full sequences of the Research Program Antibody(ies) under Section 3.2.2. For avoidance of doubt, in such eventuality CureVac shall have no responsibility to source such LNP Technology. Absent such a notice from Genmab CureVac shall use Commercially Reasonable Efforts to ensure the availability of license rights to an LNP Technology which is suitable for the Development, Manufacture and Commercialization of Products Research Program Antibody(ies) in accordance with this Agreement. Such rights may be non-exclusive. As part of the clearance procedures under Section 3.2.2 (including as a result of the provisions of Section 3.1 in relation to a Replacement Target) CureVac will present a proposal to Genmab identifying the LNP Technology CureVac suggests is used and is available for in-licensing, considering Genmab's preference for either an exclusive or non-exclusive license to the LNP Technology. As part of this process CureVac shall evaluate LNP Technologies it has been working with in the past with respect to both their suitability and availability for the respective Replacement Target Antibody or Research Program Antibody(ies). Genmab and CureVac shall consider together the options for LNP Technology to be used at the JRC, including if a new license is required, whether CureVac should hold the license and sub-license to Genmab (with the exception of a license for Product related to the Replacement Target where CureVac shall hold the license and sublicense to Genmab), or whether each Party should hold whatever licenses it requires. CureVac shall be responsible for negotiating and agreeing the terms for the license under the LNP Technology for the conduct of the Development of Products based on the Replacement Target Antibody or Research Program Antibody(ies) and the Commercialization of Products arising therefrom. In the case of the Replacement Target Antibody or the Research Program Antibody(ies) prior to finalizing any such new license for a particular LNP Technology to be used in relation to a First Collaboration Program (for the Replacement Target) or a Research Program, Genmab shall have the right to review the terms and conditions of a license of the respective LNP Technology, including the license agreement with a Third Party, whether an exclusive and non-exclusive is available, the financial terms (identifying the separate fees for an exclusive and non-exclusive license), the Patent Rights under the LNP Technology, FTO reports (if any), and other documentation the JRC may consider relevant for the selection of an LNP Technology ("**LNP Technology License Documentation Package**"). For clarity, CureVac will not guarantee that a suitable LNP Technology will be available for any Program except the First Collaboration Program based on the First Program Antibody. Within [*****] of receipt by Genmab of a complete LNP Technology License Documentation Package under Section 5.2.2, Genmab shall indicate by written notice to CureVac (i) whether or not Genmab agrees to take sub-license rights to the LNP Technology on the terms specified in the LNP Technology License Documentation Package; and, if it so agrees (ii) whether the license rights should be non- exclusive or exclusive, if both such options are available. If Genmab agrees to take sub-license rights, CureVac shall obtain the license and grant to Genmab the sublicense in the form required by the license to CureVac from the LNP Technology provider as specified in the LNP Technology License Documentation Package and approved in advance by Genmab. If Genmab does not agree to take sub-license rights to the LNP Technology on the terms specified in the LNP Technology License Documentation Package, then with the exception of LNP Technology being licensed in relation to Product based on the Replacement Target, Genmab shall have the right to source LNP Technology itself.

4.3 **LNP Technology License Fees.** Subject to the provisions of Section 4.1 concerning Switching Costs the license fees under any LNP Technology for use in relation to the first Product directed against the First Collaboration Target or Replacement Target, as applicable, are included in the license fees under this Agreement and CureVac shall thus be solely responsible for all and any payments related to the LNP Technology for use in relation to such first Product. With respect to Reserved Targets and Optioned Targets, and save where Genmab seeks to source the LNP Technology license directly from the provider (in which case Genmab shall be responsible for [*****] of all license fees), all license fees to be paid for the rights to the respective LNP Technologies to the Third Party licensor of the respective LNP Technologies (whether signature fees, annual fees, milestone payments or royalties) shall be [*****] shared by Genmab and CureVac to the extent that such payments relate only to a license of rights for the Development, Manufacturing or Commercialization of a Research Program Antibody and any subsequent Other Program Antibody and/or the related Product. If the license fees (for example an upfront or signature fee) cover license rights to several potential products but will be used for a Product, [*****]. The [*****] amount shall be judged at the time of any payment by CureVac under the license, and shall be calculated by reference to (i) the [*****] at that time; and (ii) in comparison to the number of products under research or development by CureVac or any licensee of CureVac at that time and/or, if applicable, product slots (license options) capable of use by CureVac. For illustration purposes only, [*****]. Notwithstanding the above, if Genmab in its sole discretion elects that the Parties should obtain an exclusive license although a non-exclusive license was available at the same time, [*****] *provided, however,* that if the Parties agree that an exclusive license to LNP Technology is to be obtained for any Opt-In Product the full costs for such exclusive license shall be [*****]. In cases where CureVac is the licensee under the LNP Technology license, CureVac shall invoice Genmab for Genmab's share of the license fees to a licensor of LNP Technology as and when such fees fall due. If Genmab is the licensee, it shall invoice CureVac for its share of license fees as and when such fees fall due. For clarity, if CureVac obtains the license to the LNP Technology, and grants a sublicense to Genmab, the [*****] of all license fees for a non-exclusive license shall be a pass through license fee, without any mark-up for the benefit of CureVac. For further clarity, if Genmab waives CureVac's obligation to support Genmab with respect to the LNP Technology under this Agreement, CureVac shall have no obligation to share in the license fees payable to a licensor of LNP Technology.

5. RESEARCH AND DEVELOPMENT COLLABORATION.

5.1 First Collaboration Target, and First Program Antibody.

5.1.1 Research Collaboration on the First Collaboration Target. The Parties shall jointly collaborate on the preclinical Development of the First Collaboration Target and First Program Antibody with the objective to identify and take a Product to IND stage ("**First Collaboration Program**"). The initial preclinical Development plan is attached hereto as **Exhibit 5.1.1**. It contains an outline of the activities to be performed by each Party, a budget for the research activities calculated by reference to the FTE Rate, success criteria, a target product profile and a high level Development plan up to IND for a Single Antibody Product, and may be amended from time to time by the JRC subject to the mechanisms in Section 9.5.1 ("**First Program Research Plan**"). CureVac will on a quarterly basis, within [*****] days after receipt of an invoice from Genmab, refund Genmab [*****] of the actual Development costs of Genmab [*****] as set forth in the then current First Program Research Plan by more than [*****] and subject always to the mechanisms in Section 8.5.1, *provided, however* that in the event Genmab replaces the First Collaboration Target by a Replacement Target, and the JRC amends the First Program Research Plan accordingly, [*****].

5.1.2 Information Exchange. Following completion by CureVac and Genmab of the activities assigned to them in the First Program Research Plan, each Party shall provide the JRC with a data package containing all Development Data and other information necessary for Genmab to decide whether it will continue the Development of any Product identified in the First Program Research Plan by filing an IND and conducting Clinical Studies. The content of the data package, as well as criteria for evaluation and selection of a candidate for Product Selection, shall be determined by the JRC and is expected to include, inter alia, (i) *in vivo* PK and efficacy data, i.e., toxicology and any animal data; and (ii) CMC Development data. In addition, CureVac shall provide the LNP Technology License Documentation Package for the First Collaboration Program.

5.2 Research and Development of Reserved Targets and Other Program Antibodies.

5.2.1 **Reserved Target Research Plan.** Once any Target or Target Combination, as applicable, has been finally cleared by CureVac under Section 3.2.2, Genmab shall, with CureVac providing adequate input and support, as soon as practicable, and in any event within [*****] under Section 3.2.2, provide a research plan to the JRC for discussion, which sets forth the contemplated nonclinical Development activities to be carried out by each Party during the Reservation Period to identify a Product such that Genmab may wish to undertake Option Exercise, and a budget for activities to be performed by CureVac calculated by reference to the FTE Rate, and including a preliminary target product profile (TPP) for such a Product based on the full antibody sequences of the proposed Research Program Antibody(-ies) and selected LNP Technology ("**Reserved Target Research Plan**"). The Reserved Target Research Plan shall include an overview of the studies and key data sets which should be included in the Reserved Target Data Package. The date for completion of the Reserved Target Research Plan shall be set to [*****] after the date of the JRC's or CDOs', as applicable, approval of the Reserved Target Research Plan if it relates to a Single Antibody Product, and [*****] after the date of the JRC's or CDOs', as applicable, approval of the Reserved Target Research Plan if it relates to a Cocktail Product ("**Research Completion Deadline**") unless the Parties mutually agree to a different completion date. The Reserved Target Research Plan shall not include any IND-enabling or GxP Development activities. The Reserved Target Research Plan shall be discussed in the JRC and the JRC shall seek to approve the Reserved Target Research Plan within [*****] after final clearance of the Reserved Target or Reserved Target Combination in accordance with the clearance procedure set out in Section 3.2.2 above. At the expiry of such [*****] if the JRC has not approved the Reserved Target Research Plan, any remaining unresolved items regarding activities to be performed by or on behalf of CureVac or that fall within the scope of Sections 9.5.1(i) to 9.5.1(iii) (inclusive), where Genmab does not have final decision-making in the JRC, shall be referred to the Alliance Managers for resolution. If the Alliance Managers facilitate resolution of all issues by the JRC members, the Research Target Research Plan shall be sent back to the JRC for immediate JRC approval. If within [*****] of such referral to the Alliance Managers the Reserved Target Research Plan is still not approved, the dispute shall be deemed automatically referred to the CDOs. If within [*****] of such referral the Reserved Target Research Plan is still not approved by the CDOs, no further action under this Section 5.2.1 shall be required and the relevant Target or Target Combination shall not be designated a Reserved Target or Reserved Target Combination, as appropriate, and, for avoidance of doubt, the dispute resolution mechanisms set forth in Section 17.5.2 shall thus not apply. For clarity, this would not prevent Genmab from initiating a new reservation process under Section 3.2.1. For avoidance of doubt, any Reservation Period shall not commence until the JRC (or the CDOs, as applicable) have approved the related Reserved Target Research Plan.

5.2.2 **Data Package.** On a Reserved Target-by-Reserved Target basis, as soon as reasonably possible following completion of the activities under the applicable Reserved Target Research Plan, which shall, subject to the below, be completed by the Research Completion Deadline, the Parties shall provide the JRC with a data package containing the Development Data generated under the Reserved Target Research Plan and other information necessary for Genmab to evaluate its interest exercising an option with respect to the Reserved Target ("**Reserved Target Data Package**"). In addition to the Reserved Target Data Package, CureVac shall at the same time provide the LNP Technology License Documentation Package to Genmab. If the Parties cannot reasonably provide such complete Reserved Target Data Package, or if CureVac is unable to provide the LNP Technology License Documentation Package, or if certain activities in the Reserved Target Research Plan are delayed, by the Research Completion Deadline, and unless the Parties mutually agree an extension of the Research Completion Deadline and the Reservation Period (such agreement not to be unreasonably withheld if there are outstanding Development activities required under the Reserved Target Research Plan), the Reservation Period shall be extended to allow Genmab to evaluate its interest in exercising an option pursuant to Section 3.4 by the shorter of (i) [*****] after receipt by the JRC of the complete Reserved Target Data Package and LNP Technology License Documentation Package; or (ii) [*****] after the commencement of the Reservation Period where the corresponding Reserved Target Research Plan relates to a Single Antibody Product and [*****] after commencement of the Reservation Period where the corresponding Reserved Target Research Plan relates to a Cocktail Product.

5.2.3 **Other Pre-IND Program Research Plan.** On an Optioned Target-by-Optioned Target basis, within [*****] after the Reserved Target becomes an Optioned Target pursuant to Section 3.4, Genmab will provide a draft Development plan for a Product directed at the respective Optioned Target up to IND stage which sets forth the detailed Development activities to be performed by each Party up to filing of IND for such Product, a budget for activities to be performed by CureVac calculated by reference to the FTE Rate, success criteria, and a preliminary target product profile ("**Other Pre-IND Program Research Plan**"). Such Other Pre-IND Program Research Plan will be discussed and agreed in the JRC, and requires approval by CureVac with respect to any activities to be undertaken by CureVac pursuant to such Other Pre-IND Program Research Plan.

5.3 **Product Selection.** When under (i) the First Program Research Plan (whether directed at the First Collaboration Target or a Replacement Target); or (ii) any Reserved Target Research Plan or Other Pre-IND Program Research Plan Genmab determines that a Product has been identified which it is selecting as a clinical candidate to conduct the remaining pre-IND Development activity and, if the same is successful, further Development through Clinical Studies and any further non-clinical Development, Genmab shall give written notice to CureVac of this fact ("**Product Selection Notice**" and "**Product Selection**" as appropriate). In such case, and within [*****] Genmab will either (i) in the case of a Product resulting from the First Program Research Plan provide to CureVac a detailed Development plan for such Product to reach IND together with an outline (high-level) Development Plan for such Product to reach Regulatory Approval (in the form of marketing authorization). Genmab will allow CureVac to comment on Manufacturing related matters in the Development plan for the Product to reach IND, such reasonable comments to be reflected by Genmab in a revised version of such Development Plan; or (ii) in the case of a Product resulting from an Other Pre-IND Program Research Plan Genmab shall provide to CureVac an outline (high-level) Development plan for such Product to reach Regulatory Approval (in the form of marketing authorization), (the plans at (i) and (ii) all being a "**Product Development Plans**").

5.4 **Diligence by CureVac.** CureVac will act in good faith, using Commercially Reasonable Efforts, to perform its assigned tasks and responsibilities as described in the R&D Plans, and in accordance with all Applicable Laws. With respect to any Opt-In Target and Opt-In Product, CureVac shall use Commercially Reasonable Efforts to further Develop the Opt-In Product to market authorization and to Commercialize the Opt-In Product.

5.5 **Diligence by Genmab.** Genmab will use Commercially Reasonable Efforts to identify and Develop a Product during the First Collaboration Program and each Research Program; and, upon Product Selection or Option Exercise, as applicable, to further Develop each Product until market authorization. Further, Genmab shall use Commercially Reasonable Efforts to Commercialize each Product for which it obtains Regulatory Approval.

5.6 **Development Data, Results and records.** Up until filing of IND, the Parties will with reasonable intervals make available to one another through formal reports for review and discussion within the JRC all preclinical Development Data and other results of the preclinical Development conducted pursuant to any Program, and will keep such records (paper and electronic) as described herein. The Parties will maintain records of the preclinical Development Data and other results in sufficient detail as required from Regulatory Agencies and in good scientific manner appropriate for patent purposes, and in a manner that properly reflects all work done and results achieved in the performance of such Programs.

5.7 **Development by CureVac.** CureVac will perform certain activities as agreed between the Parties and set forth in the R&D Plans. Subject only to the funding obligations of CureVac set forth in Section 5.1.1 above, [*****] at the FTE Rate. In addition to the FTE Rate, [*****]. The compensation is to be paid [*****] on a Calendar Quarter basis. Payments shall be made and within [*****] after receipt of an invoice, with supportive documentation detailing the FTE costs and out of pocket expenses applicable to CureVac's efforts for such applicable Calendar Quarter period.

5.8 **Materials.** CureVac will furnish to Genmab CureVac Materials for Development use in the Programs, including those which comprise, embody or incorporate CureVac Background Technology, as expressly set forth in the respective R&D Plan. In particular, CureVac will provide to Genmab the CureVac Materials as set forth in **Exhibit 5.1.1**. Genmab will furnish to CureVac Materials for research and Development use in the Programs, including those which comprise, embody or incorporate Genmab Background Technology, as expressly set forth in the respective R&D Plan. In particular, Genmab will provide to CureVac the Genmab Materials as set forth in **Exhibit 5.1.1**. Genmab will use the CureVac Materials and CureVac will use the Genmab Materials, as applicable (i) only in accordance with the R&D Plans and otherwise in accordance with the terms and conditions of this Agreement; (ii) not in human subjects, in clinical trials, or for diagnostic purposes involving human subjects, or for any animal studies, except as expressly provided for in R&D Plans; and (iii) not reverse engineer or chemically analyze the same except as expressly provided for (if at all) in R&D Plans. The Materials will remain the sole property of the Party supplying them and will be used by the recipient Party in compliance with all Applicable Laws and only to perform activities set forth in R&D Plans. The receiving Party shall not sell, transfer, disclose or otherwise provide access to the other Party's Materials without the written consent of the providing Party, except that the receiving Party may allow access to the other Party's Materials to its and its Affiliates' employees, officers, consultants, subcontractors and Sublicensees who require such access to perform its activities under this Agreement and solely for purposes consistent with this Agreement; provided that such employees, officers, consultants, subcontractors and Sublicensees are bound by agreement to retain and use the Materials in a manner that is consistent with the terms of this Agreement. THE MATERIALS ARE PROVIDED "AS IS". NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, OF ANY KIND, ARE GIVEN BY THE PROVIDING PARTY WITH RESPECT TO ANY OF THE MATERIALS, INCLUDING THEIR CONDITION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The receiving Party acknowledges the experimental nature of the Materials and that accordingly, not all characteristics of the Materials are necessarily known. Upon termination or expiration of this Agreement if earlier, any and all remaining Materials will, within [*****] after such event, be returned to the Party supplying them (or destroyed, if the supplying Party shall so specify, with such destruction confirmed in writing). The provision of Materials hereunder will not constitute any grant, option or license to or under such Materials, or any Patent Rights or Know-how of the supplying Party, except as expressly set forth herein.

5.9 **Delays in Performance of Non-Clinical Development Activities.** If, during the performance of any of the Programs, a Party reasonably believes that such Program cannot be performed in accordance with the respective R&D Plan (excluding the Product Development Plans, for which the obligations in this Section 5.9 shall not apply), such Party shall inform the JRC thereof. To the extent a Party reasonably believes that certain amendments to the R&D Plan (excluding the Product Development Plans) are necessary or advisable, such Party shall notify the JRC of such Party's proposed amendments and the JRC shall review such proposed amendments and consider an update of the respective R&D Plan. The JRC can only amend any Reservation Period or Research Completion Deadline with consensus (i.e. Genmab shall not have casting vote in such matter).

5.10 **Regulatory Approvals of Product.**

5.10.1 **Filing.** Genmab shall prepare and file all INDs and NDAs and own all Regulatory Approvals and be responsible for all decisions in connection therewith for Regulatory Approvals of Products in the Field and in the Territory; *provided*, *however*, that for the First Collaboration Program (with respect to the First Collaboration Target but not the Replacement Target if applicable) CureVac shall review and comment on the portions of the first IND related to the Product where CureVac Manufacturing Technology such as CMC data is included in such IND filing. Such review shall be conducted at the agreed FTE Rate and subject to the agreed cost [*****]. For subsequent filings of the Product from the First Collaboration Program and for all other Products, upon CureVac's request Genmab will to the extent reasonably possible allow CureVac at CureVac's own cost to review and comment on (i) the portions of regulatory filings related to Products where CureVac Manufacturing Technology such as CMC data is included in such filings, and (ii) safety related documents. Genmab will take into good faith consideration any such comments provided by CureVac within [*****] of CureVac's receipt of such draft filings. Notwithstanding the above, to the extent that Genmab requests CureVac to review any regulatory filing and safety related documents, [*****]. CureVac shall cooperate in these efforts as reasonably requested by Genmab, including by providing any CureVac Manufacturing Know-How reasonably required by Genmab for such Regulatory Approvals.

5.10.2 **Cross Referencing.** To the extent reasonably required by Genmab to achieve or maintain regulatory clinical trial or marketing authorizations or to comply with any related requests from Regulatory Agencies related to the Products, CureVac shall authorize and hereby authorizes Genmab, its Affiliates and Sublicensees to cross-reference sections of other IND/regulatory dossiers of clinical trials or marketing authorizations of other products Controlled by CureVac and to any other relevant regulatory filings and any other relevant documentation Controlled by CureVac. Genmab shall inform CureVac in writing prior to any such cross-referencing. If CureVac desires to cross-reference sections of the IND/regulatory dossiers of the clinical trials or marketing authorizations related to the Products, Genmab shall consider such request in good faith and not unreasonably withhold its consent to such cross-referencing by CureVac.

5.10.3 **Communications.** Genmab shall have the sole right and be responsible for all regulatory interactions, including written communications and meetings with Regulatory Agencies, and safety management, including the reporting to the appropriate governmental authorities of all adverse events and any other information concerning the safety of Products. Prior to IND filing for a Product, Genmab will, as part of its regular updates through the JRC, inform CureVac of any material feedback from Regulatory Agencies relating to any Product. CureVac shall promptly notify Genmab in writing within [*****] of unannounced inspections by any Regulatory Agency and within a reasonable time in advance of an announced regulatory inspection with respect to Development, Manufacturing or Commercialization of a particular Product.

5.10.4 **Diligence (Regulatory).** Genmab will use Commercially Reasonable Efforts to seek Regulatory Approval for the Products in the Field in the Major Market Countries.

5.10.5 **Global Safety Database.** Genmab shall establish, hold (in-house or via an external vendor), and maintain the global safety database for Products with respect to information on adverse events concerning the Products, as and to the extent required by Applicable Law. If (a) any suspected unexpected serious adverse reactions (SUSAR) or any reportable serious adverse events (SAEs) may, in Genmab's reasonable opinion, have a material impact on the Development of a Product or (b) a public announcement has to be made with respect to a SUSAR or SAE related to a Product, then in each case Genmab shall promptly notify CureVac in writing. If a public announcement has to be made with respect to any SUSAR or SAE related to a Product, Genmab shall, to the extent reasonably possible and provided that this can be done without risk of non-compliance with Applicable Law (including securities laws and stock exchange rules), notify CureVac thereof at least [*****] prior to making such public announcement to give CureVac an opportunity to comment.

5.11 **Subcontracts.** Subject to the terms and conditions of this Agreement, the Parties may subcontract to Affiliates and Third Parties, including CROs and CMOs, portions of the Programs to be performed. Any subcontractor shall be required to enter into appropriate agreements with respect to non-disclosure of Confidential Information and ownership of any intellectual property developed in the course of subcontracted activities, unless such subcontracting would not require the transfer of the other Party's Confidential Information to the Affiliate or Third Party subcontractor and there is no reasonable possibility of the creation of new intellectual property. Each subcontractor shall agree to reasonable audit rights. Each Party shall remain liable to the other Party for any act or omission of its subcontractor. Any subcontractor of CureVac shall be subject to Genmab's prior written consent, such consent not to be unreasonably withheld. **Exhibit 5.11** contains a list of CureVac's subcontractors which are approved for purposes of this Agreement, subject to the above. Genmab consents to the appointment of CureVac's Affiliate company CureVac Real Estate GmbH as a subcontractor of CureVac for the purpose of Manufacturing Products under this Agreement and the Early Clinical Supply Agreement for the supply of Products to be used in Clinical Phase I Studies with respect to the First Collaboration Program (as opposed to any future Manufacture under future supply agreements that might be agreed between the Parties). Should CureVac Real Estate GmbH at any time no longer be an Affiliate of CureVac, CureVac shall inform Genmab of the details concerning the new structure, decision making and other relevant items of CureVac Real Estate GmbH. CureVac shall further ensure and confirm in writing to Genmab that as a result of CureVac Real Estate GmbH no longer being an Affiliate of CureVac there are no material changes, including no cost or timeline changes, that may affect Genmab with respect to the terms or operation of any then current supply agreement between the CureVac AG and CureVac Real Estate GmbH.

6. MANUFACTURING AND COMMERCIALIZATION

6.1 **Manufacture of Products.** Manufacture by CureVac of Products for use in preclinical activities during the Research Period will take place under the First Program Research Plan, the Reserved Target Research Plan and the Other Pre-IND Program Research Plans, as the case may be. For the supply of Products to be used in Clinical Phase I Studies with respect to the First Collaboration Program (including in relation to a Product based upon a Replacement Target Antibody), subject to Section 6.2, the Parties shall negotiate and enter into a clinical supply agreement under which CureVac shall Manufacture or have Manufactured such Products on Genmab's behalf. For the supply of Products to be used in Clinical Phase I Studies with respect to any other Pre-IND Program, the Parties will on a Product-by-Product basis negotiate an amendment to the Early Clinical Supply Agreement in good faith, subject to Section 6.2, whereby CureVac shall Manufacture or have Manufactured such Product on Genmab's behalf. For other Manufacture of Products, CureVac shall have the right to provide an offer to Genmab to Manufacture Product under the provisions of Section 6.4.

6.2 **Early Clinical Supply Agreement.** Within [*****] after the Effective Date, the Parties will enter into a clinical supply agreement and related agreements (including a quality agreement) according to which CureVac shall Manufacture or have Manufactured for Genmab by an approved subcontractor under Section 5.11 or by a CMO approved by Genmab, and will supply or have supplied to Genmab, Genmab's demand for the Single Antibody Product which is the subject of the First Program Research Plan (whether related to the First Collaboration Target or any Replacement Target) to perform Clinical Phase I Studies ("**Early Clinical Supply Agreement**"). The Early Clinical Supply Agreement and related quality agreement will contain the key terms and conditions set forth in **Exhibit 6.2**. The Early Clinical Supply Agreement and the related quality agreement with respect thereto, shall determine, in accordance with Applicable Law, all Product quality standards for such Product to be used in clinical trials, including but not limited to stability, validation and pre-approval inspection preparation, specifications, assay methodology, facilities, equipment and storage conditions. With respect to the First Collaboration Program, if CureVac is unable to provide capacity via its own facilities or that of its approved subcontractor under Section 5.11 or another approved CMO within the agreed timelines, Genmab shall have the right to Manufacture and have Manufactured Products for Genmab for Genmab's Clinical Phase I Studies as well as in connection with Genmab's (or its Affiliates' or Sublicensees', as applicable) Manufacture of Products for Development and Commercialization by another supplier. In such event, CureVac shall transfer all CureVac Manufacturing Technology to such supplier of Genmab in accordance with Section 6.5 and any applicable terms of the Early Clinical Supply Agreement. In connection with the negotiation of the Early Clinical Supply Agreement, the Parties will agree on a plan for the transfer of CureVac Manufacturing Technology to Genmab, including estimated timelines, scope, resources and other relevant details (the "**Tech Transfer Plan**"). Such Tech Transfer Plan may be updated from time to time by mutual written agreement between the Parties, including in the event that the Parties negotiate an MSA pursuant to Section 6.4.2.

6.3 With respect to Other Pre-IND Programs and related Products, on a Product-by-Product basis, no later than [*****] prior to the anticipated commencement of Clinical Phase I Studies for such Product CureVac shall notify Genmab and inform Genmab whether CureVac or any approved subcontractor under Section 5.11 or other approved CMO already Manufacturing under the Early Clinical Supply Agreement has the capacity to Manufacture such Product for use in Clinical Phase I Studies within the timelines requested by Genmab. If CureVac gives notice that such capacity exists, the Parties will negotiate in good faith amendments to the Early Clinical Supply Agreement and related quality agreement to cover the Manufacture by CureVac or such approved subcontractor or approved CMO of such additional Product (arising from the relevant Other Pre-IND Program Research Plan) for use in Genmab's Clinical Phase I Studies for such Product. If CureVac is unable to provide capacity to Manufacture such Product via its own facilities or that of its approved subcontractor or approved other CMO within the requested timelines, or the Parties are unable to agree on an amendment to the Early Clinical Supply Agreement with respect to such Product despite using good faith efforts to negotiate such amendment to the Early Clinical Supply Agreement, Genmab shall have the right to Manufacture and have Manufactured such Product for Genmab for Genmab's Clinical Phase I Studies by another supplier. In such event, CureVac shall transfer all Know-How comprised in the CureVac Manufacturing Technology as reasonably required to Manufacture such Product to such supplier of Genmab in accordance with Section 6.5 and the applicable terms of the Early Clinical Supply Agreement.

6.4 Other Manufacture of Products for Development and Commercialization

6.4.1 In relation to each Product, provided that CureVac has Manufactured and supplied such Product for use in Genmab's Clinical Phase I Studies, then no later than [*****] prior to a requirement of Genmab for supplies of such Product for the first Clinical Phase II Study for such Product, Genmab shall submit to CureVac its non-binding forecast quantities, proposed delivery schedule for such Product quantities and other relevant criteria. Within [*****] of receipt of such forecast, CureVac shall indicate to Genmab if CureVac is able to supply such quantities (whether Manufactured by CureVac itself or an approved subcontractor or other approved CMO) in accordance with the criteria provided by Genmab; and proposed pricing and other high-level terms for such supply, which may include a proposal that any such approved subcontractor or approved CMO contract directly with Genmab.

6.4.2 If Genmab declines to appoint CureVac, its approved subcontractor or other approved CMO, it shall give written notice to CureVac specifying in high-level the reasons why CureVac itself or an approved subcontractor or other approved CMO was not appointed to Manufacture the Product. If Genmab accepts the proposal made by CureVac for supplies of Product for the first Clinical Phase II Study and is agreeable to appoint CureVac, the Parties shall within [*****] negotiate in good faith a master services agreement ("**MSA**") and related quality agreement and a first work order for the Manufacture and supply of such Product quantities, Manufactured to the specifications specified by Genmab, and for payment [*****] on customary market-based terms. Any such MSA shall contain detailed provisions for tech transfer of the Manufacturing process, e.g. in the event of a failure to supply by CureVac or its approved subcontractor or approved CMO or upon Genmab's request. If Genmab does not accept the proposal made by CureVac or if the Parties are unable to reach agreement on the MSA within the above period despite exercising good faith efforts, Genmab shall have the right to choose another CMO to Manufacture the Products for Genmab. If, during Genmab's negotiation of a supply agreement with another CMO, Genmab changes the criteria for such supply as were presented to CureVac, then Genmab will provide such updated criteria to CureVac so that CureVac can provide an updated proposal.

6.4.3 The process described in Sections 6.4.1 and 6.4.2 shall apply equally to the following circumstances (i) where CureVac itself or an approved subcontractor or other approved CMO have Manufactured Genmab's requirements of a Product for Clinical Phase II Studies, in relation to Genmab's requirements of such Product for Clinical Phase III Studies; and (ii) where CureVac itself or an approved subcontractor or other approved CMO have Manufactured Genmab's requirements of a Product for Clinical Phase III or Pivotal Studies, in relation to Genmab's requirements of such Product for Commercialization.

6.5 **Transfer of CureVac Manufacturing Technology.** If (i) pursuant to the terms of this Agreement, the Early Clinical Supply Agreement and/or the MSA CureVac and/or its approved subcontractor or other approved CMO is obliged to transfer to Genmab or a CMO nominated by Genmab (which CMO shall fulfill the criteria specified in Section 6.6) the Know-How comprised in the CureVac Manufacturing Technology for the particular Product affected; or (ii) under Section 6.2 or Section 6.4 Manufacture is not going to be conducted by CureVac or its approved subcontractor or other approved CMO for a particular Product, then (in each of (i) and (ii)) CureVac and/or its approved subcontractor or other approved CMO shall as soon as reasonably possible, and in accordance with the applicable Tech Transfer Plan and the timelines set out therein transfer to Genmab, or a CMO nominated by Genmab (which CMO shall fulfill the criteria specified in Section 6.6) the Know-How comprised in the CureVac Manufacturing Technology required to Manufacture the particular Product so that Genmab, an Affiliate or the appointed Third Party CMO can take over Manufacture of such Product for Genmab. If the particular Product has been Manufactured by CureVac's approved subcontractor or other approved CMO, then CureVac shall see to it that the technology transfer shall also comprise all and any Know-How Controlled by such party that is required to Manufacture such Product. In the event of a technology transfer, the JRC or Collaboration Committee, as applicable, shall establish a Manufacturing Tech Transfer Sub-Committee, which shall oversee the tech transfer relating to such Product, subject to applicable provisions in the Early Clinical Supply Agreement or MSA regarding tech transfer and the applicable Tech Transfer Plan. CureVac shall use Commercially Reasonable Efforts to make available key employees with respect to carry out the Tech Transfer Plan and to provide the support needed to enable Genmab, or its designated CMO, to take over the Manufacture of the relevant Product. Such tech transfer for any particular Product shall only be carried out once, to representatives of the entity nominated by Genmab. Genmab will compensate CureVac and/or its approved subcontractor or other approved CMO for such tech transfer support work provided by CureVac and/or the approved subcontractor or other approved CMO at the FTE Rate. CureVac shall be responsible for ensuring that its approved subcontractor or other approved CMO complies with all and any obligations applicable to CureVac and/or the subcontractor or other approved CMO with respect to such technology transfer.

6.6 **Third Party CMOs.** If under Section 6.2 or Section 6.4 Genmab wishes to engage a Third Party CMO to Manufacture Products it must provide notice of such intent and the identity of the CMO to CureVac. If such Third Party CMO is (i) a direct competitor of CureVac within the field of development of mRNA-based products (such as, but not limited to, [*****]); or (ii) located inside [*****] at the time when Genmab wishes to engage such Third Party CMO, then Genmab's engagement of such Third Party CMO to Manufacture Products requires CureVac's prior written consent not to be unreasonably withheld. Upon Genmab's request, in the event of (i) or (ii) above, CureVac shall within [*****] of receipt of such request notify Genmab if CureVac opposes to Genmab's engagement of such Third Party CMO and otherwise CureVac shall be deemed to have consented to such engagement. If, in the event of (i) or (ii) above, CureVac consents to the appointment of such CMO nominated by Genmab, such consent may be conditional upon the Third Party CMO entering into direct undertakings with CureVac for the protection of Confidential Information and Know-How within CureVac Manufacturing Technology. For clarity, such CMO shall not be permitted to transfer any such Know-How to any other Third Party. For avoidance of doubt, Genmab shall not be required to obtain the prior consent of CureVac before engaging a Third Party CMO as allowed for under Section 6.2 and Section 6.4 if such Third Party CMO is not comprised by (i) or (ii) above.

6.7 **Commercialization of Products.** Subject only to the terms and conditions applying to the Opt-In Product, Genmab shall have all rights and responsibilities, and shall bear all costs associated with, the Commercialization of Products and will book all sales of Products. Genmab will use Commercially Reasonable Efforts to Commercialize each Products in the Major Market Countries where it obtains Regulatory Approval. In addition to the royalty reports provided by Genmab to CureVac under Section 10.6, beginning with the First Commercial Sale of the first Product and continuing, on a Product-by-Product basis, until expiry of the last Valid Claim, Genmab shall provide CureVac, at least [*****] with a written report summarizing the current status of, estimated timeline and high-level commercialization plans for the Commercialization of any Products.

7. CUREVAC'S OPT-IN AND CO-PROMOTION RIGHTS.

DEVELOPMENT & COMMERCIALIZATION OF OPT-IN PRODUCTS.

7.1 **Opt-In.** Subject to the terms and conditions of this Agreement, CureVac has the option to join Genmab [*****] [*****] on the Development, Manufacture and Commercialization of any [*****] Product that is a Cocktail Product, at CureVac's sole election ("**Opt-In**"). If within [*****] of Genmab's Option Exercise with respect to such Reserved Target Combination (then an Optioned Target Combination) which might result in a Cocktail Product, CureVac requests to receive an Opt-In Data Package (as defined below), Genmab shall within [*****] of such Option Exercise supply CureVac with (i) a comprehensive preclinical data package generated under the respective Program, including all Development Data available at such time; and (ii) a high-level draft Development plan (specifying in high-level the contemplated Clinical Studies and non-clinical studies to be conducted) up until and including contemplated Clinical Phase I Studies; and (iii) a proposed budget of costs, internal and external, for the draft Development Plan, and (iv) a copy of the documentation (with any reasonably required redactions, including redactions to exclude information not directly related to the Product data such as information from Genmab's board of directors, financial information etc.) provided to Genmab's portfolio board as basis for Genmab taking the decision to undertake Option Exercise in relation to the relevant Cocktail Product ("**Opt-In Data Package**"). Within [*****] of receipt of the Opt-In Data Package, CureVac shall notify Genmab whether or not CureVac wishes to Opt-In. Upon CureVac's Opt-In and payment of the Opt-In Fee in accordance with Section 10.3 below, the Optioned Target Combination will become an "**Opt-In Target**" and any Product resulting therefrom will be an "**Opt-In Product**". If CureVac requests an Opt-In Data Package the Option Exercise Fee under Section 10.2 shall be deferred until [*****] after CureVac has given Genmab notice under this Section 7.1, that CureVac is not exercising its right to Opt-In. For avoidance of doubt, if CureVac does not request any Opt-In Data Package within [*****] of the Option Exercise, Genmab shall have no obligation to provide such Opt-In Data Package and CureVac shall no right to Opt-In with respect to the particular Cocktail Product.

7.2 **Joint Steering Committee.** Within [*****] of CureVac Opt-In under Section 7.1 the Parties will establish a Joint Steering Committee as set out in Section 9.9 ("**Joint Steering Committee**") which shall oversee the Development and Commercialization of the Opt-In Product. A first task of the Joint Steering Committee shall be to discuss any potential update to the Development plan submitted by Genmab to CureVac for the Opt-In Product. Until the Joint Steering Committee agrees on such update, the Development plan submitted by Genmab shall be the Opt-In R&D Plan ("**Opt-In R&D Plan**")

7.3 **Opt-In Product – general principle for sharing of costs and profit.** With respect to any Opt-In Target and Opt-In Product, all costs for the Development, Manufacturing and Commercialization of the Opt-In Product, as well as all profits generated by exploiting such Opt-In Product in the Field and in the Territory (including Net Sales and payments from Third Party licensees) will be [*****].

7.4 **Opt-In Product – sharing of Development and Manufacturing costs.** Unless otherwise agreed in the Joint Development and Manufacturing Agreement, then the below shall apply with respect to sharing of Development and Manufacturing costs with respect to an Opt-In Product. Within [*****] of the end of each Calendar Quarter during Development of the Opt-In Product, each Party shall notify the other Party in writing of the Development and Manufacturing costs incurred by them and their Affiliates in that Calendar Quarter. Within [*****] thereafter the Parties shall agree a reconciliation such that [*****] the total costs for the Development and Manufacturing [*****], and the Party which has paid less than its [*****] share shall pay to the other Party the balancing amount required so that such total costs have been [*****]. Records and audit provisions the same as Section 10.8 shall apply to such Development and Manufacturing Costs.

7.5 **Co-Promotion and Co-Commercialization.** [*****] in the [*****] with CureVac having a right to co-promote up to [*****] of the sales effort, provided that upon Genmab's prior written consent (which Genmab may give or withhold at its sole discretion) from the commencement of such Commercialization until the end of the second full Calendar Year thereafter CureVac may use a contract sales organization to assist it in respect of such co-promotion activities, but not thereafter. CureVac will lead the Commercialization of the Opt-In Product by promoting and detailing in [*****] and detailing with its own sales force or, or upon Genmab's prior written consent (which Genmab may give or withhold at its sole discretion), using a contract sales organization, *provided*, *however*, that Genmab shall be solely responsible for establishing and maintaining pricing in all [*****] Genmab will book [*****] sales, with the exception of sales in [*****] where CureVac will book sales. Should CureVac decide not to lead commercialization by promoting and detailing in [*****]. Genmab shall have the right to lead commercialization and book sales in such countries, unless Genmab elects not to exercise such right, in which case the Parties will jointly find a partner to handle the commercialization in such countries. Any sublicensing of the rights under the Opt-In Program, including any rights to the Opt-In Product requires agreement by both Parties, and the Parties shall act in good faith to arrive at a commercially sound and viable exploitation of the Opt-In Product.

7.6 **Joint Development and Manufacturing Agreement.** No later than [*****] following the date of CureVac's exercise of its Opt-In rights, Genmab and CureVac shall in good faith negotiate and conclude the terms and conditions of the joint development and manufacture covering the Opt-In Product ("**Joint Development and Manufacturing Agreement**"). For clarity, with respect to Manufacturing the provisions of Section 6.2 and Section 6.4 shall apply mutatis mutandis. The Joint Development and Manufacturing Agreement shall be consistent with this Agreement, including this Article 7, and shall cover the following additional provisions:

(i) provisions for the generation and approval of detailed development plans under the Opt-In R&D Plan, including protocols for Clinical Studies and the corresponding budget;

(ii) provisions concerning the appointment of CRO's and CMO's and other subcontractors;

(iii) provisions for handling regulatory matters including dealings with Regulatory Agencies;

(iv) provisions for the calculation of and sharing of costs for Development and for Manufacture of Product for Development reflecting Section 7.3;

(v) in circumstances where CureVac is supplying the Opt-In Product or any part of it, detailed supply provisions and an associated quality agreement;

(vi) liability, indemnification and insurance during the period of Development and associated Manufacture;

(vii) the provisions of this Agreement that apply in such circumstances unchanged, for example concerning the Joint Steering Committee, assignment of rights with respect to the Opt-In Product, termination of the Opt-in Program, dispute resolution and others.

7.7 **Commercialization Plan and Commercialization Agreement.** At least [*****] prior to anticipated First Commercial Launch and in no event later than [*****] after the first dosing of the first patient of the first Phase III Clinical Trial with respect to the Opt-In Product, the Joint Steering Committee shall prepare and approve an initial commercialization plan for the Opt-In Product for the balance of the then current calendar year plus the following [*****] The Joint Steering Committee shall, at an appropriate (at the Joint Steering Committee's discretion) time following an Opt-In, but no later than [*****] prior to the anticipated First Commercial Sale of the Opt-In Product anywhere in the Territory as determined by the Joint Steering Committee, establish a joint commercialization team to be responsible for the operations related to Commercialization of the Opt-In Product. In addition the Parties will in good faith negotiate and agree on a commercialization agreement, which shall be consistent with the applicable provisions of this Agreement and shall govern in detail the co-promotion and co-commercialization provisions for the Opt-In Product based on the outline in Section 7.5 ("**Commercialization Agreement**"). In particular, the Commercialization Agreement will provide for:

(i) the establishment of a joint commercialization committee that will govern the Commercialization activities of the Opt-In Product and will be a subsidiary of the Joint Steering Committee ("**Joint Commercialization Committee**");

(ii) detailed definitions of Commercialization Costs, profit and net profit that are to be [*****] by the Parties, and the terms for such calculation and sharing, reporting and audit rights;

(iii) detailed provisions for the operation of the Co-Promote, including the [*****] of first position, second position and third position details;

(iv) supervision and training by Genmab of the CureVac Co-Promote sales force in USA;

(v) the provision of promotional materials by Genmab;

(vi) compliance provisions;

(vii) Amendment to and updates of the commercialization plan;

(viii) Regulatory issues, dealings with Regulatory Agencies, recalls and medical inquiries and medical interaction,

(ix) Public statements and other information concerning the Opt-In Product;

(x) Liability;

(xi) Indemnification; and

(xii) Use of subcontractors.

7.8 Assignment of Rights and Obligations with respect to Opt-In Product

7.8.1 Either Party shall have the right to make an assignment in full of its rights and obligations under this Agreement with regard to an Opt-In Product to the other Party or a Third Party as set out below.

7.8.2 If a Party ("**Assigning Party**") desires to make an assignment in full of all its rights and obligations, including without limitation its [*****] share and co-funding obligation, with respect to an Opt-In Product ("**Opt-In Product Assignment**"), the Assigning Party shall provide a written offer to the other Party ("**Non-Assigning Party**"), which offer shall include the entire proposed terms in relation to such Opt-In Product Assignment to the Non-Assigning Party, including the exclusive right to Develop, Manufacture and Commercialize the Opt-In Product, under all intellectual property and using all regulatory filings Controlled by the Assigning Party. Upon the Non-Assigning Party's receipt of such written offer, a [*****] negotiation period ("**Negotiation Period**") shall be initiated during which the Parties shall engage in good faith negotiations regarding the Assigning Party's Opt-In Product Assignment offer. The Non-Assigning Party shall have the right to appoint a Third Party as assignee in relation to the Opt-In Product Assignment on the same terms as offered to the Non-Assigning Party. If the Parties have not reached an agreement regarding an Opt-In Product Assignment to the Non-Assigning Party or a Third Party assignee appointed by the Non-Assigning Party upon expiry of the Negotiation Period, the Assigning Party is entitled to offer the Opt-In Product Assignment to an independent Third Party on the same key financial and commercial terms as comprised by the Assigning Party's latest written offer during the Negotiation Period to the Non-Assigning Party, provided that such Third Party prior to receiving such Opt-In Product Assignment offer has undertaken obligations of confidentiality that are at least as restrictive as the Parties' confidentiality obligations under this Agreement. Such negotiations with and assignment to an independent Third Party shall be finalized within [*****] after expiry of the Negotiation Period, unless otherwise mutually agreed in writing between the Parties. If such negotiations and assignment has not been finalized within said [*****] period, the Assigning Party shall be deemed to have provided an Opt-In Termination Notice to the Non- Assigning Party and Section 7.9 shall apply.

The Assigning Party shall keep the Non-Assigning Party reasonably informed about the developments in relation to the Assigning Party's negotiations with any Third Party regarding an Opt-In Product Assignment. If the terms of offer from a Third Party differ from the key financial and commercial terms as comprised by the Assigning Party's latest written offer during the Negotiation Period to the Non-Assigning Party, then the Non-Assigning party shall have the right to match such offer, before the Assigning Party may accept the offer from the Third Party. Such right to match the offer shall be exercised within [*****] after the Non- Assigning Party's receipt of notice of the applicable key financial and commercial terms, and otherwise the Non-Assigning Party shall be deemed to have forfeited its right of first refusal.

7.8.3 For the avoidance of doubt, until an Opt-In Product Assignment is duly executed and has become effective, all and any the Assigning Party's rights and obligations under this Agreement shall continue to apply, including without limitation the co-funding obligation, and the Parties shall continue to use Commercial Reasonable Efforts to perform their obligations with respect to the Development and Commercialization of the Opt-In Product.

7.9 **Termination of the Opt-In Program.** If under Section 7.8.2 an Assigning Party (in this Section 7.9 "**Terminating Party**") has given notice (or is deemed to have given notice) to the other Party that it terminates ("**Opt-In Termination Notice**") the [*****] collaboration of the Opt-In Program and withdraws from the future Development, Manufacture and Commercialization of the Opt-In Target and the Opt-In Product, then within [*****] of receipt of such Opt-In Termination Notice, the non-terminating Party ("**Non-Terminating Party**") shall give written notice to the Terminating Party whether the Non-Terminating Party wishes to assume sole responsibility for the Opt-In Program (which can include finding other collaboration partners or assignees for the Opt-In Program) or whether it wishes the Opt-In Program to terminate completely. Until such notice is given by the Non-Terminating Party, the Parties shall cooperate in the further Development, Manufacture and Commercialization of the Opt-In Product under the terms of this Agreement and the Commercialization Agreement (if the same exists by then) in a commercially reasonable manner. If the Non-Terminating Party gives notice that it intends to assume responsibility for the Opt-In Program and to so continue the further Development and commercialization of the Opt-In Product(s), the JSC shall within [*****] of such notice agree to a transition plan for transition of the conduct of the Opt-In Program to the Non- Terminating Party that shall include (i) transfer of all Development, Manufacturing and Commercialization activity and related regulatory approvals as soon as practicable, and, until then, for the period between termination of the collaboration and such transfer, reimbursement of the Terminating Party for the cost incurred by it in connection with such Development, Manufacturing and Commercialization activity; and (ii) payment of the cost of such transition by the Terminating Party, including FTEs of the Non-Terminating Party involved with the transition; and (iii) the grant of and other terms for an exclusive, fully paid up, royalty free, perpetual, irrevocable sub-licensable license through multiple tiers to all intellectual property Controlled by the Terminating Party and required by the Non-Terminating Party to continue the Opt-In Program and Commercialization of the Opt-In Product. If the Non-Terminating Party gives notice that it does not wish to assume responsibility for the Opt-In Program, the JSC shall within [*****] agree a wind-down plan for the Opt-In Program, the costs of which shall be borne by the Terminating Party.

8. CO-PROMOTION IN LIEU OF AN OPT-IN.

8.1 **Co-Promotion in lieu of an Opt-In**. In the event Genmab has not started research on a Research Program Antibody Combination or does not exercise an option with respect to any Reserved Program Antibody Combination within the Option Period, and CureVac consequently cannot exercise its Opt-In right under Section 7.1 above, CureVac has the right to elect to Co-Promote [*****] Single Antibody Product which is granted Regulatory Approval (in the form of marketing authorization) in the [*****] ("**Co-Promotion Product**"; "**Co-Promotion Territory**"), subject to the terms and conditions set forth in Sections 8.1 and 8.2 and the Co-Promotion Agreement ("**CureVac Co-Promotion Option**"). No later than [*****] prior to the anticipated First Commercial Sale of any Single Antibody Product, Genmab shall give written notice to CureVac that this is anticipated, specifying the Single Antibody Product in question, and providing a data package on such Single Antibody Product which reasonably allows CureVac to evaluate its option to Co-Promote such Product. Within [*****] of receipt of both such notice and the data package, CureVac shall notify Genmab in writing whether CureVac is exercising the CureVac Co-Promotion Option in relation to such Single Antibody Product. For the avoidance of doubt, following CureVac's exercise of its Co-Promotion Option, Genmab shall no longer be required to provide notice of anticipated First Commercial Sale to CureVac with respect to other Products.

8.2 **Conclusion of a Co-Promotion Agreement.** No later than [*****] following the date of CureVac's exercise of the CureVac Co-Promotion Option, Genmab and CureVac shall in good faith negotiate and conclude the terms and conditions of a co-promotion agreement covering the Co-Promotion of the Co-Promotion Product in the Co-Promotion Territory ("**Co-Promotion Agreement**"). The Co-Promotion Agreement shall be consistent with this Article 7 and shall cover the following additional provisions:

(i) establishment of a Co-Promotion committee that will govern the Co-Promotion activities and will be a subsidiary of the Collaboration Committee ("**Co-Promotion Committee**");

(ii) detailed provisions for the operation of the Co-Promote, including the equitable sharing of first line, second line and third line details based upon the principle that the CureVac sales force shall constitute, at the election of CureVac, up to [*****] of the overall number of sales representatives needed to promote the Co-Promotion Product in the Co-Promotion Territory upon First Commercial Sale of the Product in the Co-Promotion Territory, as determined by Genmab and in accordance with the Co-Promotion Territory Commercialization Plan;

(iii) at the latest [*****] prior to the estimated date of the First Commercial Sale of the Co-Promotion Product in the Co-Promotion Territory, Genmab will propose to the Co-Promotion Committee for discussion, comment, review, amendment and approval a plan to Commercialize the Co-Promotion Product in the Co-Promotion Territory for the period up to the end of the first full Calendar Year following first Commercial Sale ("**Co-Promotion Territory Commercialization Plan**"). The Co-Promotion Committee shall use best endeavors to agree the form of the first Co-Promotion Territory Commercialization Plan within [*****] of its initial submission. Not later than [*****] of each Calendar Year the Co-Promotion Committee shall prepare and agree an updated Co-Promotion Territory Commercialization Plan for the following Calendar Year;

(iv) performance criteria for CureVac sales force, and consequences of non-performance;

(v) Genmab shall [*****] specifically related to CureVac' detailing efforts in relation to the given Product in the Co-Promote Territory. For avoidance of doubt, Genmab shall not be required to reimburse CureVac for any build-up or overhead costs of CureVac establishing a sales force for Products, including rent for office space;

(vi) such additional customary terms and conditions (including terms regarding training, marketing materials, responsibility for recalls and adverse event reporting, and maintenance of records relating to detail activities) as may be appropriate to provide for such co-promotion activities;

(vii) Compliance provisions; and

(viii) Termination provisions.

9. GOVERNANCE.

9.1 Management.

9.1.1 Alliance Management. Management of the collaborative alliance reflected in this Agreement will be under the responsibility of the individual designated in writing within [*****] of the Effective Date for CureVac ("**CureVac Alliance Manager**") and of the individual designated in writing within [*****] of the Effective Date for Genmab ("**Genmab Alliance Manager**", and together, the "**Alliance Managers**"). Each Alliance Manager will be the primary point of contact for the other Party on all matters relating to the operation of this Agreement other than Program activities.

9.1.2 Program Management. Management of the activities under the Programs will be under the responsibility of the individual designated in writing within [*****] of the Effective Date for CureVac ("**CureVac Project Leader**") and of the individual designated in writing within [*****] of the Effective Date for Genmab ("**Genmab Project Leader**", and together with the CureVac Project Leader, the "**Project Leaders**"). Each Project Leader will be the primary point of contact for the other Party on all matters relating to the Program activities. After IND filing for a particular Product, the Project Leaders shall no longer be required, unless CureVac has exercised its Opt-In with respect to such Product (a Cocktail Product).

9.2 Joint Research Committee.

9.2.1 Establishment. Within [*****] after the Effective Date the Parties will establish a joint research committee ("**Joint Research Committee**" or "**JRC**"). The JRC will govern the collaboration represented by this Agreement up to IND filing for all Products. The JRC shall be comprised of [*****] representatives of CureVac and [*****] representatives of Genmab. Each Party may replace its JRC representatives at any time upon written notice to the other Party, *provided, however,* that each Party shall use Commercially Reasonable Efforts to ensure continuity on the JRC. The Alliance Manager of each Party should always attend meetings of the JRC. In addition, each Party may invite a reasonable number of participants, in addition to its representatives, to attend JRC meetings; provided that if either Party intends to have any Third Party (including any consultant) attend such a meeting, such Party shall provide prior written notice to the other Party. Such Party shall ensure that such Third Party is bound by confidentiality and non-use obligations consistent with the terms of this Agreement.

9.2.2 **JRC Meetings.** The JRC shall meet on a quarterly basis by teleconference, videoconference or in person, provided that at least every [*****] the meeting shall be in person (which in- person meeting will be held at alternate facilities of each Party), unless agreed otherwise by the JRC representatives The JRC will have a quorum if at least [*****] representatives of each Party is present or participating. Each Party will be responsible for all of its own expenses of participating in the JRC meetings. The Parties will endeavor to schedule meetings of the JRC at least [*****] in advance. Each Party may call special meetings of the JRC with at least [*****] prior written notice, except in exigent circumstances, to resolve particular matters requested by such Party and within the decision-making responsibility of the JRC. Genmab shall prepare the meeting agenda with input from CureVac, and Genmab shall chair the meeting.

9.2.3 **JRC Minutes.** The Alliance Manager of Genmab shall record the minutes of each JRC meeting in writing. Such minutes shall be circulated by Genmab's Alliance Manager to CureVac' Alliance Manager no later than [*****] following the meeting for review, comment and approval of CureVac. If no comments are received within [*****] of the receipt of the minutes by CureVac, unless otherwise agreed, they shall be deemed to be approved by CureVac. Furthermore, if the Parties are unable to reach agreement on the minutes within [*****] of the applicable meeting, the sections of the minutes that have been mutually agreed between the Parties by that date shall be deemed approved and, in addition, each Party shall record in the same document its own version of those sections of the minutes on which the Parties were not able to agree.

9.3 **JRC Functions and Powers.** The JRC will be responsible generally for facilitating the Parties' interactions under this Agreement and specifically for overseeing the Development activities up to IND filing. The JRC has no jurisdiction (i) to make any amendments to this Agreement, which right is reserved to the Parties; and (ii) no jurisdiction over any dispute relating to the validity, performance, construction or interpretation of this Agreement. The principal functions of the JRC will include:

(i) overseeing the First Collaboration Program on the First Collaboration Target or any Replacement Target and all Research Programs;

(ii) reviewing and approving the First Program Research Plan in relation to a Replacement Target, the Reserved Target Research Plans, and the Other Pre-IND Program Research Plans and considering and approving any amendments thereto;

(iii) For the First Collaboration Program (with respect to the First Collaboration Target, not the Replacement Target, if applicable), approving the budget for all Development activities up until IND. For the First Collaboration Program with respect to the Replacement Target, if applicable, and any other Programs approving the budget with respect to Development activities to be performed by CureVac up until IND;

(iv) reviewing and deciding upon suitable LNP Technology and exclusivity status;

(v) exchanging preclinical Development Data and other technical information;

(vi) discussing Product-related Manufacturing;

(vii) creating Sub-Committees;

(viii) serving as a forum where Genmab as part of its regular updates to the JRC shall inform CureVac of any material feedback received from Regulatory Agencies in relation to any Product prior to IND filing;

(ix) discussing material regulatory filings and regulatory interactions related to the Products if required by Genmab or if such material regulatory filings contain information on CureVac Technology;

(x) fostering the collaborative relationship between the Parties;

(xi) resolving disputes between the Parties;

(xii) such other functions as agreed by the Parties.

9.4 **JRC Sub-Committees.** From time to time, the JRC may establish sub-committees (each, a "**Sub-Committee**") to oversee particular projects or activities, such as Sub-Committees on IP, CMC, Manufacturing tech transfer and/or supply chain matters. Each Sub-Committee shall undertake the activities delegated to it by the JRC. Subject to Section 9.6, during the process of establishing each Sub-Committee, such Sub-Committee and the JRC shall agree which matters such Sub-Committee will resolve on its own, and on which matters such Sub-Committee will advise the JRC for resolution by such matters by the JRC. Generally there shall be a range of matters specified by the JRC on which the Sub-Committee will make recommendations to the JRC for consideration by the JRC. Unless otherwise agreed between the Parties, the governance rules with respect to the JRC shall apply to the Sub-Committees *mutatis mutandis*, *provided*, *however,* that upon mutual agreement between the Parties a Sub-Committee may continue to operate even after the JRC is dissolved, as long as such Sub-Committee's tasks are still ongoing. Subject to Section 9.6 deadlocks arising in any Sub-Committee will be referred to the JRC for resolution or, if the Sub-Committee continues after the JRC is dissolved, to the Collaboration Committee or Joint Steering Committee (solely for an Opt-In Product).

9.5 **JRC Decisions.**

9.5.1 **Dispute Resolution**. In conducting its activities, the JRC and each Sub-Committee shall operate and make decisions consistent with the terms of this Agreement. The JRC will seek to act by consensus. If the JRC cannot reach consensus or a dispute arises that cannot be resolved within the JRC, then such matter (except the matters (i) and (ii) below) shall be escalated to the Alliance Managers of each Party. The Alliance Managers should involve the relevant JRC members of each Party in such dispute resolution. If such matter is not resolved within [*****] after escalation to the Alliance Managers, Genmab may make final decisions for all matters within the purview of the JRC except:

(i) disputes of a technical nature concerning use of the LNP Technology; and

(ii) disputes regarding proposed amendments to the budget for Development activities up until IND with respect to the First Collaboration Program (with respect to the First Collaboration Target, not the Replacement Target, if applicable) where such amendment would result in an increase of the total budget of more than [*****] percent compared to the latest approved budget.

(iii) disputes about Manufacture of Product by CureVac not subject to dispute resolution under the Early Clinical Supply Agreement or MSA, or disputes referred to the JRC from the Manufacturing Tech Transfer Sub-Committee.

If the JRC, after escalation to the Alliance Managers, cannot reach consensus in relation to matters set out above in (i), (ii) and (iii) above, then such matter shall be escalated to the CDO of each Party. If such matter is not resolved within [*****] after escalation to the CDOs, the dispute resolution mechanisms set out in Section 17.5.2 shall apply.

9.5.2 **Restriction on Genmab Decision Making.** Genmab shall not resolve such a matter in a manner that (a) would require CureVac to perform less or additional activities or incur additional expenses not contemplated by this Agreement or the R&D Plans (as each R&D Plan was initially agreed by the Parties or as it was last amended with CureVac's consent), (b) excuses, reduces, or delays Genmab's obligations under this Agreement, including with respect to payments to CureVac, (c) negates any consent right or other rights specifically granted or allocated to CureVac under this Agreement, or (d) amends, modifies, or waives compliances with the terms of this Agreement.

9.6 **IP Sub-Committee.** Within [*****] of the Effective Date the JRC shall establish an IP Sub-committee comprising one patent attorney of each Party ("**IP Representatives**"). The IP Sub-committee shall be the forum for discussion and liaison between the Parties concerning filings to be made for Program Patent Rights, Other Inventions Patent Rights and Joint Patent Rights during the Research Period. For avoidance of doubt, the IP Sub-committee is not a decision-making forum, but serves as a forum for discussion where the Parties may coordinate and consult with each other with respect to any such filings.

9.7 **Information and Results.** Except as otherwise provided in this Agreement, the Parties will make available and disclose to one another preclinical Development Data and other results of work conducted pursuant to each Program prior to and in preparation for the JRC meetings, by the deadline and in the level of detail, form and format to be designated by the JRC; *provided, however,* that, in any event, each Party shall to the extent reasonably possible provide the other Party with quarterly updates regarding its work pursuant to the Programs preferably [*****] prior to each JRC meeting.

9.8 **Collaboration Committee (All Programs except an Opt-In Program).** The Parties agree to establish Collaboration Committee(s) for all Programs except an Opt-In Program.

9.8.1 **Formation; Duration.** Within [*****] after IND filing for a Program, the Parties shall establish a Collaboration Committee (the "**Collaboration Committee**") that will oversee the Development of the Products within such Program as set forth in this Section 9.8.

9.8.2 **Composition.** Each Collaboration Committee will be comprised of [*****] named representatives of each Party. Each Collaboration Committee will be led by [*****] chair appointed by Genmab. Within [*****] after IND filing for a Product, each Party shall notify the other Party of its initial representatives on the respective Collaboration Committee. Each Party may replace one or more of its representatives effective upon written notice to the other Party.

9.8.3 **Function and Powers of the Collaboration Committee.** The Collaboration Committee will:

a. receive written reports or presentations from Genmab of its progress with each Product Development Plan summarizing Genmab's Development activities and the results thereof with respect to the applicable Product and discuss at meetings the status, progress, and results of the Development of the respective Product in the Territory;

b. if CureVac exercises its Co-Promote Right with respect to a Product, direct and oversee the Co-Promotion Committee on all significant issues and resolve disputed matters that may arise at the Co-Promotion Committee, except as otherwise set out in the Co-Promotion Agreement. For clarity, the Collaboration Committee shall not have any right to amend the Co-Promotion Agreement;

c. in circumstances in which CureVac is supplying the Product or any part of the Product, discuss matters relating to Manufacturing; and

d. perform any and all tasks and responsibilities that are expressly attributed to the Collaboration Committee under this Agreement or as otherwise agreed by the Parties in writing.

9.8.4 **Meetings.** The Collaboration Committee will meet [*****] after its formation and during the remainder of the Term. The Collaboration Committee may conduct such meetings by telephone, videoconference, or in person as determined by the chair. Each Party's Alliance Manager will ensure that its Collaboration Committee members receive adequate notice of such meetings. Genmab may call special meetings of the Collaboration Committee with at least [*****] prior written notice, except in exigent circumstances, to resolve particular matters requested by Genmab and within the decision-making responsibility of the Collaboration Committee. Meetings of the Collaboration Committee fulfill the requirements of this Section 9.8.4 only if at least [*****] representatives of each Party participate in such meeting. Each Party may invite a reasonable number of participants, in addition to its representatives, to attend Collaboration Committee meetings. Each Party is responsible for its own expenses incurred in connection with participating in and attending all such meetings. The Alliance Manager of Genmab shall record the minutes of each Collaboration Committee meeting in writing. Such minutes shall be circulated by Genmab's Alliance Manager to CureVac' Alliance Manager no later than [*****] following the meeting for review and comments of CureVac. If no comments are received within [*****] of the receipt of the minutes by CureVac, unless otherwise agreed, they shall be deemed to be approved by CureVac. Furthermore, if the Parties are unable to reach agreement on the minutes within [*****] of the applicable meeting, the sections of the minutes that have been mutually agreed between the Parties by that date shall be deemed approved and, in addition, each Party shall record in the same document its own version of those sections of the minutes on which the Parties were not able to agree.

9.8.5 **Collaboration Committee Decisions.** In conducting its activities, the Collaboration Committee and each Sub-Committee (as applicable) shall operate and make decisions consistent with the terms of this Agreement. The Collaboration Committee will seek to act by consensus. If the Collaboration Committee cannot reach consensus or a dispute arises that cannot be resolved within the Collaboration Committee, then such matter shall be escalated to the Alliance Managers of each Party. The Alliance Managers should involve the relevant Collaboration Committee members of each Party in such dispute resolution. If such matter is not resolved within [*****] after escalation to the Alliance Managers, Genmab may make final decisions for all matters within the purview of the Collaboration Committee except disputes about the Manufacture by CureVac of Product which shall be governed by the relevant supply agreement, if applicable.

9.9 **Joint Steering Committee (Opt-In Program).** The Parties agree to establish and operate a Joint Steering Committee for the Opt-In Program as required by Section 7.2 and as set forth below in this Section 9.9.

9.9.1 **Composition.** The Joint Steering Committee will be comprised of [*****] named representatives of each Party. The chair of the Joint Steering Committee will alternate each calendar year, with Genmab to chair the first year. Within [*****] after an Opt-Inby CureVac, each Party shall notify the other Party of its initial representatives on the Joint Steering Committee. Each Party may replace one or more of its representatives effective upon written notice to the other Party.

9.9.2 **Function and Powers of the Joint Steering Committee.** The Joint Steering Committee shall:

(i) direct, coordinate and supervise the Development of the Opt-In Product, including discuss and agree to any update to the applicable R&D Plan;

(ii) discuss and agree on matters relating to Manufacturing of Opt-In Product;

(iii) once it has been formed, direct and oversee the Joint Commercialization Committee on all significant issues, and resolve disputed matters that may arise at the Joint Steering Committee;

(iv) establish subcommittees as determined to be reasonably necessary or useful by the Joint Steering Committee, and oversee any operating subcommittee on all significant issues, and resolve disputed matters that may arise at the subcommittees; and

(v) perform any and all tasks and responsibilities that are expressly attributed to the Joint Steering Committee under this Agreement or as otherwise agreed by the Parties in writing.

9.9.3 **Meetings.** The will meet [*****] after its formation and for as long as the Parties jointly Develop, Manufacture and/or Commercialize the Opt-In Product. The Joint Steering Committee may conduct such meetings by telephone, videoconference, or in person as determined by the chair, *provided*, *however*, that the Joint Steering shall to the extent reasonably possible meet in person at least [*****] every calendar year. Each Party's Alliance Manager will ensure that its Joint Steering Committee members receive adequate notice of such meetings. A Party may call special meetings of the Joint Steering Committee with at least [*****] prior written notice, except in exigent circumstances, to resolve particular matters requested by a Party and within the decision-making responsibility of the Joint Steering Committee. Meetings of the Joint Steering Committee fulfill the requirements of this Section 9.9.3 only if at least [*****] representatives of each Party participate in such meeting. Each Party may invite a reasonable number of participants, in addition to its representatives, to attend Joint Steering Committee meetings; provided that if either Party intends to have any Third Party (including any consultant) attend such a meeting, such Party shall provide prior written notice to the other Party. Such Party shall ensure that such Third Party is bound by confidentiality and non-use obligations consistent with the terms of this Agreement. Each Party is responsible for its own expenses incurred in connection with participating in and attending all such meetings. The Alliance Manager of the Party chairing the meeting shall record the minutes of the Joint Steering Committee meeting in writing. Such minutes shall be circulated to the other Party's Alliance Manager no later than [*****] following the meeting for review, comment and approval of the other Party. If no comments are received within [*****] of the receipt of the minutes by the other Party, unless otherwise agreed, they shall be deemed to be approved by the other Party. Furthermore, if the Parties are unable to reach agreement on the minutes within [*****] of the applicable meeting, the sections of the minutes that have been mutually agreed between the Parties by that date shall be deemed approved and, in addition, each Party shall record in the same document its own version of those sections of the minutes on which the Parties were not able to agree.

9.9.4 **Decisions.** A quorum of at least [*****] Joint Steering Committee member appointed by each Party shall be present at or shall otherwise participate in each Joint Steering Committee meeting. Each Party has one vote in the decisions of the Joint Steering Committee. Decisions of the Joint Steering Committee shall be unanimous. If the members of the Joint Steering Committee cannot agree on a particular issue, the issue shall be escalated pursuant to Section 17.5, unless otherwise explicitly provided for in the Joint Development and Manufacturing Agreement and/or Commercialization Agreement.

9.9.5 **Subcommittees.** The Joint Steering Committee may establish and disband such subcommittees as deemed necessary by the Joint Steering Committee. In addition, the Joint Steering Committee shall establish the Joint Commercialization Committee as provided for in Section 7.7(i). Each such subcommittee will consist of the same number of representatives designated by each Party, which number shall be mutually agreed by the Parties. Each Party may change its representatives on written notice to the other Party or send a substitute representative to any subcommittee meeting. Each Party's representatives and any substitute for a representative shall be bound by the obligations of confidentiality set forth in Section 13. Except as expressly provided in this Agreement, no subcommittee has the authority to bind the Parties hereunder and each subcommittee will report to the Joint Steering Committee. Each Party is responsible for its own expenses incurred in connection with participating in and attending all such meetings. If a dispute arises that cannot be resolved by a subcommittee, either Party may refer such dispute to the Joint Steering Committee for resolution.

9.9.6 **Authority.** The Joint Steering Committee and any subcommittees have only the powers assigned expressly to it in this Section 9 and elsewhere in this Agreement, and does not have any power to amend, modify, or waive compliance with this Agreement. Each Party retains the rights, powers, and discretion granted to it under this Agreement and neither Party may delegate or vest such rights, powers, or discretion in the Joint Steering Committee or subcommittee unless expressly provided for in this Agreement or the Parties expressly so agree in writing.

10. CONSIDERATION.

10.1 **Upfront Payment.** In partial consideration for the exclusive licenses granted hereunder, Genmab shall pay to CureVac a non-refundable and non-creditable fee in the amount of Ten Million US Dollars (US$10,000,000) within [*****] after Genmab's receipt of an invoice of the respective amount from CureVac.

10.2 **Option Exercise Fee.** In partial consideration for the exclusive options granted hereunder for up to three (3) Reserved Targets, Genmab shall pay to CureVac on an Option Exercise-by-Option Exercise basis a non-refundable and non-creditable (except as otherwise explicitly provided for in the Agreement) Option Exercise Fee in the amount of [*****] i.e., a maximum of Thirty Million US Dollars (US$30,000,000) for all potential options hereunder ("**Option Exercise Fee**"). Such payment shall be made within [*****] after Genmab's receipt of an invoice of the respective amount from CureVac; *provided, however,* that a Reservation Fee paid by Genmab to CureVac for the corresponding Reserved Target shall be deducted from the Option Exercise Fee, [*****].

10.3 **Product Selection Fee.** Genmab shall pay CureVac a one time non-refundable and non-creditable fee of five million USD ($5,000,000) upon Product Selection by a Product Selection Notice covering a Product based upon the First Program Antibody or a Replacement Target Antibody, as applicable. Such payment shall be made within [*****] after Genmab's receipt of an invoice of the respective amount from CureVac.

10.4 **Opt-In fee.** If CureVac exercises its option to Opt-In under Section 7.1 above, CureVac shall pay Genmab a non-refundable and non-creditable Opt-In fee of Three Million Dollars (US$ 3,000,000) within [*****] after CureVac's receipt of an invoice of the respective amount from Genmab; and no Option Exercise Fee shall be payable by Genmab for the respective Optioned Target. If the Option Exercise Fee has already been paid, CureVac shall reimburse such payment to Genmab within [*****] of receipt of invoice.

10.5 **Development and Regulatory Milestone Payments.** In addition to the payments under Sections 10.1, to 10.4 inclusive, in further consideration for the exclusive licenses granted hereunder, and subject to the terms and conditions set forth in this Agreement, Genmab shall make the following non-refundable and non-creditable Development and regulatory milestone payments to CureVac:

10.5.1 **Single Antibody Products.** On a Single Antibody Product-by-Single Antibody Product basis, the following payments shall be made for all Single Antibody Products (including the First Collaboration Program – including if it is amended to cover a Replacement Target, and any Other Pre-IND Program, as applicable):

Development Milestone Event	**In US$ Million**
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

Regulatory Milestone Event	**1st BLA/MAA**	**2nd BLA/MAA**
[*****]	[*****]	[*****]
[*****]	[*****]	[*****]
[*****]	[*****]	[*****]
[*****]	[*****]	[*****]

Sales Milestone event	**In US$ Million**
Genmab shall make the following one-off, sales-based milestone payments, for the Calendar Year in which aggregated annual worldwide Net Sales exceed for the first time the following amounts:	
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

10.5.2 Cocktail Products. On a Cocktail Product-by-Cocktail Product basis, the following payments shall be made for all Cocktail Products (with the exception of any Opt-In Product):

Development Milestone Event	In US$ Million
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

Regulatory Milestone Event	1st BLA/MAA	2nd BLA/MAA
[*****]	[*****]	[*****]
[*****]	[*****]	[*****]
[*****]	[*****]	[*****]
[*****]	[*****]	[*****]

Sales Milestone event	In US$ Million
Genmab shall make the following one-off, sales-based milestone payments, for the Calendar Year in which aggregated annual worldwide Net Sales exceed for the first time the following amounts:	
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

If any one of the milestone events under Section 10.5 is not required for the Development of a Product, such milestone payment shall become payable upon achieving the respective milestone event following the milestone event which was not required, [*****]. For purposes of clarity, the maximum aggregate amount payable by Genmab pursuant to this Section 10.5 is [*****] for each Single Antibody Product, and [*****] for each Cocktail Product.

10.5.3 Obligation to Inform. Genmab shall inform CureVac on the occurrence of a milestone event under Sections 10.5.1 and 10.5.2 [*****] after the occurrence thereof.

10.5.4 **Milestone Payment Terms.** Each milestone payment shall be due and payable within [*****] after the receipt of the respective invoice by Genmab. Notwithstanding the foregoing, each sales milestone payment shall be paid together with the royalty payments for the Calendar Quarter during which the respective milestone has been achieved.

10.6 **Royalties.**

10.6.1 **Royalty Rates.** As further consideration for the rights and licenses granted by CureVac to Genmab under this Agreement, Genmab shall pay royalties to CureVac in the following amounts, in all cases considered on a Product-by-Product basis:

Single Antibody Products:

Aggregate annual Net Sales of each Single Antibody Product (Product-by-Product)	Royalty Rate
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

Cocktail Products (with the exception of any Opt-In Product):

Aggregate annual Net Sales of each Cocktail Product (except any Opt-In Product) (Product-by-Product)	Royalty Rate
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

10.6.2 **Royalty Calculation.** The royalties shall be calculated on the basis of aggregate annual Net Sales in the Territory Product-by-Product, with the royalty tiers set out above being calculated on a Product-by-Product basis from First Commercial Sale until the expiration of the applicable Royalty Term. Examples of royalty calculations are included in the enclosed **Exhibit 10.6.2**.

10.6.3 **Royalty Term.** Genmab's obligation to pay royalties shall begin, on a country-by-country basis, with the First Commercial Sale, and expire, on a country-by-country and a Product-by-Product basis, upon the later of (i) expiry or abandonment of the last to expire Valid Claim in such country that Covers such Product; (ii) expiry of Regulatory Exclusivity for the respective Product in such country; or (iii) ten (10) years from the date of First Commercial Sale of the respective Product ("**Royalty Term**").

10.6.4 **FTO License.** If, during the Term, Genmab reasonably concludes, on the advice of patent counsel, that it might be required to seek a license under certain Third Party Patent Rights in order to have freedom to operate in practicing or making use of the CureVac Background Technology and/or LNP Technology by the Development, Manufacture, Commercialization or other exploitation of Products in accordance with this Agreement in any country ("**FTO License**"), Genmab shall be free to take such FTO License, and the circumstances of Sections 10.6.5 and 10.6.6 may be applicable, subject to their provisions. Before taking such FTO License, Genmab will consult with CureVac in good faith regarding the need for such FTO License and other available options, such as seeking to invalidate certain claims of the relevant Third Party Patent Rights.

10.6.5 **Third Party Payments–Granted Patent Rights in the Disclosure Letter.** Subject to Section 10.6.9, with respect to Third Party Patent Rights referenced in the Disclosure Letter that are granted as of the Effective Date, and subject to compliance with the procedures of Section 10.6.4, in the event Genmab seeks and obtains an FTO License under such Third Party Patent Rights and is required to make any payments (milestone, royalties or other payments, including settlement payments) to one or more Third Party licensors to obtain such license, then milestone payments and/or royalties due to CureVac for the respective Product shall be reduced by [*****] of the amount of such Third Party licensor payments payable by Genmab until Genmab has been reimbursed [*****] of all such payments. For clarity, subject to Section 10.6.9 Genmab shall also have the right to reduce milestone payments and royalties to CureVac by [*****] of any payments made by Genmab to CureVac under Section 2.8 with respect to any Third Party IP of the type the subject of this 10.6.5. The Parties acknowledge and agree that this mechanism for deduction of Third Party payments does not imply in any way that the Third Party Patent Rights referenced in the Disclosure Letter may constitute any risk with respect to freedom to operate.

10.6.6 **Other Third Party Payments.** Subject to Section 10.6.9, with respect to Third Party Patent Rights not referenced in the Disclosure Letter or Third Party Patent Rights referenced in the Disclosure letter that are not granted as of the Effective Date, and subject to compliance with the procedures of Section 10.6.4 in the event Genmab seeks and obtains an FTO License under such Third Party Patent Rights and is required to make any payments (milestone, royalties or other payments, including settlement payments) to one or more Third Party licensors to obtain such license, then royalties due to CureVac for the respective Product shall be reduced by [*****] of the amount of such Third Party licensor payments payable by Genmab until Genmab has been reimbursed in full for [*****] of all such payments. For clarity, subject to Section 10.6.9, Genmab shall also have the right to reduce royalties to CureVac by [*****] of any payments made by Genmab to CureVac under Section 2.8 with respect to any Third Party IP of the type the subject of this Section 10.6.6. The Parties acknowledge and agree that this mechanism for deduction of Third Party payments does not imply in any way that the Third Party Patent Rights referenced in the Disclosure Letter may constitute any risk with respect to freedom to operate.

10.6.7 **Countries Without Patent Protection.** During the Royalty Term with respect to the First Collaboration Target and the related Product and subject to Section 10.6.9, in countries where sales of the Product do not or no longer fall under any Valid Claim, but where Regulatory Exclusivity is still in effect, royalties set forth above in Section 10.6.1 shall be reduced by [*****] for Net Sales in such country in the first [*****] period during which no Valid Claim exists, but Regulatory Exclusivity is in effect, [*****] for Net Sales in such country in the second [*****] period during which no Valid Claim exists, but Regulatory Exclusivity is in effect, and [*****] for Net Sales in such country for the remainder of the Royalty Term. For avoidance of doubt, in countries where sales of Products do not or no longer fall under any Valid Claim and Regulatory Exclusivity is not available or has expired, royalties set forth above in Section 10.6.1 shall be reduced by [*****] for Net Sales in such country. During the Royalty Term with respect to any Optioned Target or Optioned Target Combination, as applicable, and the related Products and subject to Section 10.6.9, in countries where sales of Products do not or no longer fall under any Valid Claim, royalties set forth above in Section 10.6.1 shall be reduced by [*****] for Net Sales in such country.

10.6.8 **Generic Competition.** In countries where Generic Products are being marketed by a Third Party, royalties set forth above shall be further reduced by the greater of: (a) [*****] for Net Sales in such country as long as such Generic Product is on the market in such country; or (b) [*****] for Net Sales in such country in circumstances where the total unit sales of such Generic Products in such country in a Calendar Year equal or exceed [*****] of the total sales in such country of the respective Product and Generic Products combined.

10.6.9 **Cumulative Deductions.** Notwithstanding the above, any royalty reduction made pursuant to Section 10.6.5, Section 10.6.6, Section 10.6.7 and/or Section 10.6.8 or reimbursements made under Section 2.8 that are creditable against royalties shall in no event reduce the applicable royalty rate for such Products sold in the respective country to less than [*****] for Single Antibody and [*****] for Cocktail Products. For avoidance of doubt, in the event that the minimum royalty rates are reached in connection with royalty deductions made pursuant to Section 2.8, Section 10.6.5 and/or Section 10.6.6, Genmab shall be allowed to reduce its future royalty payments, always subject to the above royalty floor, until Genmab has been settled in full with respect to its right to deduct payments made to any Third Party licensor or reimbursements to Curevac, as applicable.

10.6.10 **Blended Royalties.** With respect to a potential step down in royalty rates to account for the expiry of certain Patent Rights, the Parties acknowledge and agree that the CureVac Technology licensed under this Agreement may justify royalty rates and/or royalty terms of differing amounts for sales of Products in the Territory, which rates could be applied separately to Products involving the exercise of CureVac Patent Rights in the Territory and/or the incorporation of CureVac Know-How, and that if such royalties were calculated separately, royalties relating to the CureVac Patent Rights in the Territory and royalties relating to the CureVac Know-How would last for different terms. For practicality reasons the Parties have agreed on a blended royalty rate. For clarity, this Section 10.6.10 solely explains the rationale behind the royalty rates agreed on by the Parties and does not modify any of the other provisions of this Agreement.

10.6.11 **Royalty Payments.** Within [*****] after the end of each Calendar Quarter in which any Net Sales occur, Genmab shall calculate the royalty payments owed to CureVac and shall remit to CureVac the amount owed to CureVac. All royalty payments shall be computed by converting the Net Sales in each country in the Territory into the currency of US Dollars, using the monthly exchange rates as customarily used by Genmab in preparing its audited financial statements for the applicable Calendar Quarter.

10.7 **Reports.** Each royalty payment shall be accompanied by a written report describing the Net Sales of each Product sold by or on behalf of Genmab, its Affiliates and Sublicensees during the applicable Calendar Quarter for each country in which sales of any Product occurred, specifying: [*****].

10.8 **Records.** Genmab, its Affiliates and/or its Sublicensees shall keep and maintain records of sales of the Product(s) so that the royalties payable and the royalty reports may be verified. Such records shall upon reasonable written notice be open to inspection during business hours for a [*****] period after the Calendar Quarter to which such records relate, but in any event not more than once per calendar year, by a nationally recognized independent certified public accountant selected by CureVac reasonably acceptable to Genmab and retained at CureVac's expense. Said accountant shall sign a confidentiality agreement prepared by Genmab and reasonably acceptable to CureVac and shall then have the right to audit the records kept pursuant to this Agreement to confirm Net Sales, royalties and other payments for a period covering not more than [*****] following the Calendar Quarter to which they pertain. If said examination of records reveals any underpayment(s) of the royalty payable, then Genmab shall promptly pay the balance due to CureVac, and if the underpayment(s) is/are more than [*****] then Genmab shall also bear the expenses of said accountant. If said examination of records reveals any overpayment(s) of royalty payable, then CureVac shall credit the amount overpaid against Genmab's future royalty payment(s) (and if no further payments are due, shall be refunded by CureVac at the request of Genmab).

10.9 **Participation Payment.** In the event Genmab grants a sublicense to a Third Party (i.e., a Sublicensee) for a Product expressing the First Program Antibody before [*****], Genmab shall pay to CureVac a one time payment of Ten Million US Dollars (US$ 10,000,000), in addition to the milestone and royalty payments to be made under this Article 10.

10.10 **Payment Terms.**

10.10.1 All payments by Genmab to CureVac shall be made by wire transfer payment in US dollars, except with respect to payments of FTE costs which shall be made in Euros, and shall be remitted to the following bank account:

[*****]

Invoices shall be issued to Genmab A/S, or to the assignee Affiliate as specified in Section 17.1 on a Program-by-Program basis. Invoices shall be sent to Genmab by email at the following address and stating the following VAT number or as otherwise designated by Genmab in writing:

Genmab B.V.
[*****]

10.10.2 Payments not paid within [*****] after the due date under this Agreement shall bear interest at an annual rate of [*****] above the three-month-LIBOR rate of the respective currency for the time period in which such amount is outstanding, as disclosed from time to time by the European Central Bank which applied on the due date. Calculation of interest will be made for the exact number of days in the interest period based on a year of 360 days (actual/360) by Genmab.

10.11 Taxes.

10.11.1 Each Party shall be responsible for its own income taxes assessed by a tax or other authority except as otherwise set forth in this Agreement.

10.11.2 The Parties acknowledge and agree that it is their mutual objective and intent to optimize, to the extent feasible and in compliance with Applicable Laws, taxes payable with respect to their collaborative efforts under this Agreement and that they shall use reasonable efforts to cooperate and coordinate with each other to achieve such objective.

10.11.3 CureVac shall bear and pay any and all taxes levied on account of any payments made to it under this Agreement. If any taxes are required to be withheld by Genmab from any payment to be made to CureVac under this Agreement, Genmab shall (a) deduct such taxes from the payment to be made to CureVac, (b) timely pay the taxes to the proper taxing authority, and (c) send proof of payment to CureVac with an explanation of payment of such taxes within [*****] following such payment. If Genmab had a duty to withhold taxes in connection with any payment it made to CureVac but Genmab failed to withhold, and such taxes were assessed against and paid by Genmab, then CureVac shall, at Genmab's request and upon receipt of proof of Genmab's payment of such taxes, reimburse to Genmab the amount equivalent to such taxes (including interest but excluding penalties) paid by Genmab. For purposes of this Section 10.11.3, each Party shall provide the other with reasonably requested assistance to enable the due deduction by Genmab or CureVac, as applicable, and appropriate recovery by CureVac or Genmab, as applicable, which assistance includes provision of any tax forms and other information that may be reasonably necessary for Genmab or CureVac not to withhold tax.

10.11.4 All payments due to the terms of this Agreement are expressed to be exclusive of value added tax (VAT) or similar indirect taxes. VAT/indirect taxes shall be added to the payments due to the terms if legally applicable.

11. INTELLECTUAL PROPERTY.

11.1 **Background Technology.** As between the Parties, all right, title and interest in and to all [*****] shall be Controlled by [*****] and all right, title and interest in and to all [*****] shall be Controlled by [*****]. As between the Parties, each Party shall have the sole right, in its sole discretion and at its sole expense, to prosecute, maintain and defend Patent Rights within its Background Technology; *provided, however,* that CureVac shall consider in good faith the interests of Genmab in the prosecution, maintenance and defense of [*****].

11.2 **Disclosure of Inventions.** During the Research Period, on a Collaboration Target-by- Collaboration Target basis, each Party shall as soon as reasonably practical disclose to the other Party, through the forum of the IP Sub Committee, the making, conception, or reduction to practice of any Inventions. After the Research Period, each Party shall as soon as reasonably practical disclose to the other Party, through the forum of the IP Sub Committee if it is continued after the Research Period, or otherwise through the Alliance Manager, the making, conception, or reduction to practice of any Invention that may be owned in part or in whole by the other Party pursuant to this Section 11.

11.3 **Ownership of Inventions.** The Parties agree that all right, title and interest in any and all Inventions (including all Patent Rights resulting from such Inventions and all Know-How embodied in such Inventions) shall be owned as follows, [*****].

11.3.1 **Genmab Inventions.** Genmab shall own all right, title and interest in and to

(A) [*****] and

(B) [*****]

Any such Invention as described under (A) or (B) above shall be considered an Invention of Genmab ("**Genmab Invention**"). The types of inventions listed in Section 2 of **Exhibit 11.3** are all Inventions that are not to be considered a [*****] as applicable.

11.3.2 **CureVac Inventions.** CureVac shall own all right, title and interest in and to all Inventions that [*****] Controlled by [*****] and can be [*****]. The types of Inventions listed in [*****]. Any such Invention as described above in this Section 11.3.2 shall be considered an Invention of CureVac ("**CureVac Invention**").

11.3.3 **Other Inventions; Joint Inventions.** For all other Inventions (i.e., Inventions that do not fall within the categories described in Section 11.3.1 or 11.3.2 above) that are invented by or on behalf of Genmab and/or CureVac (including the non-limiting example set out in Section 3 of **Exhibit 11.3**) ("**Other Inventions**"), [*****]. Any such Other Invention shall be referred to as "**Genmab Other Invention**" if owned by Genmab, and as "**CureVac Other Invention**" if owned by CureVac. Except to the extent either Party is restricted by the licenses granted to the other Party under this Agreement or the other terms of this Agreement, each Party shall have the right to [*****] the Other Invention under any Other Invention Patent Right and related Know-How, i.e., shall have a [*****] license to such Other Invention, and any consent from the other Party as may be required under Applicable Law for a Party to practice and exploit such Other Invention and Other Invention Patent Right and related Know-How shall hereby be given by the other Party. If the Parties [*****] shall be jointly owned by the Parties ("**Joint Invention**"). Except to the extent either Party is restricted by the licenses granted to the other Party under this Agreement or the other terms of this Agreement, each Party may freely practice and exploit its interest in the Joint Inventions, Joint Patent Rights and related Know-How, and any consent from the other Party as may be required under Applicable Law for a Party to practice and exploit such Joint Inventions and Joint Patent Rights shall hereby be given by the other Party. For the avoidance of doubt, the licenses granted under this Section 11.3.3 do not include any license to use any Background Technology of the other Party.

11.4 **Assignment and transfer of Inventions.** To give effect to the ownership principles described in Section 11.3 each Party shall assign and transfer, and hereby assigns and transfers, to such other Party (or with respect to assignments and transfers to Genmab, to Genmab A/S or Genmab B.V. as designated by Genmab in writing on a Program-by-Program basis) [*****] as the case may be, of its present and future rights, interest and title to any such Invention that is to vest in the other Party pursuant to the ownership principles described in Section 11.3, and the other Party shall accept and hereby accepts such assignment and transfer ("**Assigned Invention**"). At the written instruction of the other Party, the transferring Party agrees to make or procure all such assignments from its employees, consultants and subcontractors as are necessary to give effect to the provisions of this Section 11.4 and to assist the transfer in every way reasonably required by the transferee (i) to obtain Patent Rights to such Assigned Invention in any and all countries for which Patent Rights are being sought; and (ii) to maintain and defend Patent Rights in all Assigned Inventions which have been or may be assigned as provided above. The transferring Party shall execute and deliver, and cause its employees, consultants and subcontractors to execute and deliver, all such documents, instruments and other papers and take all such other action which the transferee may reasonably request in order to give effect to the provisions of this Section 11.4.

11.5 **Cooperation.** Each Party represents and agrees that all its employee(s), contractor(s) and agent(s) will be obligated under a binding written agreement or otherwise to assign to such Party all Inventions discovered, created, conceived, developed or reduced to practice by such employee(s), contractor(s) or agent(s) in connection with this Agreement. Notwithstanding anything to the contrary herein, to the extent the German Laws on Employee Inventions (*Arbeitnehmererfindungsgesetz*) applies, each Party shall claim the unlimited use of any Invention discovered, created, conceived, developed or reduced to practice in accordance with such laws. Regardless of which Party is the ultimate assignee of an Invention under this Agreement, each Party shall be solely responsible for payments to be made to its employees or other persons engaged by such Party in consideration for the Invention under the German Laws on Employee Inventions, or any corresponding laws in other countries. For clarity, each Party shall be and remain solely responsible towards its own employees for compliance with the requirements of the German Laws on Employee Inventions (*Arbeitnehmererfindungsgesetz*) if applicable.

11.6 **Non-exclusive License to Generally Applicable Patent Rights.** Except to the extent CureVac is restricted by the licenses granted to Genmab under this Agreement or the other terms of this Agreement, Genmab hereby grants to CureVac, and CureVac hereby accepts, a fully paid-up, royalty-free, perpetual, irrevocable, worldwide, non-exclusive, transferable and sub-licensable (through multiple tiers) license to freely practice and use the Generally Applicable Patent Rights for activities in connection with the CureVac Background Technology, CureVac Technology, Know-How generated by CureVac outside this Agreement and/or the LNP Technology, in each case to the extent that such activities are outside the scope of this Agreement. For the avoidance of doubt, subject to the provisions of Section 13.4.4 CureVac shall not have any right to use, exploit or disclose any Confidential Information of Genmab in connection with such activities.

11.7 **Filing, Prosecution, Maintenance and Defense.**

11.7.1 **CureVac Program Patent Rights.** Subject to Section 11.7.3 below, CureVac shall have the first right, but not the obligation, to file, prosecute, maintain and defend the CureVac Program Patent Rights throughout the Territory at its sole expense. Upon Genmab's request, CureVac shall keep Genmab advised of the status of prosecution of all such Patent Rights included within the CureVac Program Patent Rights, and shall give Genmab before filing or response to office actions, as applicable, reasonable opportunity to review and comment upon the text of any applications or amendments for CureVac Program Patent Rights. CureVac shall not unreasonably refuse to address any of Genmab's comments made in accordance with this Section 11.7.1. Notwithstanding the above, prior to filing any application for a CureVac Invention that may disclose, in part or in full, a Genmab Invention, Other Invention or Joint Invention, CureVac shall provide Genmab with a copy of the draft application and provide Genmab with at least [*****] to review and comment upon the text of such draft application. If Genmab notifies CureVac within the above [*****] deadline that Genmab desires to file an application for a Genmab Invention, Joint Invention or Genmab Other Invention, the Parties shall coordinate the filing of the application for a CureVac Invention with the filing of Genmab's application for such Genmab Invention, Other Invention or Joint Invention so that CureVac's application and Genmab's application are filed on the same day or otherwise filed in a way that secures and protects each of the Parties' interest. CureVac shall promptly give notice to Genmab of the grant, lapse, revocation, surrender or invalidation of any CureVac Program Patent Rights for which CureVac is responsible for the filing, prosecution and maintenance. CureVac shall give notice to Genmab of any desire to not file patent applications claiming CureVac Program Patent Rights on a country by country basis and, in such cases, shall permit Genmab, in its sole discretion, to file such patent applications at its own expense and in its own name. If Genmab elects to file, such Patent Right shall be deemed a Genmab Patent Right and CureVac shall execute such documents and perform such acts at CureVac's reasonable expense as may be reasonably necessary for Genmab to perform such filing. For avoidance of doubt, CureVac will not include a Genmab Invention, Other Invention or Joint Invention in a separate patent claim of a patent application to be filed by CureVac without Genmab's prior written consent.

11.7.2 **Genmab Program Patent Rights.** Genmab shall have the sole right, but not the obligation, at its sole expense, to file, prosecute, maintain and defend the Genmab Program Patent Rights throughout the Territory in good faith consistent with its customary patent policy and its reasonable business judgment and shall consider in good faith the reasonable interests of CureVac in so doing. Upon CureVac's request, Genmab shall keep CureVac advised of the status of prosecution of all Royalty Product Patent Rights. Notwithstanding the above, prior to filing any application for a Genmab Invention that may disclose, in part or in full, a CureVac Invention, Other Invention or Joint Invention, Genmab shall provide CureVac with a copy of the draft application and provide CureVac with at [*****] to review and comment upon the text of such draft application. If CureVac notifies Genmab within the above [*****] deadline that CureVac desires to file an application for a CureVac Invention or CureVac Other Invention, the Parties shall coordinate the filing of the application for a Genmab Invention with the filing of CureVac's application for such CureVac Invention or CureVac Other Invention so that CureVac's application and Genmab's application are filed on the same day or otherwise filed in a way that secures and protects each of the Parties' interest, such as by agreeing to follow the principles for filing, prosecution, maintenance and defense outlined in Section 11.7.3. For avoidance of doubt, Genmab will not include a CureVac Invention, Other Invention or Joint Invention in a separate patent claim of a patent application to be filed by Genmab without CureVac's prior written consent.

11.7.3 **Filing, Prosecution, Maintenance and Defense of certain Patents claiming both Genmab Inventions and CureVac Inventions.** Notwithstanding the above in Section 11.7.1, if Genmab reasonably finds that the planned filing of a patent application by CureVac claiming a CureVac Invention may be damaging to Genmab's possibilities of obtaining adequate Patent Rights for a particular Product, Genmab shall have the right to request in writing, through the IP Sub- Committee or the Alliance Manager, as applicable, and providing detailed reasons that CureVac does not file such application at that time, always giving due consideration to CureVac's interest in obtaining an adequate patent protection of the CureVac Inventions and Genmab's interest in obtaining an adequate patent protection for Genmab Inventions and that particular Product. For avoidance of doubt, [*****]. As a result of such written request from Genmab, CureVac will not file such application at such time. Instead, CureVac can file such application on the earlier of (i) [*****] after Genmab has promptly informed CureVac in writing that Genmab has obtained sufficient data to support an application for Patent Rights for a Genmab Invention relating to the Product making use of such CureVac Invention, or (ii) [*****] following Product Selection under Section 5.3 or Option Exercise under Section 3.4 (whichever occurs sooner) according to the R&D Plan relating to the Product which is the subject of the Genmab patent application; or (iii) when Genmab decides not to pursue Product Selection under Section 5.3 or Option Exercise under Section 3.4 for that particular Product. [*****]. If CureVac believes it would be beneficial that such Genmab application should contain claims for such CureVac Invention, it may request Genmab to include the relevant CureVac Invention in the Genmab filing, and Genmab shall consider such request in good faith. Subject to the restrictions of the licenses granted by CureVac to Genmab under this Agreement and any other restrictions explicitly set out in this Agreement, Genmab shall and hereby does grant to CureVac, and CureVac shall and hereby does accept, an exclusive, worldwide, fully paid, perpetual, fully transferable license, with the right to grant sublicenses in multiple tiers, under any such Genmab Program Patent Rights covering a CureVac Invention to practice and exploit such CureVac Invention and only such CureVac Invention. In addition, upon CureVac's request, Genmab shall collaborate in good faith with CureVac with a view to filing, where possible, specific divisional application(s) claiming such CureVac Invention(s), that would be prosecuted, maintained and defended under the control of CureVac and at its expense, and, to the extent possible without damaging Genmab's patent position with respect to a given Product, which divisional application(s) shall be assigned to CureVac for its further prosecution, maintenance and defense at CureVac's cost. Such assigned divisional Patent Rights shall then be deemed CureVac Program Patent Rights. Upon such filing of a divisional application, Genmab shall abandon the patent claim(s) for such CureVac Invention.

11.7.4 **CureVac Other Invention Patent Rights.** CureVac shall have the first right, but not the obligation, to file, prosecute, maintain and defend Patent Rights for CureVac Other Inventions ("**CureVac Other Invention Patent Rights**") throughout the Territory, at its sole expense, and CureVac shall as soon as reasonably practicable give notice to Genmab of any desire to not file patent applications claiming CureVac Other Invention Patent Rights or to cease prosecution and/or maintenance and/or defense of CureVac Other Invention Patent Rights on a country by country basis and, in such cases, shall permit Genmab, in its sole discretion, to file such patent applications or to continue prosecution or maintenance or defense of such CureVac Other Invention Patent Rights (in which case thereafter they will be deemed a Genmab Other Invention Patent Right) at its own expense and in its own name. At the latest [*****] before filing, and except where CureVac has given up the right to prosecute as provided above, CureVac shall give Genmab an opportunity to review and comment upon the text of any application with respect to any CureVac Other Invention Patent Right, shall consult with Genmab with respect thereto, shall not unreasonably refuse to address any of Genmab's comments and supply Genmab with a copy of the application as filed, together with notice of its filing date and serial number. CureVac shall keep Genmab reasonably informed of the status of the actual and prospective prosecution, maintenance and defense, including but not limited to any substantive communications with the competent patent offices that may affect the scope of such filings, and CureVac shall to the extent reasonably possible give Genmab a timely, prior opportunity to review and comment upon any such substantive communication and shall consult with Genmab with respect thereto, and shall not unreasonably refuse to address any of Genmab's comments. Notwithstanding anything to the contrary above, prior to filing any application for a CureVac Other Invention that may disclose, in part or in full, a Genmab Invention, CureVac shall provide Genmab with a copy of the draft application and provide Genmab with at least [*****] to review and comment upon the text of such draft application. If Genmab notifies CureVac within the above [*****] deadline that Genmab desires to file an application for a Genmab Invention, the Parties shall coordinate the filing of the application for a CureVac Other Invention with the filing of Genmab's application for such Genmab Invention so that the CureVac application and Genmab application are filed on the same day or otherwise filed in a way that secures and protects each of the Parties' interest.

11.7.5 **Genmab Other Invention Patent Rights.** Genmab shall have the first right, but not the obligation, to file, prosecute, maintain and defend Patent Rights for Genmab Other Inventions ("**Genmab Other Invention Patent Rights**") throughout the Territory, at its sole expense, and Genmab shall as soon as reasonably practicable give notice to CureVac of any desire to not file patent applications claiming Genmab Other Invention Patent Rights or to cease prosecution and/or maintenance and/or defense of Genmab Other Invention Patent Rights on a country by country basis and, in such cases, shall permit CureVac, in its sole discretion, to file such patent applications or to continue prosecution or maintenance or defense of such Genmab Other Invention Patent Rights (in which case thereafter they will be deemed a CureVac Other Invention Patent Right) at its own expense and in its own name. At the latest [*****] before filing, and except where Genmab has given up the right to prosecute as provided above, Genmab shall [*****]. Notwithstanding anything to the contrary above, prior to filing any application for a Genmab Other Invention that may disclose, in part or in full, a CureVac Invention, Genmab shall provide CureVac with a copy of the draft application and provide CureVac with at least [*****] to review and comment upon the text of such draft application. If CureVac notifies Genmab within the above [*****] deadline that CureVac desires to file an application for a CureVac Invention, the Parties shall coordinate the filing of the application for a Genmab Other Invention with the filing of CureVac's application for such CureVac Invention so that the CureVac application and Genmab application are filed on the same day or otherwise filed in a way that secures and protects each of the Parties' interest.

11.8 Joint Patent Rights.

11.8.1 Genmab shall have the first right, but not the obligation, to file, prosecute, maintain and defend Patent Rights relating to Joint Inventions ("**Joint Patent Rights**") throughout the Territory, at its sole expense, and Genmab shall give timely notice to CureVac, and, if during the Research Period, with a copy to the IP Sub-Committee, of any desire to not file patent applications claiming Joint Patent Rights or to cease prosecution and/or maintenance of Joint Patent Rights on a country-by-country basis and, in such cases, shall permit CureVac, in its sole discretion, to file such patent applications or to continue prosecution, maintenance or defense of such Joint Patent Rights at its own expense. At the latest [*****] before filing, the prosecuting Party shall give the non-prosecuting Party an opportunity to review and comment upon the text of any application with respect to such Joint Patent Right, shall consult with the non-prosecuting Party with respect thereto, shall not unreasonably refuse to address any of the non-prosecuting Party's comments and supply the non-prosecuting Party with a copy of the application as filed, together with notice of its filing date and serial number. The prosecuting Party shall keep the non-prosecuting Party reasonably informed of the status of the actual and prospective prosecution, and maintenance, including but not limited to any substantive communications with the competent patent offices that may affect the scope of such filings, and the prosecuting Party shall give the non-prosecuting Party a timely, prior opportunity to review and comment upon any such substantive communication and shall consult with such non- prosecuting Party with respect thereto, and shall not unreasonably refuse to address any of such non-prosecuting Party's comments.

11.9 Patent Term Extension. [*****]. It is acknowledged that Genmab has the ultimate decision-making authority with regard to the filing for Patent Term Extensions, but Genmab agrees that when making that decision it shall not unreasonably take any action or inaction that causes CureVac significant financial detriment, [*****]. CureVac shall cooperate with Genmab with regard to obtaining Patent Term Extensions and shall provide to Genmab prompt and reasonable assistance as requested by Genmab, at Genmab's expense, including by taking such action as may be required of the patent holder under any Applicable Laws to obtain such Patent Term Extension. [*****].

12. ENFORCEMENT AND DEFENSE.

12.1 Notice. Each Party shall notify the other Party in writing as soon as reasonably possible upon learning of any actual or suspected infringement by a Third Party of any CureVac Patent Rights, Genmab Patent Rights, CureVac Other Invention Patent Right, Genmab Other Invention Patent Right, Joint Patent Right or Patent Rights comprised in the LNP Technology Controlled by CureVac that may adversely affect any Program Antibody, Program Antibody Combination or Product in the Field in the Territory ("**Relevant Infringement**"), or of any claim by a Third Party alleging the invalidity, unenforceability, or non-infringement of any CureVac Patent Rights, Genmab Patent Rights, CureVac Other Invention Patent Right, Genmab Other Invention Patent Right or Joint Patent Right.

12.2 Enforcement.

12.2.1 CureVac Patent Rights, Patent Rights in LNP Technology, CureVac Other Invention Patent Rights. Except as set forth in Section 12.2.2 below, as between the Parties, CureVac will have the first right, but not the obligation, to seek to abate any Relevant Infringement of any CureVac Patent Right, Patent Rights comprised in the LNP Technology Controlled by CureVac (to the extent CureVac is authorized to do so by the LNP Technology licensor) or CureVac Other Invention Patent Right by a Third Party, or to file suit against any such Third Party for such Relevant Infringement, and CureVac shall bear all the expense of such suit or abatement of such Relevant Infringement. Genmab may, at its own expense, be represented in any such action by counsel of its own choice. If CureVac does not bring such legal action within the earlier of (i) [*****] after the notice provided pursuant to Section 12.1, or (ii) within [*****] prior to any deadline under Applicable Law for bringing such legal action; or if CureVac decides to discontinue any ongoing legal action, Genmab may bring and control any legal action in connection with such Relevant Infringement of CureVac Patent Rights, Patent Rights comprised in the LNP Technology (to the extent possible under CureVac's license to such LNP Technology) or CureVac Other Invention Patent Rights at its own expense as it reasonably determines appropriate.

12.2.2 Genmab Patent Rights. As between the Parties, Genmab will have the sole right, but not the obligation, to seek to abate any infringement of Genmab Patent Rights by a Third Party, or to file suit against any such Third Party for such infringement. Genmab shall bear all the expense of such suit or abatement of infringement. With respect to any infringement by a Third Party of a Genmab Patent Right where such infringement relates to a claim for a CureVac Invention included in such Genmab Patent Right pursuant to Section 11.7.3, Genmab agrees to collaborate with CureVac in good faith at CureVac's cost to enforce such claim against such Third Party infringement [*****]; provided that in the reasonable opinion of Genmab such enforcement will not entail any significant risk with respect to upholding an adequate patent protection for Genmab Inventions and the Product.

12.2.3 Genmab Other Invention Patent Right and Joint Patent Rights. Genmab shall have the first right, but not the obligation, to seek to abate any infringement of Genmab Other Invention Patent Rights or Joint Patent Rights by a Third Party, or to file suit against any such Third Party for such infringement, and Genmab shall bear all the expense of such suit or abatement of infringement. CureVac may, at its own expense, be represented in any such action by counsel of its own choice. If Genmab does not bring such legal action within the earlier of (i) [*****] after the notice provided pursuant to Section 12.1, or (ii) within [*****] prior to any deadline under Applicable Law for bringing such legal action; or if Genmab decides to discontinue any ongoing legal action, CureVac may bring and control any legal action in connection with such infringement of Genmab Other Invention Patent Rights and Joint Patent Rights at its own expense as it reasonably determines appropriate.

12.2.4 Assistance. The non-enforcing Party shall provide such assistance as the enforcing Party shall reasonably request in connection with any action or suit hereunder to prevent or enjoin any such infringement or unauthorized use of a CureVac Patent Right or Genmab Patent Right, including agreeing to be joined as a party to such action or suit and executing legal documents as reasonably requested by the enforcing Party. Such assistance will be provided by a Party, at the enforcing Party's cost.

12.3 Defense.

12.3.1 Defense of CureVac Patent Rights, Patent Rights in LNP Technology and CureVac Other Invention Patent Rights. Except as set forth in subsection 12.3.2 below, as between the Parties, CureVac will have the first right, but not the obligation, to defend against a declaratory judgment action or other action challenging any CureVac Patent Right or Patent Right comprised in LNP Technology Controlled by CureVac or CureVac Other Invention Patent Rights.

12.3.2 Defense of Genmab Other Invention Patent Rights and/or Joint Patent Rights. As between the Parties, Genmab will have the first right, but not the obligation, to defend against a declaratory judgment action or other action challenging any Genmab Other Invention Patent Right or Joint Patent Rights. Genmab shall bear all the expense of such defense.

12.3.3 Taking over the defense. If the Party first responsible for such defense does not take steps to defend (or have defended) within a commercially reasonably time period, or elects not to continue any such defense (in which case it will promptly provide notice thereof to the other Party), then (A) in the case of an election by CureVac not to defend (or have defended) a CureVac Patent Right, Patent Right in LNP Technology Controlled by CureVac or CureVac Other Invention Patent Right, Genmab shall have the right, but not the obligation, to defend such CureVac Patent Right, Patent Right in LNP Technology (to the extent possible under CureVac's license to such LNP Technology) or CureVac Other Invention Patent Right with respect to a Program Antibody, Program Antibody Combination or Product; *provided, however,* that Genmab shall bear all the expenses of such suit, and (B) in the case of an election by Genmab not to defend a Genmab Other Invention Patent Right or Joint Patent Right, CureVac shall have the right, but not the obligation, to take action or bring suit to defend such Patent Right; provided, however that CureVac shall bear all the expenses of such suit.

12.3.4 Control. Notwithstanding the foregoing, any response to a Third Party infringer's counterclaim of invalidity or unenforceability of any CureVac Patent Rights, Patent Right in LNP Technology Controlled by CureVac (to the extent authorized under CureVac's license to such LNP Technology), CureVac Other Invention Patent Rights, Genmab Other Invention Patent Rights or Joint Patent Right shall be controlled by the Party who controls the relevant enforcement proceeding pursuant to this Article 12 unless otherwise mutually agreed by the Parties in writing.

12.3.5 Defense of Genmab Patent Rights. As between the Parties, Genmab shall have the sole right, but not the obligation, to defend against a declaratory judgment action or other action challenging any Genmab Patent Right. Genmab shall bear all the expenses of such defense. With respect to any defense of a Genmab Patent Right where such defense relates to a claim for a CureVac Invention included in such Genmab Patent Right pursuant to Section 11.7.3, Genmab agrees to collaborate with CureVac in good faith at CureVac's cost to defend such claim against such declaratory judgment action or other action challenging such claim [*****]; provided that in the reasonable opinion of Genmab such defense will not entail any significant risk with respect to upholding an adequate patent protection for Genmab Inventions and the Product.

12.4 **Participation.** With respect to any infringement or defensive action identified above in this Article 12, the enforcing or defending Party shall keep the other Party updated and reasonably consult with the other Party with respect to any such action, it being understood that in such consultation the enforcing or defending Party shall take the other Party's comments reasonably into account, *provided*, *however*, that the enforcing or defending Party will have the right to make the final determination in the event of any disagreement between the Parties related to any decision in connection with such action.

12.5 **Damages.** Unless otherwise agreed by the Parties, all monies recovered upon the final judgment or settlement of any infringement action relating to the Development, Manufacture or Commercialization of Product(s) under this Agreement which may be controlled by either Genmab or CureVac and described in this Article 12, in each case will be used as follows:

(i) first to reimburse the controlling Party, and thereafter the non-controlling Party, for each of their reasonable out-of-pocket costs and expenses relating to the action;

(ii) second, the remaining recovery shall then be used to compensate each Party for the respective damages suffered from the infringement of the respective Patent Right based on a lost profits calculation, provided that in the event the remaining portion of the recovery is not sufficient to compensate each Party's damages, such compensation shall be paid on a pro-rata share based on the respective damages/lost profits suffered, *provided*, *however*, if such respective damages/lost profits suffered cannot be reasonably ascertained, then (a) with respect to an action controlled by Genmab, Genmab shall receive [*****] of the recovery and CureVac shall receive [*****] except in the event that the recovery relates to an Opt-In Product in which case the recovery shall be [*****] and (b) with respect to an action controlled by CureVac, the recovery shall be [*****];

(iii) third, the remaining portion of any such recovery to be allocated between the Parties in the same ratio used for the calculation under Section 12.5(ii).

12.6 **Consent and Consultation.** Neither Party shall settle any claim or demand in any such litigation admitting the invalidity or non-infringement of the other Party's Patent Rights (for clarity, including Joint Patent Rights), or otherwise materially negatively impacting the other Party's rights or interests under this Agreement without the prior written consent of the other Party, which consent shall not be unreasonably withheld or delayed. In addition to the foregoing, to the extent any action initiated by Genmab involves any infringement of CureVac Patent Rights, Genmab will consult with CureVac regarding issues relating to such CureVac Patent Rights, and take CureVac's input into good faith consideration.

12.7 Defense and Settlement of Third Party Claims.

12.7.1 If the Development, Manufacture or Commercialization of any Program Antibody, Program Antibody Combination or Product in any country in accordance with this Agreement or other activity of either of the Parties pursuant to the Agreement is alleged by a Third Party to infringe a Third Party's Patent Right, the Party becoming aware of such allegation shall promptly notify the other Party. CureVac has the first right, but not the obligation, to control any defense of any such claim involving alleged infringement of Third Party rights by CureVac's activities under any Program at its own expense and by counsel of its own choice, and Genmab may, at its own expense, choose to be represented in any such action by counsel of its own choice. Genmab has the sole right to control any defense of any such claim involving alleged infringement of Third Party rights by Genmab's activities under the Program at its own expense and by counsel of its own choice, and CureVac may, at its own expense, choose to be represented in any such action by counsel of its own choice. Neither Party may settle any patent infringement litigation under this Section 12.7.1 in a manner that admits the invalidity or unenforceability of the other Party's Patent Rights or Joint Patent Rights or imposes on the other Party restrictions or obligations or other liabilities, without the written consent of such other Party, which consent shall not be unreasonably withheld. Notwithstanding the above, with respect to any Opt-In Product, the Parties shall mutually agree on a common strategy for the defense of any such claim involving alleged infringement of Third Party rights.

12.7.2 If a Third Party sues Genmab or CureVac or any of their Affiliates, distributors or permitted Sublicensees alleging that Genmab's practice of a right granted by CureVac to Genmab hereunder through the Development, Manufacture and/or Commercialization of any Program Antibody, Program Antibody Combination or Product pursuant to this Agreement infringes or will infringe said Third Party's Patent Rights, then, upon the defending Party's request and in connection with the defense of any such Third Party infringement suit, the non-defending Party shall provide reasonable assistance to the defending Party for such defense and/or shall join in any such action if reasonably required by the defending Party in order to defend such claim or to assert all available defenses and claims, and to cooperate reasonably with the defending Party. The defending Party shall not enter into a settlement that imposes a financial obligation upon the non-defending Party or which limits the scope or invalidates any Patent Right of either Party without such Party's prior written consent, which consent shall not be unreasonably withheld or delayed, and in any settlement the defending Party shall always take into consideration the interest of the non-defending Party.

12.8 Common Interest Disclosures. With regard to any information (including materials) disclosed pursuant to this Agreement by one Party to the other Party regarding intellectual property rights owned or controlled by Third Parties, the Parties agree that they have a common legal interest in determining whether, and to what extent, Third Party intellectual property rights may affect the Development, Manufacturing and/or Commercialization of any Product, and have a further common legal interest in defending against any actual or prospective Third Party claims based on allegations of misuse or infringement of intellectual property rights relating to the Development, Manufacturing and/or Commercialization of any Product. Accordingly, the Parties agree that all such information obtained by one Party from the other Party will be used solely for purposes of the Parties' common legal interests with respect to the conduct of this Agreement. All information will be treated as protected by the attorney-client privilege, the work product privilege, and any other privilege or immunity that may otherwise be applicable. By sharing any information, neither Party intends to waive or limit any privilege or immunity that may apply to the shared information. Neither Party shall have the authority to waive any privilege or immunity on behalf of the other Party without such other Party's prior written consent, nor shall the waiver of privilege or immunity resulting from the conduct of one Party be deemed to apply against any other Party.

13. CONFIDENTIALITY.

13.1 Obligation of Confidentiality. As of and after the Effective Date, all Confidential Information disclosed, revealed or otherwise made available to one Party or its Affiliates ("**Receiving Party**") by or on behalf of the other Party ("**Disclosing Party**") under, or as a result of, this Agreement is made available to the Receiving Party solely to permit the Receiving Party to exercise its rights, and perform its obligations, under this Agreement. The Receiving Party shall not use any of the Disclosing Party's Confidential Information for any other purpose, and shall not disclose, reveal or otherwise make any of the Disclosing Party's Confidential Information available to any other person, firm, corporation or other entity, without the prior written authorization of the Disclosing Party, except as explicitly stated in this Article 13.

13.2 Additional Obligations.

13.2.1 Appropriate Safeguards. In furtherance of the Receiving Party's obligations under Section 13.1 hereof, the Receiving Party shall take all reasonable steps, and shall implement all appropriate and reasonable safeguards, to seek to prevent the unauthorized use or disclosure of any of the Disclosing Party's Confidential Information.

13.2.2 Unauthorized Use or Disclosure. The Receiving Party shall furnish the Disclosing Party with written notice immediately of it becoming aware and indicating details of any unauthorized use or disclosure of any of the Disclosing Party's Confidential Information by any employee, officer, director, consultant, CRO, CMO, contractors, agent(s), consultant(s), and Sublicensees (in the case of Genmab), or Financial Partner of/the Receiving Party, and shall take all actions reasonably required in order to prevent any further unauthorized use or disclosure of the Disclosing Party's Confidential Information. Notwithstanding the foregoing, the Receiving Party remains responsible and liable for any unauthorized use by any employee, officer, director, consultant, CRO, CMO, contractors, agent(s), consultant(s), and Sublicensees (in the case of Genmab), or Financial Partner of the Receiving Party.

13.3 Limitations. The Receiving Party's obligations under Sections 13.1 shall not apply to the extent that the Receiving Party can demonstrate by competent written evidence that any of the Disclosing Party's Confidential Information:

(i) is known by the Receiving Party at the time of its receipt, and not through a prior disclosure by or on behalf of the Disclosing Party;

(ii) is in the public domain by use and/or publication before its receipt from the Disclosing Party, or thereafter enters the public domain through no fault of the Receiving Party;

(iii) is subsequently disclosed to the Receiving Party by a Third Party who may lawfully do so and is not under an obligation of confidentiality regarding the Confidential Information; or

(iv) is developed by the Receiving Party independently of Confidential Information or material received from the Disclosing Party.

13.4 Authorized Disclosures.

13.4.1 Necessary Disclosures. Each Party may disclose the other Party's Confidential Information as expressly permitted by this Agreement or if and to the extent such disclosure is reasonably necessary in the following instances:

(i) disclosure to judicial, governmental or other regulatory agencies or authorities in connection with the filing, prosecution, maintenance and defense of Patent Rights as permitted by this Agreement;

(ii) disclosure to judicial, governmental or other regulatory agencies or authorities to gain or maintain approval, authorizations or the like to Develop, Manufacture or Commercialize a given Product that such Party has a license or right to Develop, Manufacture or Commercialize hereunder in a given country or jurisdiction;

(iii) prosecuting or defending litigation as permitted by this Agreement;

(iv) disclosure to its and its Affiliates' employees, officers, directors, consultants, CROs, CMOs, contractors, agent(s), consultant(s), and to Sublicensees (in the case of Genmab), in each case on a need-to-know basis for the purposes as expressly authorized and contemplated by this Agreement, including for the Development, Manufacturing and/or Commercialization of the Program Antibodies or Products (or for such entities to determine their interest in performing such activities) in accordance with this Agreement, on the condition that such Affiliates or Third Parties agree to be bound by confidentiality and non-use obligations that substantially are no less stringent than those confidentiality and non-use provisions contained in this Agreement;

(v) disclosure to such Party's attorneys, independent accountants or financial advisors for the sole purpose of enabling such attorneys, independent accountants or financial advisors to provide advice to the Receiving Party, on the condition that such attorneys, independent accountants and financial advisors agree to be bound by the confidentiality and non-use obligations contained in this Agreement; or

(vi) disclosure to any bona fide potential or actual investor, insurer, acquirer, merger partner, Sub-Licensee (in the case of Genmab) or other bona fide potential or actual financial partner or funding source ("**Financial Partner**") solely for the purpose of evaluating or carrying out an actual or potential investment, acquisition, license or collaboration, and to any related persons directly connected with such activity being contemplated with the Financial Partner, such as an advisory firm or investment bank; provided that in connection with such disclosure, the Disclosing Party shall inform each disclosee of the confidential nature of such Confidential Information and disclosure shall be subject to the agreement of each disclosee to be bound by confidentiality and non-use obligations that substantially are no less stringent than those confidentiality and non-use provisions contained in this Agreement.

13.4.2 **Required Disclosures.** If a Party is required by judicial, governmental or administrative process, including to comply with Applicable Laws (including stock exchange rules) or pursuant to Section 13.4.1(iii), to disclose Confidential Information that is subject to the non-disclosure provisions of Section 13.1, such Party shall to the extent reasonably possible provide the other Party with reasonable advance notice of the disclosure that is being sought in order to provide the other Party an opportunity to challenge or limit the disclosure obligations. Confidential Information that is disclosed by judicial, governmental or administrative process shall remain otherwise subject to the confidentiality and non-use provisions of this Article 13, and the Party disclosing Confidential Information pursuant to judicial, governmental or administrative process shall take all steps reasonably necessary, including without limitation to seek an order of confidentiality, to ensure the continued confidential treatment of such Confidential Information.

13.4.3 **Disclosure to the LNP Technology provider.** [*****] solely to the extent required under the agreement between the LNP Technology provider and CureVac, and in any case provided that such LNP Technology provider agrees to be bound by confidentiality and non-use obligations that substantially are no less stringent than those confidentiality and non-use provisions contained in this Agreement.

13.4.4 **Disclosure to a sublicensee of CureVac of the rights granted in Section 11.6.** [*****]. For avoidance of doubt, CureVac may not disclose any other Confidential Information of Genmab to such sublicensee, including Genmab Know-How relating to such Generally Applicable Patent Rights which is not disclosed in said Patent Rights.

13.5 **Survival.** All of the Receiving Party's obligations under this Article 13 hereof, with respect to the protection of the Disclosing Party's Confidential Information, shall for a period of [*****] survive the expiration or termination of this Agreement for any reason whatsoever.

13.6 **Public Announcements, Press Releases.** The Parties shall issue a press release in the form attached hereto as **Exhibit 13.6** at an agreed time promptly after the Effective Date. Thereafter, except as otherwise expressly permitted in this Agreement, and except as may be required by Applicable Law, including the listing standards or agreements of any national or international securities exchange, neither Party shall issue any press release or public statement disclosing information relating to this Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party, not to be unreasonably withheld, conditioned, or delayed; provided, that notwithstanding the foregoing, to the extent reasonably possible on prior notice to CureVac, and in reasonable time for CureVac to consider if the content requires an announcement by CureVac, Genmab may make disclosures relating to the development or commercialization of a Product, including publication of the results of research or development activities, any clinical trial conducted on a Product whether or not conducted by Genmab, Regulatory Filings, Regulatory Approvals or any health or safety matter related to a Product. For all other public disclosures, subject to Section 13.7, if either Party desires to issue a press release or other public statement disclosing information relating to this Agreement or the transactions contemplated hereby or the terms hereof, the issuing Party will provide the other Party with a copy of the proposed press release or public statement. The issuing Party shall specify with each such proposed press release or public statement, taking into account the urgency of the matter being disclosed, a reasonable period of time within which the Receiving Party may provide any comments on such proposed press release or public statement (but in no event less than [*****], unless reasonably necessary to comply with Applicable Law). If the reviewing Party provides any comments, the Parties will consult on such proposed press release or public statement and work in good faith to prepare a mutually acceptable proposed press release or public statement. For avoidance of doubt, neither Party may make such other public disclosure without the other Party's prior written consent, unless reasonably necessary to comply with any Applicable Law. Each Party may repeat any information relating to this Agreement that has already been publicly disclosed in accordance with this Section 13.6, provided such information continues as of such time to be accurate.

13.7 **Publication.** With respect to any paper or presentation proposed for disclosure by Genmab that includes Confidential Information of CureVac (excluding any information that falls under the exceptions of Section 13.6), CureVac may review and comment and approve any such proposed paper or presentation, such approval not to be unreasonably withheld, conditioned, or delayed. Genmab shall submit to CureVac the proposed publication or presentation (including posters, slides, abstracts, manuscripts, marketing materials and written descriptions of oral presentations) at least [*****] prior to the date of submission for publication or the date of presentation, whichever is earlier, of any of such submitted materials. CureVac shall review such submitted materials and respond to Genmab as soon as reasonably possible, but in any case, within [*****] ([*****]) after receipt thereof. [*****]. For avoidance of doubt, CureVac shall not make any publication without Genmab's prior written consent.

14. INDEMNIFICATION AND REPRESENTATIONS AND WARRANTIES.

14.1 **Indemnification by Genmab.** Genmab will defend, indemnify and hold CureVac and its Affiliates and their directors, officers, employees, consultants, agents and contractors (the "**CureVac Indemnified Parties**") harmless from and against [*****] resulting or arising from (A) [*****] (B) [*****] or (iii) [*****]; except, in each case, to the extent caused by the negligence or willful misconduct of any of the CureVac Indemnified Parties. CureVac will give Genmab prompt notice of any such claim or lawsuit. Such notice shall include a reasonable identification of the alleged facts giving rise to such claim for indemnification. The failure to deliver written notice to CureVac within a reasonable time after the commencement of any action with respect to a claim shall only relieve CureVac of its indemnification obligations if and to the extent CureVac is actually and materially prejudiced thereby. Without limiting the foregoing indemnity, Genmab will have the right to compromise, settle or defend any such claim or lawsuit (to the extent subject to indemnity by Genmab as set forth herein); provided that (i) no offer of settlement, settlement or compromise by Genmab shall be binding on CureVac without its prior written consent, not to be unreasonably withheld, conditioned or delayed, unless such settlement fully releases CureVac without any liability, loss, cost or obligation incurred by CureVac and in no event shall any settlement or compromise admit or concede that any aspect of any of the CureVac Patent Rights, CureVac Other Invention Patent Rights or the Joint Patent Rights is invalid or unenforceable or adversely affect the scope of any of the CureVac Patent Rights, CureVac Other Invention Patent Rights or the Joint Patent Rights; and (ii) Genmab shall not have authority to admit any wrongdoing or misconduct on the part of CureVac Indemnified Parties, any licensor of LNP Technology or contractors except with CureVac's prior written consent.

14.2 **Indemnification by CureVac.** CureVac will defend, indemnify and hold Genmab and its Affiliates and their directors, officers, employees, consultants, agents, Sublicensees and contractors (the "**Genmab Indemnified Parties**") harmless from and against any and all losses, liabilities, claims, suits, proceedings, expenses, fees, recoveries and damages, including reasonable legal expenses and costs including attorneys' fees, resulting or arising out of any claim by any Third Party resulting or arising from (i) [*****] or (ii) [*****] or (iii) [*****] except, in each case, to the extent caused by the negligence or willful misconduct of any of the Genmab Indemnified Parties. Genmab will give CureVac prompt notice of any such claim or lawsuit. Such notice shall include a reasonable identification of the alleged facts giving rise to such claim for indemnification. The failure to deliver written notice to CureVac within a reasonable time after the commencement of any action with respect to a claim shall only relieve CureVac of its indemnification obligations if and to the extent CureVac is actually and materially prejudiced thereby. Without limiting the foregoing indemnity, CureVac will have the right to compromise, settle or defend any such claim or lawsuit (to the extent subject to indemnity by CureVac as set forth herein); provided that (A) no offer of settlement, settlement or compromise by CureVac shall be binding on Genmab without its prior written consent, not to be unreasonably withheld, conditioned or delayed, unless such settlement fully releases Genmab without any liability, loss, cost or obligation incurred by Genmab and in no event shall any settlement or compromise admit or concede that any aspect of any of the Genmab Program Patent Rights, Genmab Other Patent Rights or the Joint Patent Rights is invalid or unenforceable or adversely affect the scope of any of the Genmab Program Patent Rights, Genmab Other Patent Rights or the Joint Patent Rights; and (B) CureVac shall not have authority to admit any wrongdoing or misconduct on the part of any Genmab Indemnified Parties except with Genmab's prior written consent.

14.3 **Additional Indemnification Procedures.** The indemnifying Party shall notify the indemnified Party of its intentions as to the defense of the claim in writing within [*****] after the indemnifying Party's receipt of notice of the claim from the indemnified Party. If the indemnifying Party assumes the defense of a claim against an indemnified Party, the indemnifying Party shall have no obligation or liability under this Article 14 as to any claim for which settlement or compromise of such claim or an offer of settlement or compromise of such claim is made by the indemnified Party without the prior written consent of the indemnifying Party. The indemnified Party shall reasonably cooperate with the indemnifying Party in its defense of the claim (including copying and making documents and records available for review and making persons within its control available for pertinent testimony in accordance with the confidentiality provisions of Article 14) at the indemnifying Party's reasonable, pre-approved expense. If the indemnifying Party assumes defense of the claim, the indemnified Party may participate in, but not control, the defense of such claim using attorneys of its choice and at its sole cost and expense (i.e., with such cost and expense not being covered by the indemnifying Party). If the indemnifying Party does not agree to assume the defense of the claim asserted against the indemnified Party (or does not give notice that it is assuming such defense), or if the indemnifying Party assumes the defense of the Claim in accordance with this Section 14.3, but yet fails to defend or take other reasonable, timely action, in response to such claim asserted against the indemnified Party, the indemnified Party shall have the right to defend or take other reasonable action to defend its interests in such proceedings, and shall have the right to litigate, settle or otherwise dispose of any such claim; *provided, however,* that no Party shall have the right to settle a claim in a manner that would adversely affect the rights granted to the other Party hereunder, or would materially conflict with this Agreement, without the prior written consent of the Party entitled to control the defense of such claim, which consent shall not be unreasonably withheld, delayed or conditioned.

14.4 **CureVac Representations and Warranties.** Subject to the disclosures in the attached Exhibit 14.4 ("**Disclosure Letter**") CureVac represents and warrants to Genmab as of the Effective Date that:

(i) it is the sole and exclusive owner of the Patent Rights listed in **Exhibit 1.59**;

(ii) to CureVac's knowledge, all inventors have assigned their rights to the Patent Rights listed in **Exhibit 1.59** to CureVac, and there have been no inventorship or ownership challenges with respect to these Patent Rights;

(iii) CureVac has the full right, power and authority to grant the rights and licenses it purports to grant hereunder, and neither CureVac nor any of its Affiliates has granted any Third Party any rights or licenses that would interfere or be inconsistent with Genmab's rights and licenses hereunder;

(iv) to CureVac's knowledge, use of the CureVac Technology by Genmab in accordance with the terms of this Agreement, including Genmab's further Development, Manufacturing and/or Commercialization of each Product will not infringe on the rights of any Third Party, including any Third Party intellectual property rights;

(v) to CureVac's knowledge, CureVac has received no written notice of or any written demand relating to any threatened or pending litigation which would reasonably lead it to believe that Genmab's exercise of any rights granted by CureVac under this Agreement in respect of the CureVac Technology will infringe any Patent Rights or misappropriate other intellectual property right of any Third Party;

(vi) to CureVac's knowledge, CureVac has received no currently pending administrative proceedings or litigation or threatened administrative proceedings or litigation seeking to invalidate or otherwise challenge any Curevac Patent Right(s);

(vii) CureVac has not given any written notice to any Third Party asserting infringement by such Third Party of any of the CureVac Technology and, to CureVac's knowledge, there is no unauthorized use, infringement or misappropriation of the CureVac Technology;

(viii) CureVac Controls all right, title and interest in and to the CureVac Technology;

(ix) The CureVac Technology is free and clear of all encumbrances, security interests, options, and charges of any kind;

(x) To CureVac's knowledge, the CVCMs are not required for the Development, Manufacture or Commercialization of Products under this Agreement;

(xi) CureVac has provided to Genmab an accurate, current copy of the BioNTech License and Roche License, respectively, and it will not without Genmab's prior written consent amend the BioNTech License or Roche License in any way that may have an adverse effect on the licenses granted to Genmab herein;

(xii) CureVac has provided to Genmab accurate, current and redacted copies via the data room of (i) the Acuitas License and (ii) the Arcturus License and (iii) License Agreement for [*****] between CureVac AG and GeneArt AG dated [*****] including any amendments thereto; and (iv) Licensed Agreement between CureVac AG and TriLink Biotechnologies LLC, including any amendments thereto; and CureVac will not without Genmab's prior written consent amend or terminate any of these agreements in any way that may have an adverse effect on the licenses granted to Genmab herein; and

(xiii) to CureVac's knowledge, CureVac is not in material breach of the Acuitas License or Arcturus License, there is no current dispute under the Acuitas License or Arcturus License and any such agreement is in full force and effect in accordance with its terms.

14.5 **Genmab Representations and Warranties.** Genmab represents and warrants to CureVac that at the time of [*****]. For avoidance of doubt, such representation and warranty shall only apply with respect to the Antibody or Antibody Combination to be included in the Product and shall not apply to any Curevac Technology, Other Technology or LNP Technology.

14.6 **Representations, Warranties of the Parties to Each Other.** CureVac and Genmab each represents and warrants and covenants with respect to itself only as of the Effective Date that:

(i) the execution, delivery and performance of this Agreement have been duly authorized by all necessary action on the part of such Party, its officers and directors, and does not conflict with, violate, or breach any agreement to which such Party is a party, or such Party's corporate charter, bylaws or similar organizational documents;

(ii) this Agreement constitutes a legal, valid and binding obligation of such Party that is enforceable against it in accordance with its terms, except as such enforceability may be limited by general principles of equity or to applicable competition, bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws relating to, or affecting generally, the enforcement of applicable creditors' rights and remedies;

(iii) it is a company or corporation duly organized, validly existing, and in good standing under the laws of the jurisdiction in which it is incorporated;

(iv) it has not, and will not, after the Effective Date and during the Term, grant any right to any Third Party that would conflict with the rights granted to the other Party hereunder (but only while such rights remain in effect in accordance with the terms of this Agreement); and

(v) it has not, and will not, after the Effective Date and during the Term, knowingly use any employee, agent, contractor or consultant in connection with the Development or Commercialization of Products who has been debarred by any governmental authority, or, to such Party's knowledge, is the subject of debarment proceedings by a governmental authority.

14.7 **Compliance with Law.** Each Party shall comply with all Applicable Laws in its performance of activities contemplated under this Agreement.

14.8 **Diligence of Genmab.** [*****]. CureVac acknowledges and agrees that it has provided all information relating to CureVac Technology that CureVac reasonable believes is necessary for Genmab to conduct and complete a proper due diligence relating to the Collaboration Targets and Products, and that it has answered truthfully to all questions of Genmab relating to the due diligence of the CureVac Technology.

14.9 **Disclaimer** THE REPRESENTATIONS AND WARRANTIES OF THE PARTIES SET FORTH IN THIS AGREEMENT ARE THE SOLE AND EXCLUSIVE REPRESENTATIONS AND WARRANTIES OF THE PARTIES RELATING TO OR MADE IN CONNECTION WITH THIS AGREEMENT, AND NEITHER PARTY MAKES OR HAS MADE ANY REPRESENTATIONS OR WARRANTIES NOT EXPRESSLY SET FORTH IN THIS AGREEMENT. CUREVAC AND GENMAB ARE NOT RELYING ON, AND EACH HEREBY DISCLAIMS, ALL REPRESENTATIONS AND WARRANTIES NOT EXPRESSLY CONTAINED HEREIN (WHETHER EXPRESS OR IMPLIED), INCLUDING WITH RESPECT TO EACH OF THEIR RESEARCH, DEVELOPMENT AND COMMERCIALIZATION EFFORTS HEREUNDER, WHETHER THE PRODUCTS CAN BE SUCCESSFULLY DEVELOPED OR MARKETED, THE ACCURACY, PERFORMANCE, UTILITY, RELIABILITY, TECHNOLOGICAL OR COMMERCIAL VALUE, COMPREHENSIVENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WHATSOEVER OF THE PRODUCTS, OR THE NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

14.10 **Limitation of Liability.** IN NO EVENT SHALL EITHER CUREVAC OR GENMAB BE LIABLE FOR REMOTE, SPECULATIVE, PUNITIVE OR EXEMPLARY, OR OTHER SPECIAL DAMAGES, INCLUDING LOST PROFITS, ARISING OUT OF THIS AGREEMENT BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY (OTHER THAN (A) PUNITIVE OR EXEMPLARY DAMAGES REQUIRED TO BE PAID TO (I) A THIRD PARTY PURSUANT TO A NON-APPEALABLE ORDER OF A COURT OF COMPETENT JURISDICTION IN CONNECTION WITH A THIRD PARTY CLAIM FOR WHICH THE INDEMNIFIED PARTY IS ENTITLED TO INDEMNIFICATION HEREUNDER OR (II) A PARTY PURSUANT TO A NON-APPEALABLE ORDER OF A COURT OF COMPETENT JURISDICTION IN CONNECTION WITH A VIOLATION OF PATENT OR OTHER INTELLECTUAL PROPERTY RIGHTS, (B) SUCH DAMAGES ARISING OUT OF ANY BREACH OF ARTICLE 13 OR (C) SUCH DAMAGES ARISING OUT OF THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF THE LIABLE PARTY). Notwithstanding the foregoing, it is expressly understood and agreed that nothing contained in this Section 14.10 shall limit, alter, or waive in any manner or respect any defenses available to any Person, any burdens of proof or legal standards required to be met by any Person under Applicable Laws or any indemnification rights or obligations of either Party.

15. TERM AND TERMINATION.

15.1 **Term.** The term of this Agreement will commence on the Effective Date and end on the expiration of all applicable royalty payment obligations to CureVac under this Agreement, unless terminated earlier according to the terms and conditions of this Agreement ("**Term**"). Upon expiry of this Agreement in a country and provided and to the extent that this Agreement is not terminated after such expiry by CureVac in accordance with Sections 15.4 and 15.5, Genmab's licenses under Article 2 for such country shall become a fully paid-up, perpetual, and non-exclusive license.

15.2 **Termination by CureVac.** CureVac is entitled to terminate this Agreement in its entirety, if Genmab has not made a Product Selection in relation to the First Collaboration Program within [*****] after the Effective Date or has not exercised an Option within the Option Period.

15.3 **Termination at Will by Genmab.** Genmab may terminate this Agreement in its entirety or on a Program-by-Program (excluding any Opt-In Program), at any time without cause upon (i) [*****] prior written notice to CureVac before the end of the last to expire Research Period (to be determined on a Program-by-Program basis or (ii) upon [*****] prior written notice to CureVac after the end of the last to expire Research Period (to be determined on a Program-by-Program basis). In the event Genmab decides to cease permanently the further research and Development under the First Collaboration Program, or under any Other Pre-IND Program, including the Development of a Product resulting from any such Program, it shall promptly inform the JRC or Collaboration Committee, as applicable, hereof for discussion with the JRC/Collaboration Committee, and unless otherwise agreed within the JRC/Collaboration Committee, Genmab shall terminate this Agreement with respect to the First Collaboration Target and First Program Antibody, or the Optioned Target and respective Other Program Antibody, as applicable. For the termination of an Opt-In Program the terms and conditions of Sections 7.8 and 7.9 shall apply. During such termination periods, as applicable, the Parties shall cooperate in the wind down of activities under this Agreement or under the Program being terminated in a commercially reasonable manner.

15.4 **Termination for Cause by Either Party.** In the event that either Party ("**Breaching Party**") commits a material breach or default of any of its obligations hereunder of a general nature under this Agreement or in relation to any specific Program ("**Program Breach**") the other Party hereto ("**Non-Breaching Party**") may give the Breaching Party written notice of such material breach or default, and shall request that such material breach or default be cured as soon as reasonably practicable. In the event that the Breaching Party fails to cure such breach or default within [*****] after the date of the Non-Breaching Party's written notice thereof (in the event of default of payment within [*****] after the date of the Non- Breaching Party's notice), the Non-Breaching Party may (i) terminate this Agreement in the event of a material breach of general nature; or (ii) terminate the Program in the case of a Program Breach, by giving written notice of termination to the Breaching Party. In the event the Breaching Party indicates in writing that it will be unable or is unwilling to cure the breach, this Agreement or the Program, as applicable, may be terminated by the Non-Breaching Party with immediate effect. If following the Commercialization of a Product the breach relates to one country only or a group of countries of the Territory the Non-Breaching Party shall only have the right to terminate this Agreement in relation to such country or countries. If the Breaching Party in good faith disputes such material breach or disputes the failure to cure or remedy such material breach and provides written notice of that dispute to the Non-Breaching Party within the [*****] period, then the matter will be addressed under the dispute resolution provisions in Section 17.5, and the Non-Breaching Party may not terminate this Agreement, or the Program as applicable, until it has been determined under such dispute resolution procedure that the Non-Breaching Party is in material breach of this Agreement or has committed a Program Breach, as the case may be. Termination of this Agreement in accordance with this Section 15.4 shall not affect or impair the Non-Breaching Party's right to pursue any legal remedy, including the right to recover damages, for any harm suffered or incurred by the Non-Breaching Party as a result of such breach or default.

15.5 [*****].

15.6 **Termination Generally.** The termination of the Agreement in whole or in part under this Section 15 shall not create any obligations to undo or refund (in Dutch "*ongedaanmakingsverbintenissen*") services rendered and payments made in accordance with the Agreement prior to the effective date of the termination.

16. CONSEQUENCES OF TERMINATION.

16.1 **Termination Due to CureVac's Breach.** If Genmab terminates this Agreement or a Program under Section 15.3, the rights and obligations of the Parties hereunder shall terminate (either in their entirety or in relation to the particular Program) as of the effective date of such termination and there shall be the following consequences (to be interpreted on a Program basis in the event of termination of a Program)

(i) no later than [*****] after the effective date of such termination, each Party shall return or cause to be returned to the other Party or, at the other Party's option, destroy (and certify in writing the destruction of) all Confidential Information in tangible form received from the other Party and all copies in any medium thereof; *provided, however,* that each Party may retain any Confidential Information reasonably necessary for such Party's continued practice under any license(s) which do not terminate pursuant to this Section 16.1, and may retain the Confidential Information solely for the purpose of ensuring its compliance with this Agreement and Applicable Law by electronic files created in the ordinary course of business during automatic system back-up procedures pursuant to its electronic record retention and destruction practices that apply to its own general electronic files and information so long as such electronic files are (A) maintained only on centralized storage servers (and not on personal computers or devices), (B) not accessible by any of its personnel (other than its information technology specialists), and (C) are not otherwise accessed subsequently except with the written consent of the other Party or as required by law. Such retained copies of documents and Confidential Information shall remain subject to the confidentiality and non-use obligations set forth in this Agreement;

(ii) Subject to Section 16.1(iii) below CureVac shall, within [*****] after the effective date of such termination return or cause to be returned to Genmab all substances or compositions delivered or provided by Genmab, as well as any other Genmab Material provided by Genmab in any medium;

(iii) each Party shall pay all amounts then due and owing as of the termination effective date;

(iv) CureVac shall provide access to Genmab, to the extent not previously provided, to the CureVac Know-How (other than the Know-How included in the CureVac Manufacturing Technology) in its possession or under its Control relating to the Collaboration Targets and Products;

(v) Unless otherwise explicitly agreed in the Early Clinical Supply Agreement or any MSA, termination shall not affect the operation of the Early Clinical Supply Agreement or any MSA;

(vi) effective only in the event of such termination, CureVac hereby grants to Genmab an exclusive (even as to CureVac) and sublicensable license in the Field and in the Territory under the CureVac Technology to Develop, Manufacture and Commercialize any Products identified prior to termination, *provided, however,* that any payment obligations under Article 10 shall survive the termination of the Agreement in consideration for the exclusive license of Genmab under this Section 16.1(vi); and

(vii) except as set forth in this Section 16.1 and for the surviving provisions set forth in Section 16.3 below, the rights and obligations of the Parties hereunder shall terminate.

For the avoidance of doubt, the rights and obligations of Genmab and CureVac under this Section 16.1 in the event of a termination due to CureVac's breach shall not exceed or be in any way broader than the rights and obligation of Genmab and CureVac under the Agreement.

16.2 **Termination Due to Genmab's Breach under 15.4, [*****], CureVac's termination under Section 15.2 or Genmab's termination under Section 15.3.** If CureVac terminates this Agreement as a whole or with respect to a specific Program under Sections 15.2, 15.4 or 15.5, or if Genmab terminates this Agreement as a whole or with respect to a specific Program under Section 15.3, the rights and obligations of the Parties hereunder with respect to the specific Program or all Programs, as the case may be, shall terminate as of the effective date of such termination and:

(i) Genmab's licenses under Article 2 of this Agreement and any sub-licenses under Article 4 shall automatically lapse and all of CureVac's rights to the CureVac Technology automatically revert back to CureVac;

(ii) no later than [*****] after the effective date of such termination, each Party shall return or cause to be returned to the other Party or, at the other Party's option, destroy (and certify in writing the destruction of), all Confidential Information of the Disclosing Party in tangible form received from the other Party and all copies in any medium thereof; *provided, however,* that each Party may retain any Confidential Information reasonably necessary for such Party's continued practice under any license(s) which do not terminate pursuant to this Article 16, and may retain the Confidential Information solely for the purpose of ensuring its compliance with this Agreement and Applicable Law by electronic files created in the ordinary course of business during automatic system back-up procedures pursuant to its electronic record retention and destruction practices that apply to its own general electronic files and information so long as such electronic files are (A) maintained only on centralized storage servers (and not on personal computers or devices), (B) not accessible by any of its personnel (other than its information technology specialists), and (C) are not otherwise accessed subsequently except with the written consent of the other Party or as required by law. Such retained copies of documents and Confidential Information shall remain subject to the confidentiality and non-use obligations set forth in this Agreement;

(iii) each Party shall pay all amounts then due and owing as of the termination effective date;

(iv) at the request of CureVac, Genmab grants to CureVac a non-exclusive, royalty-free, perpetual and worldwide license [*****] under the Genmab Program Patent Rights required to Develop, Manufacture and/or Commercialize products containing one or more mRNA construct(s) that is/are designed to express an Antibody or Antibody Combination, as applicable, directed at the respective Collaboration Target(s) or Collaboration Target Combination(s) covered by the termination. For clarity, such unblocking license to Genmab Program Patent Rights shall only comprise rights to target class-related or target-related Genmab Inventions, including the examples of Inventions set out in **Exhibit 11.3**, Sections 2(b), 2(c), 2(d), 2(e), 2(f), 2(g) (solely to the extent referring to Sections 2(b), 2(c), 2(d), 2(e) or 2(f)), 2(h) (solely to the extent referring to Sections 2(b), 2(c), 2(d), 2(e) or 2(f) via Section 2(g)), 2(q), 2(r), 2(u) and 2(v), and shall not include a license to any specific Antibody sequence(s), Program Antibody(-ies), Program Antibody Combination(s) or Products nor any rights in Genmab Background Technology; and

(v) at the request of CureVac, Genmab will enter into good faith discussions with CureVac regarding the possibility of [*****]. For avoidance of doubt, neither Party shall have any obligation to enter into any agreement regarding [*****] comprised by the termination.

16.3 **Effect of Expiration or Termination; Survival.** Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing prior to such expiration or termination. Any expiration or termination of this Agreement shall be without prejudice to the rights of either Party against the other accrued or accruing under this Agreement prior to expiration or termination. The provisions of Articles 1, (to the extent required to give effect to other surviving provisions), 11, 12, 13 and 16 and Sections 2.5, 2.7, 5.8, 14.1, 14.2, 14.3, 14.9, 14.10, 17.3, 17.4, 17.5, 17.7, 17.8, 17.11, 17.12, 17.13, 17.14 and all other provisions contained in this Agreement that by their explicit terms or from which it is clear from the context survive expiration or termination of this Agreement, and any schedules contained in this Agreement to which reference is made in any surviving term, shall survive the expiration or termination of this Agreement. In the event of a termination of this Agreement with respect to only one of the Programs, and continuation of other Programs under this Agreement, the termination and consequences of termination provisions only apply to the terminated Program, and the Agreement will remain in full force and effect with respect to the continuing Programs.

17. **GENERAL PROVISIONS.**

17.1 **Assignment.** This Agreement may not be assigned or otherwise transferred by either Party without the prior written consent of the other Party, which consent will not be unreasonably withheld, conditioned or delayed; *provided*, *however,* each of the Parties may, without such consent, but with notification, assign this Agreement and its rights and obligations hereunder to any of its Affiliates or in connection with the transfer or sale of all or substantially all of the portion of its business to which this Agreement relates or in the event of its merger or consolidation with a Third Party. Further, Genmab may, without such consent but with notification, assign its rights and obligations on a Program-by-Program basis to an Affiliate [*****]. Any permitted assignee will assume all obligations of its assignor under this Agreement in writing concurrent with the assignment. Any purported assignment in violation of this Section 17.1 will be void. Except as otherwise provided herein, this Agreement shall be binding upon and inure to the benefit of the Parties and their successors and permitted assignors under this Section 17.1.

17.2 **Force Majeure.** If the performance of any part of this Agreement by either Party, or any obligation under this Agreement, is prevented, restricted, interfered with or delayed by reason of any cause beyond the reasonable control of the Party liable to perform, unless conclusive evidence to the contrary is provided, the Party so affected shall, upon giving written notice to the other Party, be excused from such performance to the extent of such prevention, restriction, interference or delay, provided that the affected Party shall use its Commercially Reasonable Efforts to avoid or remove such causes of non-performance and shall continue performance with the utmost dispatch whenever such causes are removed. When such circumstances arise and persist for a period of at least [*****], the Parties shall discuss what, if any, modification of the terms of this Agreement may be required in order to arrive at an equitable solution.

17.3 **Notices.** All notices which are required or permitted hereunder shall be in writing and sufficient if delivered personally, sent by e-mail, sent by internationally-recognized overnight courier or sent by registered or certified mail, postage prepaid, return receipt requested, addressed as follows:

(i) if to CureVac, addressed to:

CureVac AG

Attention:	Chief Executive Officer with copy to: General Counsel
Address:	Paul-Ehrlich-Str. 15 72076 Tübingen, Germany
Email:	[*****]

(ii) if to Genmab, addressed to:

Genmab A/S
Attention: [*****]

Email: [*****]

or

[*****]

or

[*****]

or to such other address(es) as the Party to whom notice is to be given may have furnished to the other Party in writing in accordance herewith. Any such notice shall be deemed to have been given: (a) when delivered if personally delivered or sent by e-mail on a Business Day (or if delivered or sent on a non-business day, then on the next Business Day); (b) on the Business Day after dispatch if sent by nationally-recognized overnight courier; or (c) on the [*****] Business Day following the date of mailing, if sent by mail.

17.4 **Governing Law.** This Agreement and all disputes arising hereunder, shall be exclusively governed by, and interpreted and enforced in accordance with the laws of the Netherlands, without reference to its conflict of laws principles. The United Nations Convention of International Contracts on the Sale of Goods (the Vienna Convention) does not apply to this Agreement.

17.5 Dispute Resolution.

17.5.1 Unless otherwise set forth in this Agreement, in the event of any dispute arising out of or in connection with this Agreement, including any alleged breach under this Agreement or any dispute relating to the validity, performance, construction or interpretation of this Agreement, the Parties shall refer such dispute to the CEO (or its C-level delegate) of CureVac and the CEO (or its C-level delegate) of Genmab. If the dispute has not been settled pursuant to the said rules within [*****] following the reference of the dispute to the senior management representatives of the Parties, either Party may submit the dispute to final and binding arbitration.

17.5.2 Any dispute arising out of or in connection with this Agreement, including any issue relating to the validity, performance, construction or interpretation of this Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in Section 17.5.1, shall be submitted to and settled by arbitration in accordance with the NAI Arbitration Rules of the Netherlands Arbitration Institute (the "**NAI**") in effect on the date of the commencement of the arbitration proceedings. The existence, nature and details of any such dispute(s), and all communications between the Parties related thereto, shall be considered Confidential Information of the Parties and shall be treated in accordance with the terms of Article 12 above. Any Confidential Information may be disclosed by either Party to counsel, experts or other advisors on the arbitration under obligations of confidentiality. The decision of the arbitrators shall be final and binding upon the Parties. The location of arbitration will be Amsterdam, the Netherlands. The arbitration will be heard and determined by [*****] arbitrator, who will be jointly selected by Genmab and CureVac. If, within [*****] following the date upon which a claim is received by the respondent, the Parties cannot agree on a mutually appointed arbitrator, the arbitration will be heard and determined by [*****] arbitrators, with [*****] arbitrator being appointed by each Party and the [*****] arbitrator being appointed by the NAI directly (without application of the list procedure of article 14 NAI Arbitration Rules). The language of the arbitration proceeding will be English. Notwithstanding the provisions of this Section 17.5.2, each Party shall have the right to seek interim injunctive relief in any court of competent jurisdiction as such Party deems necessary to preserve its rights and to protect its interests.

17.6 Severability. If any provision of this Agreement is determined by any court or administrative tribunal of competent jurisdiction to be invalid or unenforceable, the Parties shall negotiate in good faith a replacement provision that is commercially equivalent, to the maximum extent permitted by Applicable Law, to such invalid or unenforceable provision. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of the other provisions of this Agreement. Nor shall the invalidity or unenforceability of any provision of this Agreement in one country or jurisdiction affect the validity or enforceability of such provision in any other country or jurisdiction in which such provision would otherwise be valid or enforceable.

17.7 Entire Agreement and Amendments. This Agreement, together with all Exhibits attached hereto, constitutes the entire agreement between the Parties regarding the subject matter hereof (including the Products), and supersedes all prior agreements, understandings and communications between the Parties, with respect to the subject matter hereof (including the Products), including the Confidentiality Agreements and Material Transfer Agreement. The foregoing may not be interpreted as a waiver of any remedies available to either Party as a result of any breach prior to the Effective Date, by the other Party of its obligations under the Confidentiality Agreements or Material Transfer Agreement. No modification or amendment of this Agreement shall be binding upon the Parties unless in writing and executed by the duly authorized representative of each of the Parties; this shall also apply to any change of this Section 17.7.

17.8 **Waivers.** The failure by either Party hereto to assert any of its rights hereunder, including the right to terminate this Agreement due to a breach or default by the other Party hereto, shall not be deemed to constitute a waiver by that Party of its right thereafter to enforce each and every provision of this Agreement in accordance with its terms.

17.9 **Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

17.10 **Independent Contractors.** The Parties are independent contractors and this Agreement shall not constitute or give rise to an employer-employee, agency, partnership or joint venture relationship among the Parties and each Party's performance hereunder is that of a separate, independent entity.

17.11 **Language.** This Agreement, and any amendments or modifications thereto, shall be executed in the English language. No translation, if any, of this Agreement into any other language shall be of any force or effect in the interpretation of this Agreement or in determination of the intent of either of the Parties hereto.

17.12 **Headings.** The headings are placed herein merely as a matter of convenience and shall not affect the construction or interpretation of any of the provisions of this Agreement.

17.13 **Third Parties.** None of the provisions of this Agreement shall be for the benefit of or enforceable by any Third Party which shall be a Third Party beneficiary to this Agreement.

17.14 **Costs.** Except as is otherwise expressly set forth herein, each Party shall bear its own expenses in connection with the activities contemplated and performed hereunder.

— Signature page follows —

In Witness Whereof, the Parties have executed this Agreement to be effective as of the Effective Date.

Signed on behalf of
Genmab B.V.

/s/ Jan van de Winkel

Signature of Authorized Officer	Jan van de Winkel
Name of Authoirzed Officer (please print)	Prsident & CEO
Date Signed	19 December 2019

Signed on behalf of
Genmab B.V.

/s/ David Eatwell

Signature of Authorized Officer	David Eatwell
Name of Authorized Officer (please print)	Executive Vice President & CFO
Date Signed	19 December 2019

Signed on behalf of
CureVac AG

Signature of Authorized Officer
Name of Authorized Officer (please print)
Date Signed

/s/ Franz-Werner Haas

Signed on behalf of **CureVac AG**	Franz-Werner Haas Chief Operating Officer

Signature of Authoriized Officer
Name of Authoirzed Officer (please print)
Date Signed

/s/ Daniel Menichella

CEO, CureVac AG	Daniel Menichella CEO, CureVac AG

Exhibit 1.13
Patent Rights licensed to BioNTech

[*****]

Exhibit 1.54
CureVac Know How

[*****]

Exhibit 1.59
CureVac Patent Rights

[*****]

Exhibit 1.77
First Program Antibody

[*****]

Exhibit 1.90
Genmab Know-How

[*****]

Exhibit 1.111
LNP Technology

[*****]

Exhibit 1.144
Other Technologies

[*****]

Exhibit 3.2.2
Templates for clearance of proposed Research Program Antibody and Research Program Antibody Combination

The Research Program Antibody and Research Program Antibody Combination shall be described by providing available information in the following table:

[*****]	**[*****]**	**[*****]**	**[*****]**	**[*****]**	**[*****]**

The Research Program Antibody and Research Program Antibody Combination shall be described by providing the following information for each Antibody:

[*****]

Exhibit 5.1.1
FIRST PROGRAM RESEARCH PLAN

[*****]

Exhibit 5.11
Approved Subcontractors

[*****]

Exhibit 6.2
Early Clinical Supply – Key Terms

[*****]

Exhibit 10.6.2
Example of royalty calculations for Single Antibody Products

[*****]

Exhibit 11.3
List of non-limiting examples of ownership of different types of potential Inventions

[*****]

Exhibit 13.6
Press Release

Company Announcement

- Genmab and CureVac enter broad strategic partnership
- Companies to conduct joint research on first program; option for Genmab to initiate three additional programs during 5-year research term
- Genmab will provide CureVac with a USD 10 million upfront payment and make an equity investment in CureVac of 20 million euro
- CureVac eligible to receive milestones between USD 275 million and USD 368 million for each of the potential product candidates, depending on specific product concept

Copenhagen, Denmark and Tübingen, Germany, xx, xxx, 2019 – Genmab A/S (Nasdaq: GMAB) and CureVac, AG announced today that Genmab and CureVac have entered into a research collaboration and license agreement. This strategic partnership will focus on the research and development of differentiated mRNA-based antibody products by combining CureVac's mRNA technology and know-how with Genmab's proprietary antibody technologies and expertise.

“As part of Genmab’s effort to fundamentally transform cancer treatment we have once again entered into a collaboration that will further provide us with the potential to lead innovation in the antibody space,” said Jan van de Winkel, Ph.D., Chief Executive Officer of Genmab. “CureVac’s unique mRNA technology, which uses the body’s own ability to produce specific proteins from nucleic acid, combined with Genmab’s world-class antibody expertise and robust proprietary technology platforms could create multiple novel options for the treatment of patients with cancer.”

“We are delighted to partner with Genmab. Through our agreement focused on mRNA encoding antibodies, we will continue to demonstrate the robustness of our mRNA technology,” said Daniel L. Menichella, Chief Executive Officer of CureVac. “We believe that the collaboration with Genmab represents the first antibody deal in the field of mRNA. It is our hope that the collaboration will be successful for patients, the two companies and their shareholders.”

Under the terms of the agreement Genmab will provide CureVac with a USD 10 million upfront payment. Genmab will also make a 20 million euro equity investment in CureVac. The companies will collaborate on research to identify an initial product candidate and CureVac will contribute a portion of the overall costs for the development of this product candidate, up to the time of an Investigational New Drug Application. Genmab would thereafter be fully responsible for the development and commercialization of the potential product, in exchange for undisclosed milestones and tiered royalties to CureVac. The agreement also includes three additional options for Genmab to obtain commercial licenses to CureVac’s mRNA technology at pre-defined terms, exercisable within a five-year period. If Genmab exercises any of these options, it would fund all research and would develop and commercialize any resulting product candidates with CureVac eligible to receive between USD 275 million and USD 368 million in development, regulatory and commercial milestone payments for each product, dependent on the specific product concept. In addition, CureVac is eligible to receive tiered royalties in the range from mid-single digits up to low double digits per product. CureVac would retain an option to participate in development and/or commercialization of one of the potential additional programs under pre-defined terms and conditions.

Today’s news does not impact Genmab’s 2019 Financial Guidance.

About Genmab

Genmab is a publicly traded, international biotechnology company specializing in the creation and development of differentiated antibody therapeutics for the treatment of cancer. Founded in 1999, the company has two approved antibodies, DARZALEX® (daratumumab) for the treatment of certain multiple myeloma indications, and Arzerra® (ofatumumab) for the treatment of certain chronic lymphocytic leukemia indications. Daratumumab is in clinical development for additional multiple myeloma indications, other blood cancers and amyloidosis. A subcutaneous formulation of ofatumumab is in development for relapsing multiple sclerosis. Genmab also has a broad clinical and pre-clinical product pipeline. Genmab’s technology base consists of validated and proprietary next generation antibody technologies - the DuoBody® platform for generation of bispecific antibodies, the HexaBody® platform, which creates effector function enhanced antibodies, the HexElect® platform, which combines two co-dependently acting HexaBody molecules to introduce selectivity while maximizing therapeutic potency and the DuoHexaBody® platform, which enhances the potential potency of bispecific antibodies through hexamerization. The company intends to leverage these technologies to create opportunities for full or co-ownership of future products. Genmab has alliances with top tier pharmaceutical and biotechnology companies. Genmab is headquartered in Copenhagen, Denmark with core sites in Utrecht, the Netherlands and Princeton, New Jersey, U.S.

About CureVac AG

CureVac is a leading clinical stage company in the field of messenger RNA (mRNA) technology with more than 19 years’ expertise in developing and optimizing this versatile molecule for medical purposes. The principle of CureVac’s proprietary technology is the use of mRNA as a data carrier to instruct the human body to produce its own proteins capable of fighting a wide range of diseases. The company applies its technologies for the development of cancer therapies, antibody therapies, the treatment of rare diseases, and prophylactic vaccines. CureVac has received significant investments, amongst others from dievini Hopp BioTech holding and the Bill & Melinda Gates Foundation. CureVac has also entered into collaborations with multinational corporations and organizations, including Boehringer Ingelheim, Eli Lilly & Co, CRISPR Therapeutics, the Bill & Melinda Gates Foundation, and others.

For more information, please visit www.curevac.com or follow us on Twitter at @CureVacAG.

Forward Looking Statement for Genmab

This Company Announcement contains forward looking statements. The words "believe", "expect", "anticipate", "intend" and "plan" and similar expressions identify forward looking statements. Actual results or performance may differ materially from any future results or performance expressed or implied by such statements. The important factors that could cause our actual results or performance to differ materially include, among others, risks associated with pre-clinical and clinical development of products, uncertainties related to the outcome and conduct of clinical trials including unforeseen safety issues, uncertainties related to product manufacturing, the lack of market acceptance of our products, our inability to manage growth, the competitive environment in relation to our business area and markets, our inability to attract and retain suitably qualified personnel, the unenforceability or lack of protection of our patents and proprietary rights, our relationships with affiliated entities, changes and developments in technology which may render our products or technologies obsolete, and other factors. For a further discussion of these risks, please refer to the risk management sections in Genmab's most recent financial reports, which are available on www.genmab.com and the risk factors included in Genmab's final prospectus for our U.S. public offering and listing and other filings with the U.S. Securities and Exchange Commission (SEC), which are available at www.sec.gov. Genmab does not undertake any obligation to update or revise forward looking statements in this Company Announcement nor to confirm such statements to reflect subsequent events or circumstances after *the date made or in relation to actual results, unless required by law.*

Genmab Contacts:
Marisol Peron, Corporate Vice President, Communications & Investor Relations
T: +1 609 524 0065; E: mmp@genmab.com

For Investor Relations:
Andrew Carlsen, Senior Director, Investor Relations
T: +45 3377 9558; E: acn@genmab.com

CureVac Contact:
Thorsten Schüller, Director Communication
T: +49 7071 9883 -1577; E: Thorsten.Schueller@curevac.com

Exhibit 14.4
Disclosure Letter

[*****]

EXECUTION COPY
CONFIDENTIAL

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

DEVELOPMENT AND LICENSE AGREEMENT

This DEVELOPMENT AND LICENSE AGREEMENT ("**Agreement**"), effective as of November 9, 2017 (the "**Effective Date**"), is made by and between CureVac AG, a German stock corporation organized under the laws of Germany, having its principal place of business at Paul-Ehrlich-Strasse 15, 72076 Tuebingen, Germany ("**CureVac**"), and CRISPR Therapeutics AG, a Swiss corporation organized under the laws of Switzerland ("**CRISPR**"), having its principal place of business at Baarerstrasse 14, 6300 Zug, Switzerland. CureVac and CRISPR are each sometimes referred to herein as a "**Party**" and collectively as the "**Parties**."

RECITALS

A. WHEREAS, CRISPR has an interest in developing and accessing Cas9 mRNA Constructs (as defined below) for use in gene editing therapeutics.

B. WHEREAS, CureVac has a proprietary mRNA technology platform, and an interest in developing Cas9 mRNA Constructs for CRISPR for gene editing applications;

C. WHEREAS, the Parties intend to collaborate with the goals of identifying and optimizing Cas9 mRNA Constructs for certain Programs (as defined below); and

D WHEREAS, CRISPR and CureVac will enter into a supply agreement, under which CureVac will supply CRISPR such optimized Cas9 mRNA Constructs for use in gene editing applications in certain Programs.

NOW, **THEREFORE**, the Parties hereby agree as follows:

Article 1
DEFINITIONS

1.1 "**Affiliate**" means any Person that directly or indirectly is controlled by, controls or is under common control with another Person. For the purposes of this definition, the term "control" (including with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to a Person means (a) in the case of a corporate entity, direct or indirect ownership of voting securities entitled to cast 50% or more of the votes in the election of directors, (b) in the case of a non-corporate entity, direct or indirect ownership of 50% or more of the equity interests with the power to direct the management and policies of such entity, or (c) any other arrangement whereby a Person controls or has the right to control the board of directors or equivalent governing body or management of a corporation or other entity. For the avoidance of doubt, on the Effective Date Casebia Therapeutics LLP ("**Casebia**") is an Affiliate of CRISPR for all purposes under this Agreement. Regarding CureVac, Affiliate shall not include Mr. Dietmar Hopp and dievini Hopp BioTech holding GmbH & Co. KG and/or any other entity controlled by Mr. Hopp and/or dievini Hopp BioTech holding GmbH & Co. KG. Any such Person shall only be an Affiliate for purposes of this Agreement when and as long as it meets the requirements of this Section 1.1.

1.2 "**Applicable Law**" means any federal, state, local or foreign law (including, common law), statute or ordinance, or any rule, regulation, judgment, order, writ or decree of or from any court, Regulatory Authority or other governmental authority having jurisdiction over or related to the subject item that may be in effect from time to time.

1.3 "**Background Intellectual Property**" shall mean, as applicable, CRISPR Background Intellectual Property or CureVac Background Intellectual Property.

1.4 "**Calendar Quarter**" means the respective periods of three consecutive calendar months ending on March 31, June 30, September 30, and December 31; provided, however, that (a) the first Calendar Quarter of any particular period shall extend from the commencement of such period to the end of the first complete Calendar Quarter thereafter, and (b) the last Calendar Quarter shall end upon the expiration or termination of this Agreement.

1.5 "**Calendar Year**" means each successive period of twelve (12) months commencing on January 1 and ending on December 31.

1.6 "**Cas9 mRNA Construct**" [*****].

1.7 "**Combination Product**" shall have the meaning set forth in Section 1.60 below.

1.8 "**Commercial Supply Agreement**" means an agreement for the supply of Cas9 mRNA Constructs for use by CRISPR, its Affiliates and Sublicensees in Pivotal Clinical Trials and Commercialization.

1.9 "**Commercially Reasonable Efforts**" shall mean, with respect to the efforts to be expended by a Party with respect to any objective, the reasonable, diligent, good faith efforts to accomplish such objective as such Party would normally use to accomplish a similar objective under similar circumstances. It is understood and agreed that with respect to the Development and Commercialization of Licensed Products by CRISPR, such efforts shall be substantially equivalent to those efforts and resources commonly used by similarly situated biotechnology companies with resources similar to CRISPR in the European Union and the United States for products owned by them or to which they have rights, which products are at a similar stage in its Development or product life and are of similar market potential taking into account all scientific, commercial and other factors that such pharmaceutical company would take into account, including efficacy, safety, approved labelling, the competitiveness of alternative products in the marketplace, the expected and actual market exclusivity of the Licensed Products, and the likelihood of receipt of a Regulatory Approval given the Regulatory Authority involved.

1.10 "**Commercialization**" shall mean any and all activities directed to the preparation for sale of, offering for sale of, or sale of Licensed Products, including activities related to marketing, promoting, labelling, packaging, distributing, importing and exporting such Licensed Products, and interacting with Regulatory Authorities regarding any of the foregoing. When used as a verb, to "**Commercialize**" and "**Commercializing**" shall mean to engage in Commercialization, and "**Commercialized**" has a correlative meaning.

1.11 "**Competitive Infringement**" shall have the meaning set forth in Section 8.4(b).

1.12 "**Confidential Information**" means subject to the exceptions in Section 6.2, the information of any nature and in any form that a Party may learn of (including, but not limited to, all documents and/or all data, nucleic acid and protein sequences, chemical structures, software and/or hardware samples, models, methods, descriptions, Know-How, processes, applications and/or knowledge, whether patentable or not), in the performance of the Agreement, and in particular any confidential information relating to the Licensed Intellectual Property, Licensed Products, names of business partners, business strategy, developing strategy, data regarding Licensed Products, their prices and markets, that a Party may receive in the performance of this Agreement. The Know-How within the Licensed Intellectual Property for use in the Field and the terms and conditions of this Agreement are Confidential Information of both Parties.

1.13 "**Controlled**" or "**Controls**" means, when used in reference to a subject item or a right, the legal authority or right of a Party (or any of its Affiliates) (whether by ownership or license, other than pursuant to this Agreement) to grant the right to use such item or right to the other Party, or to otherwise disclose proprietary or trade secret information to such other Party, without violating the terms of any agreement or other arrangement by which such Party is bound.

1.14 "**Cover**" means, with respect to a particular subject matter at issue and the relevant Patent Rights and Know-How, that, but for a license granted to a Party under a claim included in such Patent Rights or under the Know-How, or such Party's ownership or Control of such Patent Rights or Know-How, the manufacture, use, sale, offer or sale or importation by such Party of the subject matter at issue would infringe such claim or exploit or otherwise use such Know-How or, in the case of a Patent Right that is a patent application, would infringe a claim in such patent application if it were to issue as a patent in a particular country or countries.

1.15 "**CRISPR Background Intellectual Property**" means CRISPR Background Know-How and CRISPR Background Patent Rights and that is not Foreground Intellectual Property. The CRISPR Background Intellectual Property as of the Effective Date is identified in **Attachment A** hereto.

1.16 "**CRISPR Background Know-How**" means any Know-How Controlled by CRISPR as of the Effective Date or thereafter during the Term that is reasonably necessary or useful for the Parties to conduct activities under the Development Program and/or to Develop, Manufacture and Commercialize Licensed Products in accordance with this Agreement.

1.17 "**CRISPR Background Patent Rights**" means any Patent Rights Controlled by CRISPR as of the Effective Date or thereafter during the Term that are reasonably necessary or useful for the Parties to conduct the activities under the Development Program and/or to Develop, Manufacture and Commercialize Licensed Products in accordance with this Agreement.

1.18 "**CRISPR Improvement**" means any improvement, change, modification, variation, revision, update or enhancement to the CRISPR Background Intellectual Property.

1.19 "**CRISPR System**" means a system comprising one or more of the following:

(a) [*****]

(b) [*****] and

(c) [*****]

1.20 "**CureVac Background Intellectual Property**" means the CureVac Background Patent Rights and CureVac Background Know-How, and that is not Foreground Intellectual Property. The CureVac Background Intellectual Property is identified in **Attachment B** hereto. For clarity, CureVac Background Intellectual Property does not include Patent Rights and Know-How in-licensed by CureVac from Acuitas Therapeutics, Inc. and from PharmaJet, Inc.

1.21 "**CureVac Background Know-How**" means all Know-How Controlled by CureVac or its Affiliates as of the Effective Date or thereafter during the Term that is reasonably necessary or useful for Parties to conduct the activities under the Development Program and/or to Develop, Manufacture and Commercialize Licensed Products.

1.22 "**CureVac Background Patent Rights**" means all Patent Rights Controlled by CureVac or its Affiliates as of the Effective Date or thereafter during the Term that are reasonably necessary or useful for the Parties to conduct the activities under the Development Program and/or to Develop, Manufacture and Commercialize Licensed Products.

1.23 "**CureVac Competitor**" means a pharmaceutical and/or biotechnological company that has a primary focus of its business in the development, manufacture (for its own account) or commercialization of therapeutic products or services (for its own account) in the field of pDNA and/or mRNA provided that the Parties acknowledge and agree that the term "CureVac Competitor" does not include contract manufacturing organizations, contract research organizations, or entities that do work on a fee-for-services basis as contract manufacturers for others. For clarity, Boehringer Ingelheim's contract manufacturing organization would not be deemed a "CureVac Competitor," even if a Boehringer Ingelheim affiliate (including a parent entity) is developing or commercializing therapeutic products in the field of pNDA and/or mRNA).

1.24 "**CureVac Improvement**" means any improvement, change, modification, variation, revision, update or enhancement to the CureVac Background Intellectual Property.

1.25 "**Development**" shall mean all research, non-clinical, and clinical testing and drug development activities conducted in respect of the Licensed Products for use in the Field, including those reasonably necessary or useful or required by a Regulatory Authority in support of obtaining Regulatory Approvals. "**Development**" shall include generation, validation and optimization, formulation development, delivery system development, non-clinical testing, mechanism studies, toxicology, pharmacokinetics, clinical studies, regulatory affairs activities, statistical analysis and report writing, submission of documents, market research, pharmacoeconomic studies, and epidemiological/real world data studies. "**Develop**" and "**Developed**" have a correlative meaning.

1.26 "**Development Program**" means the research and development program regarding the identification, optimization and selection of Cas9 mRNA Constructs funded as agreed in this Agreement and to be conducted in accordance with the Work Plan and this Agreement. For clarity, all activities conducted under the Development Program shall be distinct from the Development of the Licensed Products and shall not extend to any activities which shall be conducted under the Manufacturing Services Agreement.

1.27 "**Development Term**" means the period set forth in the Work Plan to perform all of the activities of the Work Plan.

1.28 "**Dual Improvement Intellectual Property**" shall have the meaning set forth in Section 7.1(d)(iii)(C).

1.29 "**EMA**" means European Medicines Agency and any successor agency or authority thereto.

1.30 "**Executive Officer**" means (a) in the case of CureVac, the Chief Corporate Officer, and (b) in the case of CRISPR, the Chief Business Officer, neither of which may be a member of the JSC. Each Party may change its Executive Officer from time to time by providing written notice to the other Party in accordance with the terms of this Agreement.

1.31 "**FDA**" means the United States Food and Drug Administration or its successor.

1.32 "**Field**" means all human therapeutic applications in the Programs that make use of a CRISPR System.

1.33 "**First Commercial Sale**" means on a Licensed Product-by-Licensed Product and country-by-country basis, the first arm's-length transaction, transfer or disposition for value by or on behalf of CRISPR or any Affiliate or Sublicensee of CRISPR to a Third Party of such Licensed Product for end use or consumption of such Licensed Product. First Commercial Sale excludes (a) the distribution of reasonable quantities of promotional samples of Licensed Products, or (b) the transfer of Licensed Product to a Third Party to use Licensed Product for the sole purpose of performing preclinical or clinical studies or (c) the transfer of Licensed Product to a Third Party solely for charitable or compassionate use purposes on a named patient basis if the Selling Party transfers Licensed Product at cost of goods or below.

1.34 "**First Exercise Period**" has the meaning set forth in Section 7.4.

1.35 "**Foreground Intellectual Property**" means the Foreground Patent Rights and the Foreground Know-How.

1.36 "**Foreground Know-How**" means the Know-How first conceived, discovered, developed, reduced to practice or generated by either Party or jointly by the Parties under this Agreement.

1.37 "**Foreground Patent Rights**" means all Patent Rights that arise from the Foreground Know-How.

1.38 "**FTE**" means one employee working full-time for one year, or more than one person working the equivalent of a full-time person, working directly on performing activities under the Development Program, as applicable, where "full-time" is considered [*****] hours for one Calendar Year. No additional payment will be made with respect to any individual who works more than [*****] hours per Calendar Year and any individual who devotes less than [*****] hours per Calendar Year will be treated as an FTE on a pro rata basis based upon the actuâ] number of hours worked divided by [*****].

1.39 "**FTE Costs**" means the product of (a) the number of FTEs (proportionately, on a per-FTE basis) used by CureVac or its Affiliates in directly performing activities assigned to CureVac under and in accordance with the Development Program, and (b) the FTE Rate.

1.40 "**FTE Rate**" means € [*****].

1.41 "**Full Sublicense Rate**" has the meaning set forth in Section 5.3.

1.42 "**GLP**" means the then-current practices and procedures set forth in Title 21, United States Code of Federal Regulations, Part 58 (as amended), and any other regulations, guidelines or guidance documents relating to good laboratory practices, or any foreign equivalents thereof in the country in which such studies or clinical trials are conducted or that are otherwise applicable.

1.43 "**GLP Toxicology Study**" means, with respect to a Licensed Product, a study conducted in a species, in compliance with GLP, for the purposes of assessing the efficacy, safety or the onset, severity, and duration of toxic effects and their dose dependency with the goal of establishing a profile sufficient to support the filing of an IND.

1.44 "**IND**" means any Investigational New Drug application, filed with the FDA pursuant to Part 312 of Title 21 of the U.S. Code of Federal Regulations, including any supplements or amendments thereto. References herein to IND will include, to the extent applicable, any comparable filings outside the United States.

1.45 "**Infringement Action**" shall have the meaning set forth in Section 8.4(c).

1.46 "**Joint Steering Committee**" shall have the meaning set forth in Section 3.1(a).

1.47 "**Jointly-Owned Foreground Intellectual Property**" shall have the meaning set forth in Section 7.1(d)(ii).

1.48 "**Jointly-Owned Foreground Know-How**" shall have the meaning set forth in Section 7.1(d)(ii).

1.49 "**Jointly-Owned Foreground Patent Rights**" shall have the meaning set forth in Section 7.1(d)(ii).

1.50 "**Know-How**" means any and all proprietary data, inventions, methods, information, processes, trade secrets, techniques and technology, whether patentable or not, including discoveries, formulae, practices, biological sequences, test data, analytical and quality control data, manufacturing technology and data, registration dossiers and specifications. Know-How includes any such information comprised or embodied in the Materials, if any.

1.51 "**Licensed Intellectual Property**" means the CureVac Background Intellectual Property and any Foreground Intellectual Property solely or jointly owned by CureVac.

1.52 "**Licensed Patent Rights**" means any Patent Right which is part of the Licensed Intellectual Property.

1.53 "**Licensed Product**" means any product comprising a Cas9 mRNA Construct, where such Cas9 mRNA Construct (a) the research, Development, Manufacture, use, sale, offer for sale or importation of which relies on the use of Know-How within the Licensed Intellectual Property, or (b) the research, Development, Manufacture, use, sale, offer for sale or importation of which in or into a country is Covered by a Valid Claim of a Patent Right or by Know-How within the Licensed Intellectual Property.

1.54 "**Losses**" shall have the meaning set forth in Section 9.1.

1.55 "**Manufacture**" means all manufacturing operations for Cas9 mRNA Constructs and Licensed Products, including all activities related to the synthesis, making, production, processing, purifying, of the Cas9 mRNA Constructs, or any intermediate thereof, including process development, process qualification and validation, scale-up, pre-clinical, clinical and Commercial production and analytic development, product characterization, stability testing, quality assurance, and quality control. "**Manufacturing**" has a correlative meaning.

1.56 "**Manufacturing Services Agreement**" means the Manufacturing Services Agreement between the Parties, dated as of the Effective Date for the pre-clinical and clinical (up to Pivotal Clinical Trials) Manufacture of Cas9 mRNA Constructs.

1.57 **"Marketing Authorization Application"** or **"MAA"** means an application for Regulatory Approval in a country, territory or possession.

1.58 "**Materials**" means the biological materials set forth on **Attachment C** hereto, whether by themselves or incorporated into another material, and any progeny, modifications, mutants, components or derivatives thereof. **Attachment C** may be amended upon the mutual written agreement by the Parties.

1.59 "**NDA**" means a new drug application that is submitted to the FDA for marketing approval for a Licensed Product, pursuant to 21 C.F.R. § 314.3, or any foreign equivalent.

1.60 "**Net Sales**" means with respect to any Licensed Product, the gross amounts received by CRISPR, its Affiliates, distributors and Sublicensees (each, a "**Selling Party**") from Third Party customers for sales of such Licensed Product, less the following deductions actually incurred, allowed, paid, accrued or specifically allocated in its financial statements in accordance with such Selling Party's accounting principles, for:

(a) [*****]

(b) [*****]

(c) [*****] and

(d) [*****]

1.61 "**Non-Royalty Sublicense Income**" means any payments, including upfront and milestone payments, that CRISPR or its Affiliate receives in consideration of CRISPR, its Affiliate or Sublicensees granting any sublicense to a Third Party under any Licensed Intellectual Property to a Sublicensee, other than: [*****].

1.62 "**Patent Rights**" means patents and patent applications, together with any unlisted patents and patent applications claiming priority thereto, and any continuations, continuations-in-part, reissues, reexamination certificates, substitutions, divisionals, supplementary protection certificates, renewals, registrations, extensions including all confirmations, revalidations, patents of addition, PCTs, and pediatric and other exclusivity periods and all foreign counterparts thereof, and any patents issued or issuing with respect to any of the foregoing.

1.63 "**Person**" means any individual, firm, corporation, partnership, limited liability company, trust, business trust, joint venture, governmental authority, association or other entity.

1.64 "**Phase 1 Clinical Trial**" means a clinical study of a drug candidate in patients with the primary objective of characterizing its safety, tolerability, and pharmacokinetics and identifying a recommended dose and regimen for future studies as described in 21 C.F.R. 312.21(a), or a comparable clinical study prescribed by the relevant regulatory authority in a country other than the United States. The drug candidate can be administered to patients as a single agent or in combination with other investigational or marketed agents.

1.65 "**Phase 2 Clinical Trial**" means a clinical study of a drug candidate in patients with the primary objective of characterizing its activity in a specific disease state as well as generating more detailed safety, tolerability, and pharmacokinetics information as described in 21 C.F.R. 312.21(b), or a comparable clinical study prescribed by the relevant regulatory authority in a country other than the United States including a human clinical trial that is also designed to satisfy the requirements of 21 C.F.R. 312.21(a) or corresponding foreign regulations and is subsequently optimized or expanded to satisfy the requirements of 21 C.F.R. 312.21(b) (or corresponding foreign regulations) or otherwise to enable a Phase 3 Clinical Trial (e.g., a phase 1/2 trial). The relevant drug candidate may be administered to patients as a single agent or in combination with other investigational or marketed agents.

1.66 "**Phase 3 Clinical Trial**" means a clinical study of a drug candidate in patients that incorporates accepted endpoints for confirmation of statistical significance of efficacy and safety with the aim to obtain Regulatory Approval in any country as described in 21 C.F.R. 312.21(c), or a comparable clinical study prescribed by the relevant regulatory authority in a country other than the United States. The relevant drug candidate may be administered to patients as a single agent or in combination with other investigational or marketed agents

1.67 "**Pivotal Clinical Trial**" means a clinical study of a drug candidate in patients, performed after preliminary evidence suggesting efficacy of such product has been obtained, conducted for inclusion in (a) that portion of the FDA submission and approval process that provides for the continued trials of such product in sufficient numbers of human patients to confirm with statistical significance the safety and efficacy of such Licensed Product sufficient to support Regulatory Approval in the proposed indication, as more fully defined in 21 C.F.R. §312.21(c) or (b) equivalent Regulatory Authority submissions in a country other than the United States.

1.68 "**Program**" means applying the CRISPR System and using a Cas9 mRNA Construct for the following programs: (i) the [*****], in accordance with Section 4.2(a). below, [*****] being set forth on Attachment G, or as substituted in accordance with Section 4.2(b) ("**Program 1**"); (ii) [*****] or (iii) [*****] or as substituted in accordance with Section 4.3 ("[*****]").

1.69 "**Reduced Sublicense Rate**" has the meaning set forth in Section 5.3.

1.70 "**Regulatory Approval**" means any and all approvals (including pricing and reimbursement approvals, if any), licenses, registrations or authorizations of any national or international or local Regulatory Authority, department, bureau or other governmental entity, necessary for the Manufacture and Commercialization of a Licensed Product in any regulatory jurisdiction. Regulatory Approvals include approvals by Regulatory Authorities of MAAs.

1.71 "**Regulatory Authority**" means, with respect to a country or region, any national (e.g., the FDA for the United States, EMA for the European Union), supra-national, regional, state or local regulatory agency, department, bureau, commission, council or other governmental authority involved in the granting of any approval required by Applicable Laws to Manufacture and Commercialize a relevant Licensed Product in such country or region or, to the extent required in such country or region, price approval, for pharmaceutical products in such country or region.

1.72 **"Regulatory Exclusivity"** means any exclusive marketing rights or data exclusivity rights conferred by any Regulatory Authority with respect to a Licensed Product.

1.73 "**Reserved Program**" shall mean any program that is the subject of a signed agreement between CureVac and a Third Party, or the subject of bona fide ongoing research, development or commercialization activities by CureVac, in each case, that would be breached if such proposed [*****] under this Agreement at the time CRISPR provides the written notice to CureVac as described in Section 4.3(b).

1.74 "**Royalty Term**" on a Licensed-Product by Licensed-Product, and country-by-country basis, the period commencing on the First Commercial Sale of a Licensed Product and ending upon the later of (i) the date on which there is no Valid Claim that would be infringed, absent a license, by the Development, Manufacture or Commercialization of such Licensed Product in such country,(ii) the date on which the Regulatory Exclusivity in such country for such Licensed Product expires; or (iii) ten (10) years after the First Commercial Sale of such Licensed Product in such country.

1.75 "**Solely-Owned Foreground Intellectual Property**" shall have the meaning set forth in Section 7.1(d)(i).

1.76 "**Solely-Owned Foreground Know-How**" shall have the meaning set forth in Section 7.1(d)(i).

1.77 "**Solely-Owned Foreground Patent Rights**" shall have the meaning set forth in Section 7.1(d)(i).

1.78 "**Sublicensee**" means an Affiliate or any Third Party that is granted a sublicense as permitted under Section 7.2, either directly by CRISPR or indirectly by any other Sublicensee hereunder.

1.79 "**Term**" means the period of time beginning on the Effective Date and ending on the expiration of the Royalty Term for all Licensed Products, unless sooner terminated in accordance with the provision of this Agreement.

1.80 "**Territory**" means worldwide.

1.81 "**Third Party**" means any Person other than CRISPR, CureVac and their respective Affiliates.

1.82 "**Third Party Agreement**" has the meaning set forth in Section 7.4

1.83 "**Valid Claim**" means (a) a claim of an issued and unexpired patent which has not been revoked or held unenforceable or invalid by a decision of a court or other governmental agency of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, and which has not been admitted to be invalid or unenforceable through reissue or disclaimer or otherwise, or (b) a claim of a pending patent application that was filed and has been prosecuted in good faith and has not been (i) cancelled, withdrawn, abandoned or finally disallowed without the possibility of appeal or refiling of such application, or (ii) pending for more than [*****] years since such claim was first presented or is the result of amending another claim pending for more than [*****] years (either in the same application or in another application in the same jurisdiction) so as to add or delete an obvious limitation, so as to make a trivial or non-substantive change, or so as to change a matter of form.

1.84 "**Work Plan**" means the plan setting forth (a) the activities to be undertaken as part of the Development Program, (b) the Party responsible for each such activity, (c) the deliverables, (d) the budget, and (e) timeline for performance, as set forth in **Attachment D** hereto, and as may be amended from time to time with written approval of the JSC during the Development Term. For clarity, on a Program-by-Program basis, the Work Plans shall be limited to the identification, optimization and selection of Cas9 mRNA Constructs and shall not extend to any activities which shall be conducted under the Manufacturing Services Agreement.

Article 2
CAS9 mRNA DEVELOPMENT PROGRAM

2.1 Purpose and Term. The Parties have agreed to engage in the Development Program on the terms and conditions set forth in this Agreement. As part of the Development Program, the Parties will work together to identify and optimize Cas9 mRNA Constructs for use in gene editing therapeutics. The Development Program will be undertaken and performed during the Development Term.

2.2 Diligence; Standards of Conduct with respect to the Work Plan. Each Party agrees to use Commercially Reasonable Efforts to perform the tasks assigned to such Party under the Work Plan in a timely and effective manner, and each Party further agrees to conduct its activities under the Work Plan in a good scientific manner and in compliance in all material respects with Applicable Law. In the event of any inconsistency between the Work Plan and this Agreement, the terms of this Agreement will prevail. Without limiting the foregoing, in all events, both Parties will provide all resources necessary to support the Development Program, including providing the appropriate technical resources and personnel with the appropriate skill, training and expertise. All disputes regarding the level of efforts and resources dedicated by a Party to the performance of the Development Program will be escalated to the JSC.

2.3 Amendments to the Work Plan. During the Development Term, each Party will have the right to propose modifications or amendments to the Work Plan; provided, however, that any modifications or amendments to the Work Plan that are proposed by either Party will be subject to review and prior written approval by the JSC pursuant to Section 3.1(b)(ii) and subject to Section 3.2.

2.4 Decision Making. Except as otherwise expressly provided in this Agreement, all matters regarding the Work Plan will be decided by consensus by the JSC pursuant to Section 3.1(d) and subject to Section 3.2.

2.5 Progress. During the Development Term each Party will keep the other Party reasonably informed regarding the progress and results of performance of the Development Program. Without limiting the foregoing, following the end of each Calendar Quarter, each Party will prepare a summary of all work performed to date, such summary to include a discussion of progress against goals set forth in the Work Plan. The Parties will discuss such summary at the next JSC meeting.

2.6 Records. CureVac will maintain complete and accurate records (in the form of technical notebooks or electronic files where appropriate) of all work conducted by it under the Work Plan and all Know-How resulting from such work. Such records will fully and properly reflect all work done and results achieved in the performance of the Work Plan in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes. CRISPR will have the right to receive copies of such records maintained by CureVac, including in electronic format if maintained in such format, at reasonable times to the extent reasonably necessary to perform obligations or exercise rights under this Agreement. Promptly following completion of the Work Plan, CureVac will deliver a final report to CRISPR summarizing all work performed pursuant to the Work Plan, the results thereof and comparing the results thereof against any goals set forth in the Work Plan.

2.7 Subcontracts. Except as outlined in the Work Plan, CureVac may not subcontract any of its obligations under this Agreement absent CRISPR's prior written consent.

2.8 Manufacture and Supply. All Cas9 mRNA Constructs required for use by CRISPR, its Affiliates and Sublicensees in accordance with this Agreement for the non-clinical and Phase 1 Clinical Trial and Phase 2 Clinical Trial Development of the Licensed Products shall comport with or incorporate CureVac's most advanced required Manufacturing technology, methods and materials and shall be Manufactured by or on behalf of CureVac in accordance with Applicable Laws and the terms and conditions of the Manufacturing Services Agreement attached hereto as **Attachment E**. The potential supply of Cas9 mRNA Constructs required for use by CRISPR its Affiliates and Sublicensees for Pivotal Clinical Trials and Commercial supply and a technology transfer in the event CureVac will not supply such Cas9 mRNA Constructs is set forth in the Manufacturing Services Agreement.

2.9 Supply of Material. CureVac will use Commercially Reasonable Efforts to supply to CRISPR, its Affiliates and Sublicensees the Materials set forth in **Attachment C** hereof. CRISPR will use such Materials only in accordance with the Work Plan as set forth in **Attachment D** and otherwise in accordance with the terms and conditions of this Agreement and will not reverse engineer or chemically analyze the Material except as expressly provided for in the Work Plan.

2.10 Regulatory Filings. CureVac hereby grants to CRISPR and its Affiliates, the right of cross-reference in any regulatory filing, Regulatory Approval, drug master file or other regulatory documentation (including orphan drug applications and designations) Controlled by CureVac or its Affiliates in any country in the Territory that relate to any Licensed Product to permit CRISPR or its Affiliates to comply with its regulatory obligations with respect to the Licensed Product in the Field in the Territory, or to exercise CRISPR's or its Affiliate's rights hereunder or under the Manufacturing Services Agreement or the Commercial Supply Agreement. CureVac shall do and cause to be done such reasonable acts and things, as may be necessary under, or as CRISPR may reasonably request, to effectuate the rights of cross-reference contemplated in this Section 2.10. The foregoing grant is sublicenseable (through multiple tiers) by CRISPR and its Affiliates. Notwithstanding anything to the contrary in this Agreement, unless required by any Applicable Law or Regulatory Authority, CureVac shall not withdraw or inactivate any regulatory filing that CRISPR references or otherwise uses pursuant to this Section 2.10.

Article 3
GOVERNANCE

3.1 Joint Steering Committee.

(a) Formation; Composition. Within [*****] days following the Effective Date, the Parties will establish a joint steering committee (the "**Joint Steering Committee**" or "**JSC**") comprised of two (2) representatives from each Party (or appointed representatives of an Affiliate of such Party) with sufficient seniority within the applicable Party to make decisions arising within the scope of the JSC's responsibilities and each Party will appoint one of its representatives to the JSC as such Party's "**Work Plan Leader**". The Parties' initial representatives to the JSC, and Work Plan Leaders, are set forth on **Attachment F** hereto. The JSC may change its size from time to time by mutual consent of its members; *provided* that the JSC will consist at all times of an equal number of representatives of each of CureVac and CRISPR. Each Party may replace any or all of its JSC representatives at any time upon written notice to the other Party. The JSC may invite non-members to participate in the discussions and meetings of the JSC; provided that such participants (i) will have no voting authority at the JSC and (ii) are bound under written obligations of confidentiality no less protective of the other Party's Confidential Information than those set forth in this Agreement. Each meeting of the JSC will be co-chaired by a representative of each Party. The role of the chairpersons will be to convene and preside at meetings of the JSC. The chairpersons will have no additional powers or rights beyond those held by the other JSC representatives. Each Party's Work Plan Leader will be the primary point of contact for the other Party on all matters relating to the activities of the Work Plan.

(b) Specific Responsibilities. The JSC will:

(i) oversee the performance of the Work Plan;

(ii) review the progress of activities under the Work Plan, all reports submitted by the Parties in accordance with Section 2.5, and review and approve any amendments thereto, including any necessary amendments to the Work Plan budget as a result of any amendment to the Work Plan, any other amendment to the Work Plan budget and any amendment to the timelines or activities under the Work Plan;

(iii) agree on amendments of the Work Plan;

(iv) work to resolve any disagreement between the Parties relating to the Work Plan;

(v) coordinate Patent Right applications regarding Foreground Intellectual Property; and

(vi) perform such other functions as appropriate, to further the purposes of this Agreement, in each case as agreed in writing by the Parties.

(c) Meetings. During the Development Term, the JSC will meet at least quarterly for the first year, and at least twice a year thereafter. Following the expiration of the Development Term, the Parties may agree to reduce the number of meetings to at least twice a year until all [*****] Programs have initiated a Phase 1 Clinical Trial, unless otherwise agreed by the Parties. The JSC may meet in person, by videoconference or by teleconference. Notwithstanding the foregoing, at least [*****] per year will be in person unless the Parties mutually agree in writing to waive such requirement. In-person JSC meetings will be held at locations alternately selected by CureVac and by CRISPR. Each Party will bear the expense of its respective JSC members' participation in JSC meetings. Meetings of the JSC will be effective only if at least [*****] of each Party is present or participating in such meeting. Prior to each meeting of the JSC, CureVac and CRISPR will take turns to (i) prepare a written report detailing the work performed to date under the Work Plan and evaluating such work in relation to the goals of the Work Plan and (ii) provide such other information as is reasonably requested by the JSC. On a Program-by-Program basis, after each Program has initiated a Phase 1 Clinical Trial, CRISPR shall provide CureVac with bi-annual reports summarizing all material matters and data relating to the Programs, the results achieved in performance of the Development and outlining its further Development activities with respect to such Program. Furthermore, CRISPR will, subject to confidentiality obligations, provide to CureVac copies of Final Study Reports, once they are available, and will respond to any reasonable request from CureVac to obtain information on the status of the Programs. Such reporting shall be available on a Program-by-Program basis until the date of the First Commercial Sale of a Licensed Product for such Program.

(d) Decision Making. The representatives from each Party on the JSC will have, collectively, [*****] on behalf of that Party, and all decision making will be by consensus. Disputes at the JSC will be handled in accordance with Section 3.2.

3.2 Resolution of JSC Disputes.

(a) Within the JSC. Subject to the exception specified below in this Section 3.2, all decisions within the JSC will be made by consensus. If the JSC is unable to reach consensus on any issue for which it is responsible, within [*****] days after a Party affirmatively states that a decision needs to be made, either Party may elect to submit such issue to the Parties' Executive Officers, in accordance with Section 3.2(b).

(b) Referral to Executive Officers. If a Party makes an election under Section 3.2(a) to refer a matter to the Executive Officers, the JSC will submit in writing the respective positions of the Parties to the Executive Officers. The Executive Officers will use good faith efforts in compliance with Section 3.3, which will include at least one in person meeting between such Executive Officers within [*****] days after the JSC's submission of such matter to them. If the Executive Officers are unable to reach unanimous agreement on any such matter, CRISPR will decide such matter, provided that no exercise of such CRISPR's decisionmaking authority on any matter may, without CureVac's prior written consent, not to be unreasonably withheld, conditioned or delayed, (i) result in a material change to the Work Plan that significantly accelerates or decelerates the planned activities or requires allocation by CureVac of personnel significantly greater than or less than those provided for in the Work Plan "significantly"to include anything beyond [*****] percent of the agreed scope, (ii) result in a reduction of CRISPRs diligence obligations under this Agreement, or (iii) otherwise conflict with this Agreement.

3.3 Good Faith. In conducting themselves on the JSC, and in exercising their rights under Section 3.2, all representatives of each Party will consider reasonably and in good faith all input received from the other Party. In exercising any decision making authority granted to it under Section 3.2, each Party will act based on its good faith judgment taking into consideration the best interests of the Development Program

Article 4
DEVELOPMENT AND COMMERCIALIZATION OF LICENSED PRODUCTS

4.1 Development and Commercialization. CRISPR shall have the sole right and responsibility for Developing and Commercializing Licensed Products in the Field, including obtaining necessary Regulatory Approvals, at its sole cost and expense.

4.2 Back-up Approach and Substitution for Program 1.

(a) CRISPR will pursue the primary gene (as set forth in Attachment G) under Program 1. In the event the results of the Development show that the primary gene should not be further pursued, such results to be discussed within the JSC, and CRISPR may select one of the back-up genes in Attachment G to replace the primary gene.

(b) With respect to Program 1, during the [*****] commencing on the Effective Date, CRISPR shall be permitted once to substitute the treatment of [*****] upon notice to CureVac, at no additional cost.

4.3 Program Substitution [*****]

(a) Substitution. With respect to the [*****] Program, during the first [*****] years of this Agreement, CRISPR shall be permitted once to substitute an alternative program for [*****] using the procedures set forth in Section 4.3(b), provided the intended indication has an incidence approximately the same or less than the indication [*****]. The substitution is subject to the substitution fee set forth below, and the milestones set forth in Section 5.4(c) shall not be adjusted for any [*****] Program substitution. For clarity, even if the [*****] Program had already achieved several milestones, the substitution program would have to pay those milestones again.

(b) [*****] Program Substitution Process. CRISPR shall provide CureVac written notice of its request to substitute a target for the [*****] Program within the [*****] years of the Effective Date. If CureVac provides CRISPR notice that a proposed substitution for the [*****] Program is a Reserved Program, CureVac shall notify CRISPR within [*****] days after the date on which CureVac receives notice of the proposed substitution if such proposed substitution is a Reserved Program. CureVac shall, if requested by CRISPR in writing, provide CRISPR with such evidence to support that such proposed substitution is a Reserved Program. If after providing such evidence, CRISPR concludes that such a substitution is not a Reserved Program, CRISPR will so notify CureVac, CureVac will provide such evidence as CureVac believes is reasonably required to establish that such substitution is a Reserved Program to an independent attorney or other expert with experience that is relevant to the dispute and reasonably acceptable to both Parties. Such independent expert will review and make a determination in accordance with this Agreement regarding whether such proposed substitution is a Reserved Program. The independent expert shall promptly notify the Parties of its determination as to whether a proposed substitution is a Reserved Program, but shall not disclose to CRISPR information provided by CureVac in connection with such determination. The independent expert's determination shall be binding on the Parties, absent a manifest error of such expert's determination. If the independent expert determines such proposed substitution is a Reserved Program, CRISPR shall be permitted to select another target for the [*****] Program; if the independent expert determines such proposed substitution is not a Reserved Program, such proposed substitution shall become the target for the [*****] Program.

(c) Substitution Fee. In the event CRISPR choses to substitute the [*****] Program a Substitution Fee of [*****] US dollars (US$ [*****]) is due within [*****] days of confirmation of the new target by CureVac, or once the target is confirmed not to be a Reserved Program in accordance with Section 4.3(b) above.

4.4 Diligence. Subject to the terms of this Agreement, CRISPR shall use its Commercially Reasonable Efforts to progress the Development and Commercialization of the Licensed Products in all three Programs in the Field in the Territory. CRISPR shall, inter alia,

(a) conduct all non-clinical and clinical Development activities in a timely manner, and allocate such Development budgets as are commercially reasonable and adequate to progress the non-clinical and clinical Development of Licensed Products hereunder;

(b) when appropriate based on satisfactory data obtained during the nonclinical and clinical Development, use its Commercially Reasonable Efforts to secure all required Regulatory Approvals in at least the EU, the US and Japan (with respect to Japan only, after taking into account, among other things, commercial considerations and disease prevalence of a Program in Japan), following completion of all appropriate clinical trials; and

(c) use its Commercially Reasonable Efforts to make the First Commercial Sale of the Licensed Products in each country following the issuance of the Regulatory Approvals for such country.

The diligence obligations set forth in this Section 4.4 may be satisfied by CRISPR, an Affiliate, or its or their Sublicensees.

Article 5
PAYMENTS; PAYMENT TERMS

5.1 Technology Access Fee. Within [*****] business days following the Effective Date, CRISPR shall pay to CureVac a one-time payment of three million US dollars (US$ 3,000,000).

5.2 Research Support Payments. On a quarterly basis, CureVac shall provide an invoice to CRISPR setting forth the total FTE Costs (including the amount of time actually spent by CureVac's FTEs on activities under the Work Plan and a brief description of the work performed by such FTEs), and any reasonable and documented out-of-pocket expenses incurred by CureVac in the performance of the CureVac activities under the Work Plan until the date of such invoice, and CRISPR shall, within [*****] days after receiving such invoice, reimburse CureVac for the full amount of such FTE Costs and reasonable out-of-pocket expenses incurred by CureVac; provided that, CRISPR shall not be responsible for the payment of any costs and expenses (including FTE Costs) that are incurred by CureVac for any activities that are not set forth in the then-current Work Plan, and such costs and expenses will be borne entirely by CureVac unless otherwise approved by CRISPR in writing.

5.3 Non-Royalty Sublicense Income.

(a) On a Sublicensee-by-Sublicensee basis, CRISPR will, in addition to Development and Commercial Milestones in accordance with Section 5.4 and royalties on Net Sales in accordance with Section 5.5, pay CureVac the percentage set forth below of Non-Royalty Sublicense Income received by CRISPR or its Affiliates in accordance with the following table:

Stage at which sublicense is granted by CRISPR	% of Non-Royalty Sublicense Income Payable to CureVac for Such Sublicense ("**Full Sublicense Rate**")	% of Non-Royalty Sublicense Income from Casebia Payable to CureVac for Such Sublicense ("**Reduced Sublicense Rate**")
[*****]	[*****]	[*****]
[*****]	[*****]	[*****]
[*****]	[*****]	[*****]

In the event CRISPR receives the Non-Royalty Sublicense Income at the Reduced Sublicense Rate from Casebia, CRISPR shall pay the difference to the Non-Royalty Sublicense Income at the Full Sublicense Rate once and if the Third Party who obtained the sublicense from Casebia grants a sub-sublicense to another Third Party. For illustration purposes: If Casebia receives an upfront payment from its Sublicensee in the amount of [*****] US dollars (US$ [*****]), CRISPR shall pay [*****] US dollars (US$ [*****] rather than [*****] US dollars (US$ [*****]) to CureVac. The difference between the Non-Royalty Sublicense Income calculated at the Full Sublicense Rate and the Non-Royalty Sublicense Income calculated at the Reduced Sublicense Rate [*****] shall be paid if and once Casebia's Sublicensee grants a sub-sublicense to a Third Party and makes a first upfront or milestone payment to Casebia. For clarity, no license or sublicenses between CRISPR and any of its Affiliates shall give rise to any payments under this Agreement.

5.4 Development & Commercial Milestones. In consideration of the performance of the Development Program and the licenses granted under this Agreement, CRISPR will pay to CureVac the amounts set forth below within [*****] calendar days following achievement of the applicable milestone by a Licensed Product. Milestones listed below shall be paid one time per Program under this Agreement, and can be satisfied anywhere in the Territory. In the event a milestone event is being skipped, the respective milestone payment is payable once the next consecutive milestone has been achieved, jointly with the milestone payment for such consecutive milestone.

(a) The first achievement of any of the following milestones by a Licensed Product Developed by or on behalf of CRISPR, any of its Affiliates or any Sublicensee in connection with the Program 1:

[*****]

(b) The first achievement of any of the following milestones by a Licensed Product Developed by or on behalf of CRISPR, any of its Affiliates or any Sublicensee in connection with the [*****] Program:

[*****]

(c) The first achievement of any of the following milestones by a Licensed Product Developed by or on behalf of CRISPR, any of its Affiliates or any Sublicensee in connection with the [*****]:

[*****]

5.5 Running Royalties.

(a) Subject to the terms and conditions of this Agreement, on a country-by-country and Licensed Product-by-Licensed Product basis, CRISPR will pay to CureVac a royalty equal to [*****] percent ([*****]%) of Net Sales of Licensed Products sold or transferred by CRISPR, its Affiliates and its Sublicensees in those countries during the Royalty Term applicable to such Licensed Product.

(b) On a country-by-country and Licensed Product-by-Licensed Product basis, the royalty rate that CRISPR shall pay CureVac pursuant to Section 5.5(a) shall be reduced by [*****] percent ([*****]%) if at the time of sale (i) no Valid Claims exist and (ii) Regulatory Exclusivity has expired.

(c) No Multiple Royalties. If the Development, Manufacture, Commercialization or other use of any Licensed Product is (i) Covered in a given country by more than one Patent Right or by a Patent Right and Know-How within the Licensed Intellectual Property, multiple royalties with respect to Net Sales of that Licensed Product in that country shall not be due.

(d) Blended Royalties. With respect to a potential step down in royalty rates to account for the expiry of certain Patent Rights, the Parties acknowledge and agree that the Licensed Intellectual Property licensed under this Agreement may justify royalty rates and/or royalty terms of differing amounts for sales of Licensed Products in the Territory, which rates could be applied separately to Licensed Products involving the exercise of Licensed Patent Rights in the Territory and/or the incorporation of Know How comprised in the Licensed Intellectual Property, and that if such royalties were calculated separately, royalties relating to the Licensed Patent Rights in the Territory and royalties relating to the Know How comprised in the Licensed Intellectual Property would last for different terms. For practicality reasons the Parties have agreed on a blended royalty rate. For clarity, this Section 5.5(d) solely explains the rationale behind the royalty rates agreed by the Parties and does not modify any of the other provisions of this Agreement.

(e) Fully Paid-Up Licenses. With respect to a Licensed Product in a given country, as of the date on which the Royalty Term applicable to such Licensed Product ends, the license grants contained in Section 7.1(a) shall become fully paid-up, royalty-free, perpetual and irrevocable for such Licensed Product in such country.

(f) Timing of Royalty Payments. CRISPR shall make royalty payments owed to CureVac hereunder in arrears, within [*****] days after the end of each Calendar Quarter in which such payment accrues. Each royalty payment shall be accompanied by a report for each country in which sales of Licensed Products occurred in the Calendar Quarter. Such report shall describe the Net Sales of each Licensed Product sold by or on behalf of CRISPR, its Affiliates or Sublicensees during the applicable Calendar Quarter for each country in which sales of any Licensed Product occurred, specifying: the gross sales (if available) and Net Sales in each country's currency, including an accounting of deductions taken in the calculation of Net Sales; the applicable exchange rate to convert from each country's currency to US Dollars; and the royalties payable in US Dollars.

5.6 Royalty Records. CRISPR and its Affiliates and Sublicensees shall keep, for at least [*****] years from the end of the Calendar Year to which they pertain, complete and accurate records of sales by CRISPR, its Affiliates and Sublicensees, as the case may be, of each Licensed Product, in sufficient detail to allow the accuracy of the payments hereunder to be confirmed.

5.7 Third Party Payments. To the extent CRISPR enters into a Third Party Agreement pursuant to Section 7.4, CRISPR shall be entitled to deduct from the then-current sales milestone and royalty payments due to CureVac under this Article 5 the amounts paid (including milestone payments, royalties or other license fees) by CRISPR to such Third Party under such Third Party Agreement; provided, however, that in no event shall the amounts due to CureVac from CRISPR in any Calendar Quarter be reduced by more than [*****]. Any amount that CRISPR is entitled to deduct that is reduced by the foregoing limitation on the deduction, or is otherwise not deducted in a particular Calendar Quarter (for example, if the amount due to CureVac is less than the amount due to such Third Party during such Calendar Quarter), such amount that was not deducted shall be carried forward and CRISPR may deduct such amount from subsequent amounts due to CureVac until the full amount that CRISPR was entitled to deduct is deducted. CureVac agrees to fully cooperate with CRISPR to acquire such rights.

5.8 Review. Subject to the other terms of this Section 5.8, at the request of CureVac, which shall not be made more frequently than once per Calendar Year during the Term, upon at least [*****] days' prior written notice, and at CureVac's expense, CRISPR shall permit an independent certified public accountant selected by CureVac and reasonably acceptable to CRISPR to inspect (during regular business hours) the records required to be maintained by CRISPR relating to royalties payable pursuant to this Agreement. In every case the accountant must have previously entered into a confidentiality agreement with all Parties substantially similar to the provisions of Article 6 and limiting the disclosure and use of such information by such accountant to authorized representatives of the Parties and the purposes germane to this Section 5.8. The Parties shall treat the results of any such accountant's review of such records under this Section 5.8 as Confidential Information of the applicable Party subject to the terms of Article 6. If any such review reveals a deficiency in the calculation and/or payment of royalties by CRISPR, then CRISPR shall promptly reimburse CureVac for such accountant's fees and pay CureVac the revealed amount remaining to be paid.

5.9 Method of Payment. All payments under this Agreement will be transferred to the following CureVac account:

[*****]

5.10 Accounting. All payments due under this Agreement will be made in United States dollars. Conversion of foreign currency to United States Dollars shall be made at the average monthly rate of exchange, using Bloomberg foreign exchange rates, using the conversion rates beginning the second to last business Day of the month preceding the month in which such sales are recorded and ending on the second to last business day of the month in which the sales are recorded.

5.11 Interest. Payments not paid within [*****] business days after the due date under this Agreement shall bear interest at an annual rate of [*****] percent ([*****]%) above the three-month-LIBOR rate of the respective currency for the time period in which such amount is outstanding. If CRISPR disputes the amount of a payment hereunder and does make such payment nonetheless, CRISPR shall be reimbursed the payment plus statutory interest as of the date of CureVac's receipt of CRISPR's notice disputing such payment, once the Parties agree or it is finally adjudicated that CRISPR was not obligated to make such payment.

5.12 Tax Withholding; Restrictions on Payment. All payments under or in connection with this Agreement shall be inclusive of any income taxes and each Party shall be responsible for its own income taxes assessed by a tax or other authority. If laws, regulations or rules require that taxes be withheld with respect to any payments by CRISPR to CureVac under this Agreement, CRISPR will: (a) deduct those taxes from the remittable payment as required by law from, (b) pay the taxes to the proper taxing authority, and (c) send evidence of the obligation together with proof of tax payment to CureVac on a timely basis following that tax payment. Each Party agrees to cooperate with the other Party in claiming refunds or exemptions from such deductions or withholdings under any relevant agreement or treaty which is in effect, and CRISPR shall forward any refund payments to CureVac without undue delay. The Parties shall discuss applicable mechanisms for minimizing such taxes to the extent possible in compliance with Applicable Laws, regulations and rules.

5.13 VAT. All payments due to the terms of this Agreement are expressed to be exclusive of value added tax (VAT) or similar indirect taxes (e.g., Goods and Service tax). VAT/indirect taxes shall be added to the payments due to the terms if legally applicable.

5.13 Refund; Offset. The payments made under this Article 5 are in no event refundable or creditable.

Article 6
CONFIDENTIALITY

6.1 Confidential Obligations. Each Party agrees that a Party (the "**Receiving Party**") receiving Confidential Information of the other Party (the "**Disclosing Party**") (or that has received any such Confidential Information from the other Party prior to the Effective Date) in connection with this Agreement shall, subject to Section 6.2 and Section 6.3, (a) maintain in confidence such Confidential Information using not less than the efforts such Receiving Party uses to maintain in confidence its own proprietary industrial information of similar kind and value, but in no circumstances less than a reasonable standard of care, (b) not disclose such Confidential Information to any Third Party without the prior written consent of the Disclosing Party, except for disclosures expressly permitted below, and (c) not use such Confidential Information for any purpose except those expressly permitted by this Agreement, including the exercise of rights and satisfaction of obligations under this Agreement.

6.2 Exceptions. The obligations in Section 6.1 shall not apply with respect to any portion of the Confidential Information that the Receiving Party can show by competent written proof:

(a) is publicly disclosed by the Disclosing Party, either before or after it is disclosed to the Receiving Party by or on behalf of the Disclosing Party;

(b) was known to the Receiving Party or any of its Affiliates, without any obligation to keep it confidential or any restriction on its use, prior to disclosure by the Disclosing Party;

(c) is subsequently disclosed to the Receiving Party or any of its Affiliates by a Third Party lawfully in possession thereof and without any obligation to keep it confidential or any restriction on its use;

(d) is published by a Third Party or otherwise becomes publicly available or enters the public domain without violation of this Agreement by the Receiving Party or any person for whom the Receiving Party is responsible pursuant to Section 6.3(c), either before or after it is disclosed to the Receiving Party; or

(e) is independently Developed by or for the Receiving Party or its Affiliates without reference to or reliance upon the Disclosing Party's Confidential Information.

6.3 Authorized Disclosure. The Receiving Party may disclose Confidential Information belonging to the Disclosing Party, and Confidential Information deemed to belong to both Parties under the terms of this Agreement, to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(a) subject to Section 6.4, complying with Applicable Laws (including the rules and regulations of the Securities and Exchange Commission or any national securities exchange) and with judicial or administrative process, if in the reasonable opinion of the Receiving Party's counsel, such disclosure is necessary for such compliance, *provided* that the Disclosing Party is informed, to the extent practicable, of the obligation of disclosure, so that the Disclosing Party may oppose or limit such disclosure obligation and *provided* the Receiving Party limits the disclosure to the strict minimum in order to comply with its obligations;

(b) disclosure by the Parties of the existence of this Agreement in any annual report to stockholders, filings with the Securities and Exchange Commission and other Regulatory Authorities and communications with securities analysts and stockholders; and

(c) disclosure, solely on a "need to know basis," to Affiliates, potential or actual research and development collaborators, subcontractors, investment bankers, investors, lenders, shareholders, or other potential or actual financial or strategic partners, and each of the Parties' respective directors, employees, contractors, agents, legal counsel and accountants, each of whom prior to disclosure must be bound by obligations of confidentiality and non-use no less restrictive than the obligations set forth in this Article 6, which for avoidance of doubt, will not permit use of such Confidential Information for any purpose except those permitted by this Agreement, including the exercise of rights and satisfaction of obligations under this Agreement; *provided*, *however*, that, in each of the above situations, the Receiving Party shall remain responsible for any failure by any Person who receives Confidential Information pursuant to this Section 6.3 to treat such Confidential Information as required under this Article 6.

If and whenever any Confidential Information is disclosed in accordance with this Section 6.3, such disclosure shall not cause any such information to cease to be Confidential Information except to the extent that such disclosure results in a public disclosure of such information (otherwise than by breach of this Agreement). Where reasonably possible and subject to Section 6.4, the Receiving Party shall notify the Disclosing Party of the Receiving Party's intent to make any disclosures pursuant to Section 6.3(a) or 6.3(b) sufficiently prior to making such disclosure so as to allow the Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information, and the Receiving Party will provide reasonable assistance to the Disclosing Party with respect thereto; *provided* that, in any event, the Receiving Party will use reasonable measures to ensure confidential treatment of such information and shall only disclose such Confidential Information of the Disclosing Party as is necessary to comply with such Applicable Laws or judicial process.

6.4 Securities Filings. If either Party proposes to file with the Securities and Exchange Commission or the securities regulators of any state or other jurisdiction a registration statement or any other disclosure document that describes or refers to the terms and conditions of this Agreement under the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, or any other Applicable Law, the Party shall notify the other Party of such intention and shall provide such other Party with a copy of relevant portions of the proposed filing prior to such filing (and any revisions to such portions of the proposed filing a reasonable time prior to the filing thereof), including any exhibits thereto relating to the terms and conditions of this Agreement, and shall use reasonable and diligent efforts to obtain confidential treatment of the terms and conditions of this Agreement that such other Party requests be kept confidential, and shall only disclose Confidential Information that is requested by the Securities and Exchange Commission or legally required to be disclosed. No such notice shall be required under this Section 6.4 if the description of or reference to this Agreement contained in the proposed filing has been included in the press release or in any previous filing made by the either Party hereunder or otherwise approved by the other Party.

6.5 Publicity. Except as otherwise provided herein, each Party agrees not to issue any other press release or other public statement disclosing terms of this Agreement or using the name or trademark of the other Party, its Affiliates or its employees, in either case, without the prior written consent of such other Party.

6.6 Existing Confidentiality Agreement. The Parties hereby agree that all confidential information disclosed by one Party to the other pursuant to that certain Confidentiality Agreement, by and between the Parties, dated February 26, 2017, will be governed by the terms of this Agreement.

6.7 Return of Confidential Information. Upon expiry or earlier termination of the Agreement, upon written request of a Party (such request, if made, to be made within three (3) months of such expiry or termination) the other Party will destroy or return (as shall be specified in such request) to the requesting Party all copies of the Confidential Information of the requesting Party; provided that the Party may retain: (i) one copy of such Confidential Information for recordkeeping purposes, for the sole purpose of ensuring compliance with this Agreement; (ii) any copies of such Confidential Information as is required to be retained under Applicable Law; (iii) any copies of such Confidential Information as is necessary or useful for such Party to exercise a right or fulfill an obligation towards a Sublicensee, if any, or as set forth in this Agreement; and (iv) any copies of any computer records and files containing Confidential Information that have been created by such Party's routine archiving/backup procedures.

Article 7
INTELLECTUAL PROPERTY

7.1 Ownership; License Grants.

(a) Exclusive License. CureVac hereby grants to CRISPR, and CRISPR hereby accepts, an exclusive (even as to CureVac and its Affiliates), sublicenseable (in accordance with Section 7.2), worldwide, royalty-bearing license under the Licensed Intellectual Property to Develop, Manufacture, Commercialize and otherwise use, including, but not limited to the right to research, have researched, develop, have developed, make, have made, use, have used, sell, have sold, offer for sale, have offered for sale, import, have imported, export, otherwise exploit and otherwise have exploited, Licensed Products in the Field in the Territory, in accordance with the terms and conditions, and subject to the limitations of this Agreement, the Manufacturing Services Agreement and the Commercial Supply Agreement.

(b) Exclusive Back License. On a Licensed Product-by-Licensed Product basis, as so long as CureVac is supplying Cas9 mRNA Constructs to CRISPR for a Licensed Product under the Manufacturing Services Agreement or any Commercial Supply Agreement, and on a Licensed Product-by-Licensed Product basis, CRISPR hereby grants to CureVac, and CureVac hereby accepts, an exclusive (even as to CRISPR and its Affiliates) worldwide, cost-free sublicense of the rights granted to CRISPR under Section 7.1(a), to Manufacture and have Manufactured Licensed Products in the Field in the Territory. For clarity, CureVac has no license to use, sell or otherwise exploit such Licensed Products and consequently will Manufacture such Licensed Products solely to supply to CRISPR, its Affiliates and their respective Sublicensees under such agreements.

(c) Background Intellectual Property. CureVac acknowledges and agrees that with signing this Agreement it does not acquire a license or any other right to CRISPR Background Intellectual Property except for the limited purpose of carrying out its duties and obligations under this Agreement and that such limited, non-exclusive, cost-free license will expire upon the completion of such duties and obligations or the termination or expiration of this Agreement, whichever is the first to occur. CRISPR acknowledges and agrees that CureVac retains all rights to the CureVac Background Intellectual Property, subject only to the licenses granted hereunder.

(d) Ownership of Foreground Intellectual Property.

(i) Except as set forth in subsection (iii) below, each Party will solely own all right, title and interest in and to all Foreground Intellectual Property that is discovered, created, conceived or reduced to practice solely by or on behalf of such Party ("**Solely-Owned Foreground Know-How**") and all Patent Rights arising therefrom that Cover such Solely-Owned Foreground Know-How ("**Solely-Owned Foreground Patent Rights**"), and together with the Solely-Owned Foreground Know-How, the "**Solely-Owned Foreground Intellectual Property**". All right, title and interest in and to all Solely-Owned Foreground Intellectual Property will automatically vest solely in such Party.

(ii) Except as set forth in subsection (iii) below, the Parties will jointly own all right, title and interest in and to all Foreground Intellectual Property that is discovered, created, conceived or reduced to practice jointly by or on behalf of the Parties ("**Jointly-Owned Foreground Know-How**") and all Patent Rights arising therefrom that Cover such Jointly-Owned Foreground Know-How ("**Jointly-Owned Foreground Patent Rights**"), and together with the Jointly-Owned Foreground Know-How, the "**Jointly-Owned Foreground Intellectual Property**". Each Party will have an undivided one-half interest in and to such Jointly-Owned Foreground Intellectual Property. CRISPR will have a right to grant non-exclusive licenses (with the right to grant sublicenses through multiple tiers) to CureVac's share in such Jointly-Owned Foreground Intellectual Property to the extent such license is required to exercise or exploit CRISPR Background Intellectual Property; and CureVac will have a right to grant non-exclusive licenses (with the right to grant sublicenses through multiple tiers) to CRISPR's share in such Jointly-Owned Foreground Intellectual Property to the extent such license is required to exercise or exploit CureVac Background Intellectual Property; i.e., neither Party is to be blocked in the use of its Background Intellectual Property. Subject to the licenses granted herein, any further license to Jointly-Owned Foreground Intellectual Property requires the prior written consent of the other Party. Each Party, for itself and on behalf of its and its Affiliates' employees, subcontractors, consultant and agents, hereby assigns and agrees to assign, without additional consideration, to the other Party a joint and undivided interest in and to all Jointly-Owned Foreground Intellectual Property to effect such joint ownership, which assignment such other Party hereby accepts.

(iii) Notwithstanding subsections (i) and (ii) above,

(A) CRISPR will solely own any Foreground Intellectual Property that is a CRISPR Improvement and that is not also a CureVac Improvement at the time such CRISPR Improvement is discovered, created, conceived, developed or reduced to practice, regardless of the Party or Parties such Foreground Intellectual Property was discovered, created, conceived, developed or reduced to practice by or on behalf of, and CureVac, for itself and on behalf of its and its Affiliates' employees, subcontractors, consultants and agents hereby assigns and agrees to assign, all of its rights, title and interest in such Intellectual Property to CRISPR. CureVac shall execute and deliver to CRISPR, to the extent necessary, any deed(s) of such assignment, in a mutually agreeable form and will take whatever actions reasonably necessary, including the appointment of CureVac as its attorney in fact solely to make such assignment, to effect such assignment.

(B) CureVac will solely own any Foreground Intellectual Property that is a CureVac Improvement that is not also a CRISPR Improvement at the time such CureVac Improvement is discovered, created, conceived, developed or reduced to practice, regardless of the Party or Parties such Foreground Intellectual Property was discovered, created, conceived, developed or reduced to practice by or on behalf of, and CRISPR, for itself and on behalf of its and its Affiliates' employees, subcontractors, consultants and agents hereby assigns and agrees to assign, all of its rights, title and interest in such Intellectual Property to CureVac. CRISPR shall execute and deliver to CureVac, to the extent necessary, any deed(s) of such assignment, in a mutually agreeable form and will take whatever actions reasonably necessary, including the appointment of CRISPR as its attorney in fact solely to make such assignment, to effect such assignment.

(C) To the extent a particular item of Foreground Intellectual Property constitutes both a CRISPR Improvement and a CureVac Improvement, ("**Dual Improvement Intellectual Property**"), the Parties shall discuss in good faith whether any such Foreground Intellectual Property can be divided and owned in accordance with subsections (A) and (B) above, made subject to separate patent filings to be assigned accordingly; and to the extent no such division is possible, such Dual Improvement Intellectual Property shall be treated as part of the Jointly-Owned Foreground Intellectual Property for all purposes under this Agreement.

7.2 Right to Sublicense. CRISPR shall be entitled to sublicense (through multiple tiers) its rights under Section 7.1(a) to any Affiliates and to any Third Parties, provided that sublicenses to Third Parties require CureVac's prior written consent which CureVac will not unreasonably withhold, condition or delay and that such sublicenses are subject to the Non-Royalty Sublicense Income in accordance with Section 5.3 above. For any sublicense it must be provided that the respective sublicense agreement contains terms and conditions that are not inconsistent with those contained in this Agreement, and shall include provisions regarding confidentiality, indemnification, audit, record-keeping and termination. CRISPR shall remain liable to CureVac for all obligations under this Agreement. CRISPR shall furnish CureVac with a fully executed copy of any sublicense agreement promptly after its execution, subject to reasonable redactions to the extent not necessary for CureVac to understand the scope of such sublicense, to calculate the Non-Royalty Sublicense Income and to determine if CRISPR is in compliance with this Section 7.2, and subject to the confidentiality provisions therein. The terms of any such sublicense agreement shall be Confidential Information of CRISPR.

7.3 Disclosure. Each Party will promptly disclose to the other Party all Foreground Know-How that is discovered, created, conceived or reduced to practice by or on behalf of such Party, and will provide documentation regarding the same as the other Party may reasonably request, including, information obtained by CureVac relating to CureVac's proprietary mRNA technology platform generally that would reasonably have an impact on any Cas9 mRNA Constructs or Licensed Products.

7.4 Third Party Licenses. To the extent CRISPR identifies any Patent Rights controlled by a Third Party that are reasonably necessary for a Party to freely exercise, practice or otherwise use the CureVac Background Patent Rights or the Foreground Patent Rights solely owned by CureVac, in each case, in connection with a Party's direct or indirect performance of its rights or obligations under this Agreement, and with respect to CRISPR's exploitation of Cas9 mRNA Constructs included in a Licensed Product in accordance with this Agreement, only if such Cas9 mRNA Constructs are defined by CureVac, CRISPR will promptly notify CureVac of such Patent Rights, Know-How or other intellectual property and CureVac will have the first right to negotiate for and enter into a license agreement ("**Third Party Agreement**") with respect to such Patent Rights, Know-How, or other intellectual property, provided that CureVac will notify CRISPR if CureVac wishes to exercise such right within [*****] days of CRISPR's notice, and such first right will continue until the earlier of (x) [*****] days after the date of CureVac's notice to CRISPR exercising such right or (y) CureVac is no longer actively negotiating such agreement, in which case CureVac will so notify CRISPR (such period is referred to the "**First Exercise Period**"), and CureVac will keep CRISPR reasonably informed as to the status of such negotiations. If CureVac does not notify CRISPR of its intent to exercise such right or the First Exercise Period expires, CRISPR will have the right to negotiate for and enter into a Third Party Agreement with respect to such Patent Rights, Know-How or other intellectual property.

Article 8
PROSECUTION AND ENFORCEMENT

8.1 Patent Prosecution. As between the Parties, each Party will have the sole right, but not the obligation, to file, prosecute and maintain the Patent Rights owned solely by such Party. During the Term, CureVac will consult with CRISPR as to the preparation, filing, prosecution, and maintenance of any of its Foreground Patent Rights reasonably prior to any deadline or action with the United States Patent & Trademark Office or any foreign patent office and will furnish CRISPR with copies of all relevant documents reasonably in advance of consultation. CureVac will reasonably consider any of CRISPR's reasonable comments on any documents to be submitted to such patent offices. In the event CureVac (i) decides not to file a patent application pertaining to any Foreground Know-How in any given country or countries, or (ii) desires to abandon any patent or patent application within the Foreground Patent Rights, then, in each case, CureVac shall provide CRISPR with reasonable prior written notice of such intended decision not to file or such intended decision of abandonment or decline of responsibility. If CRISPR elects to file any such patent application on behalf of CureVac, or if CRISPR elects to continue such patent or patent application on behalf of CureVac, the Parties shall promptly consult and CureVac may elect to retain responsibility therefor provided that any such decision shall be made in a sufficiently prompt time so as not to jeopardize CRISPR's ability to file such patent application or its ability to pursue or maintain such patent or patent application. Otherwise, CRISPR shall have the right, but not the obligation, to prepare, file, prosecute and maintain the relevant Foreground Patent Rights, as applicable, or seek patent protection in the first instance, on behalf of CureVac and at CRISPR's expense.

8.2 Prosecution of Jointly-Owned Foreground Patent Rights. CRISPR will have the first right, but not the obligation to file, prosecute and maintain Jointly-Owned Foreground Patent Rights, and will bear the costs incurred by CRISPR in connection with such efforts. CRISPR will consult with CureVac as to the preparation, filing, prosecution and maintenance of the Jointly-Owned Foreground Patent Rights reasonably prior to any deadline or action with any patent office and will furnish CureVac with copies of all relevant documents reasonably in advance of consultation. CRISPR will reasonably consider any of CureVac's reasonable comments on any documents to be submitted to such patent offices. In the event CRISPR (i) decides not to file a patent application pertaining to any Jointly-Owned Foreground Know-How in any given country or countries, or (ii) desires to abandon any patent or patent application within the Jointly-Owned Foreground Patent Rights, then, in each case, CRISPR shall provide CureVac with reasonable prior written notice of such intended decision not to file or such intended decision of abandonment or decline of responsibility. If CureVac elects to file any such patent application, or if CureVac elects to continue such patent or patent application, the Parties shall promptly consult and CRISPR may elect to retain responsibility therefor provided that any such decision shall be made in a sufficiently prompt time so as not to jeopardize CureVac's ability to file such patent application or its ability to pursue or maintain such patent or patent application. Otherwise, CureVac shall have the right, but not the obligation, to prepare, file, prosecute and maintain the relevant Foreground Patent Rights, as applicable, or seek patent protection in the first instance, at CureVac's expense.

8.3 Cooperation. Each Party will provide the other Party, at the other Party's request and expense, all reasonable assistance and cooperation in connection with this Article 8, including providing any necessary powers of attorney and executing any other required documents or instruments for such filing, prosecution or maintenance, and joining any lawsuit as needed for standing.

8.4 Third Party Actions.

(a) Patent Infringement Claims Against a Party. Each Party shall notify the other if it is aware of any claim that the Development, Manufacture, Commercialization or other use of a Licensed Product in the Field infringes a Patent Right Controlled by a Third Party, setting forth the facts of such claim in reasonable detail. CRISPR shall have the first right, but not the obligation, at its own expense, to defend and control the defense of any such claim, by counsel of its own choice. CRISPR shall not enter into a settlement that imposes a financial obligation upon CureVac or which limits the scope or invalidates any CureVac's intellectual property rights without CureVac's prior written consent and in any settlement CRISPR shall always take into consideration the interest of CureVac. In case CRISPR elects not to defend and control the defense of any such claim, it shall notify CureVac of such election within due term to allow CureVac to defend and control the defense of any such claim.

(b) Notice. If either Party learns of any (i) actual, alleged or threatened infringement or misappropriation of any of the Licensed Patent Rights in the Field, including based on the Development or Commercialization of a product that competes with a Licensed Product; (ii) declaratory judgment initiated by a Third Party naming a Party, or a Party's Affiliate or a Sublicensee as a defendant and alleging invalidity, unenforceability or non-infringement of any of the Licensed Patent Rights Covering the Development or Commercialization of a Licensed Product in the Field ("**Competitive Infringement**"), or (iii) declaratory judgment initiated by a Third Party naming a Party or a Party's Affiliate or Sublicensee as a defendant and alleging invalidity, unenforceability or non-infringement of any Licensed Patent Rights Covering the Manufacture of a Licensed Product in the Field, such Party shall promptly notify the other Party and shall provide the other Party with available evidence of such infringement or declaratory action.

(c) Enforcement and Defense. CRISPR shall have the first and exclusive right, but not the obligation, to take any reasonable measures it deems appropriate with respect to any Competitive Infringement in the Territory of any Licensed Patent Rights. Such measures may include (a) initiating or prosecuting an infringement, misappropriation or other appropriate suit or action (each an "**Infringement Action**") in the Territory, or (b) granting adequate rights and licenses to any Third Party necessary to render continued Competitive Infringement in the Territory non-infringing. Notwithstanding the foregoing, if CRISPR does not inform CureVac that it intends to either initiate such an Infringement Action or grant adequate rights and licenses to such Third Party within [*****] after CRISPR's receipt of a notice of infringement, then CureVac will have the second right, but not the obligation, to initiate such Infringement Action with respect to such Licensed Patent Rights. For any infringement other than a Competitive Infringement, and except as set forth below, each Party will have the first right, but not the obligation to enforce and defend the Licensed Patent Rights owned solely by such Party, and CRISPR will have the first right, but not the obligation to enforce and defend the Jointly Owned Foreground Patent Rights, with the exception only of Jointly-Owned Foreground Patent Rights which solely Cover the Manufacture of the Licensed Products, for which CureVac will have the first right, but not the obligation to enforce and defend. If within [*****] after having been notified of any alleged Third Party infringement of any Licensed Patent Right or any declaratory action contemplated by Section 8.4(d), in each case, in the Field, the Party enforcing or defending the Patent Right is unsuccessful in persuading the alleged infringer to desist, or the respective competent Party shall not have brought an infringement action within such [*****] period, or if the respective competent Party has not responded to such declaratory action, then, in any such event the other Party shall have the right, but not the obligation, to prosecute and defend the respective Licensed Patent Rights in connection with any such matter. The Party taking action to enforce and defend under this Section 8.4(c) shall bear all of its costs related to such enforcement and defense, including any costs incurred by the other Party providing support to such enforcement and defense at the request of the enforcing and defending Party.

(d) Standing to Sue; Collaboration. In any litigation brought by either Party pursuant to this Section 8.4, the enforcing Party shall notify the non-enforcing Party of the commencement of that litigation and shall have the right and standing to use and sue in the other Party's name. Irrespective of which Party brings the infringement action hereunder, (i) the Parties shall collaborate with respect to such action; (ii) the non-enforcing Party shall have the right, at its own expense, to be represented by independent counsel in any such litigation; and (iii) the Parties shall consult with each other regarding and agree on strategic decisions and their implementation in connection with such action. The Party bringing the infringement action hereunder shall bear all the expenses of any suit brought by it claiming infringement of any Licensed Patent Right.

(e) Recovery. In the event that either Party exercises the rights conferred in this Article 8 and recovers any damages or other sums in such action, such damages or other sums recovered shall first be applied to all out-of-pocket costs and expenses incurred by the Parties in connection therewith (including, without limitation, attorneys' fees). If such recovery is insufficient to cover all such costs and expenses of both Parties, the Parties' costs shall be paid on a pro-rated basis. If after such reimbursement any funds shall remain from such damages or other sums recovered, such funds shall be [*****] the Parties

Article 9
INDEMNIFICATION

9.1 Indemnification by CRISPR. Subject to the terms and conditions hereof, CRISPR shall indemnify CureVac, its Affiliates, and its and their directors, officers, employees, approved subcontractors and agents ("**CureVac Indemnitees**") and defend and hold each of them harmless, from and against any and all Third Party claims and all losses, damages, liabilities, costs and expenses (including reasonable attorneys' fees and expenses) (collectively, "**Losses**") that such CureVac Indemnitees may be required to pay to one or more Third Parties to the extent arising from or occurring as a result of (a) an uncured material breach of any of CRISPR's representations, warranties or covenants set forth in this Agreement, (b) the exercise by CRISPR and/or any of its Affiliates or Sublicensees of the rights granted to CRISPR pursuant to Sections 4.1 and 7.1 (including the Development, Manufacture, Commercialization or other use of Licensed Products), except to the extent such Losses are in connection with the CureVac Background Intellectual Property or the Foreground Intellectual Property solely owned by CureVac; or (c) the negligence, recklessness, or willful misconduct by CRISPR or its Affiliates. Notwithstanding the foregoing, CRISPR will have no obligations under this Section to the extent Losses arise from or occur as a result of (i) gross negligence or willful misconduct (including noncompliance with any Applicable Laws, regulations, or rules) on the part of a CureVac Indemnitee, or (ii) a breach by CureVac of any representations, warranties or covenants set forth in this Agreement.

9.2 Indemnification by CureVac. Subject to the terms and conditions hereof, CureVac shall indemnify CRISPR, its Affiliates, and its and their directors, officers, employees, subcontractors, and agents ("**CRISPR Indemnitees**"), and defend and hold each of them harmless, from and against any Third Party claims and all Losses that such CRISPR Indemnitees may be required to pay one or more Third Parties to the extent arising from or occurring as a result of (a) an uncured material breach of any of CureVac's representations, warranties or covenants set forth in this Agreement, or (b) the negligence, recklessness, or willful misconduct by CureVac or its Affiliates. Notwithstanding the foregoing, CureVac will have no obligations under this Section to the extent Losses arise from or occur as a result of (i) gross negligence or willful misconduct (including non-compliance with any Applicable Laws, regulations, or rules) on the part of a CRISPR Indemnitee, or (ii) a breach by CRISPR of any representations, warranties or covenants set forth in this Agreement.

9.3 Indemnification Procedures. Except as set forth in Section 8.4(a), the person claiming indemnity under this Article 9 (the "**Indemnified Party**") shall give written notice to the Party from whom indemnity is being sought (the "**Indemnifying Party**") promptly after learning of any claim, *provided*, that the failure to provide such notice shall not affect the Indemnifying Party's obligations hereunder, except to the extent it is materially prejudiced thereby. The Indemnified Party shall provide the Indemnifying Party with reasonable assistance, at the Indemnifying Party's expense, in connection with the defense of the claim for which indemnity is being sought. The Indemnified Party may participate in and monitor such defense with counsel of its own choosing at its sole expense; *provided, however,* the Indemnifying Party shall have the right to assume and conduct the defense of the claim with counsel of its choice. The Indemnifying Party shall not settle a claim in any manner that would require payment by the Indemnified Party, or would materially adversely affect the rights granted to the Indemnified Party hereunder, or would materially conflict with the terms of this Agreement, or adversely affect such Party or its products, without first obtaining the indemnified Party's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed. So long as the Indemnifying Party is actively defending the claim in good faith, the Indemnified Party shall not settle or compromise any such claim without the prior written consent of the Indemnifying Party, such consent not to be unreasonably withheld, conditioned or delayed. If the Indemnifying Party does not assume and conduct the defense of the claim as provided above, (a) the Indemnified Party may defend against, consent to the entry of any judgment, or enter into any settlement with respect to such claim in any manner the Indemnified Party may deem reasonably appropriate (and the Indemnified Party need not consult with, or obtain any consent from, the Indemnifying Party in connection therewith), and (b) the Indemnifying Party shall remain responsible to indemnify the Indemnified Party as provided in this Article 9.

Article 10
REPRESENTATIONS AND WARRANTIES

10.1 CureVac Representations. Subject to the disclosures in **Attachment H** hereto, CureVac represents, warrants and covenants to CRISPR, on the Effective Date, as follows.

(a) CureVac is a stock corporation, validly existing and in good standing under the laws of Germany, with full power and authority to operate its properties and to carry on its business as presently conducted.

(b) CureVac has full power and authority to execute, deliver and perform this Agreement. This Agreement constitutes legally binding and valid obligations of CureVac, enforceable in accordance with their terms;

(c) The execution and delivery of this Agreement and the performance of the obligations contemplated hereby have been duly authorized by all appropriate CureVac corporate action;

(d) The execution, delivery and performance by CureVac of this Agreement and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any contract or agreement to which CureVac is a party or by which it is bound.

(e) To the knowledge of CureVac, no consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority on the part of CureVac is required in connection with the execution, delivery and performance of this Agreement.

(f) There is no action, suit, proceeding or investigation pending or, to the knowledge of CureVac, currently threatened in writing against or affecting CureVac that questions the validity of this Agreement or the right of CureVac to enter into this Agreement or perform CureVac's obligations hereunder.

(g) There are no claims, judgments, settlements, litigations, suits, actions, disputes, arbitration, judicial, administrative or legal proceedings pending or, to the knowledge of CureVac, threatened, against CureVac, including with respect to administrative or other governmental investigations, which would (a) be reasonably expected to affect or restrict the ability of CureVac to perform its obligations under this Agreement, or (b) affect in any manner the Licensed Intellectual Property or CureVac's Control thereof.

(h) To the knowledge of CureVac, no Third Party is conducting or engaging in any activity that would constitute infringement or misappropriation of the Licensed Intellectual Property; and to the knowledge of CureVac, the performance of activities contemplated by this Agreement (including the practice of the Licensed Intellectual property in accordance with the terms and conditions of this Agreement) would not itself constitute infringement or misappropriation of Third party's intellectual property rights in existence on the Effective Date.

(i) To CureVac's knowledge, no objection or proceeding is pending or threatened that questions the validity or enforceability of the CureVac Background Intellectual Property or the issuance of any patent applications included therein.

(j) As of and following the Effective Date, CureVac has undertaken reasonable efforts to secure and will continue to use reasonable efforts to secure from all employees, consultants, contractors and other Persons who have contributed or will contribute to the development, creation, conception or invention of any of the Licensed Intellectual Property a written agreement assigning to CureVac or its Affiliates all rights to such developments, creations, conceptions or inventions and such Affiliates have assigned such rights to CureVac, and, to CureVac's knowledge, neither CureVac nor any of its Affiliates has received any written communication challenging CureVac's ownership or right to such Licensed Intellectual Property, unless such an agreement with the inventor is not required under Applicable Law for ownership in such Licensed Intellectual Property to vest in CureVac.

10.2 CRISPR's Representations. CRISPR represents and warrants to CureVac, on and as of the Effective Date, that:

(a) CRISPR is a corporation, duly incorporated, validly existing and in good standing under the laws of Switzerland, with full corporate power and authority to operate its properties and to carry on its business as presently conducted;

(b) CRISPR has full power and authority to execute, deliver and perform this Agreement. This Agreement constitutes the legally binding and valid obligations of CRISPR, enforceable in accordance with their terms;

(c) the execution, delivery and performance by CRISPR of this Agreement and the consummation of the transactions contemplated thereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any contract or agreement to which CRISPR is a party or by which it is bound, its business or assets;

(d) no consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority on the part of CRISPR is required in connection with the execution, delivery and performance of this Agreement; and

(e) there is no action, suit, proceeding or investigation pending or, to the knowledge of CRISPR, currently threatened against or affecting CRISPR or that questions the validity of this Agreement, or the right of CRISPR to enter into this Agreement or consummate the transactions contemplated hereby.

10.3 Covenants. Each Party covenants and agrees that during the Term, neither it, nor its Affiliates, will take any action or cause or permit the taking of any action that would have the effect of invalidating or breaching any of the representations or warranties contained in Section 10.1 or 10.2, including, without limitation, any action that would result in any invalidity of any of the Licensed Patent Rights. Without limiting the foregoing, CureVac covenants and agrees that during the Term, neither it, nor its Affiliates, will take any action or cause or permit the taking of any action that would materially adversely affect the rights of CRISPR under this Agreement. For clarity, CureVac cannot and will not grant a license to any Third Party to the extent CRISPR has obtained exclusive rights under this Agreement.

10.4 Disclaimer of Warranties. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY OTHER WARRANTIES CONCERNING PATENT RIGHTS OR ANY OTHER MATTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, ANY EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF THIRD PARTY RIGHTS, OR ARISING OUT OF COURSE OF CONDUCT OR TRADE CUSTOM OR USAGE, AND EACH PARTY DISCLAIMS ALL SUCH EXPRESS OR IMPLIED WARRANTIES.

Article 11
INSURANCE; LIMITATION OF LIABILITY

11.1 Insurance. CRISPR shall maintain, at its own cost, a program of insurance and/or self-insurance against liability (including product liability) and any other risks associated with its activities and obligations under this Agreement, the Commercialization of any Licensed Products, and its indemnification obligations hereunder, in such amounts, subject to such deductibles and on such terms as are customary for companies similar to CRISPR for the activities to be conducted by them under this Agreement. Such insurance coverage shall be kept as long as any Licensed Product is Commercialized. CureVac shall maintain, at its own cost, a program of insurance and/or self-insurance against liability and any other risks associated with its activities and obligations under this Agreement, and its indemnification obligations hereunder, in such amounts, subject to such deductibles and on such terms as are customary for companies similar to CureVac for the activities to be conducted by CureVac under this Agreement. Such insurance coverage shall be kept as long as any Licensed Product is commercialized.

11.2 Consequential Damages. EXCEPT WITH RESPECT TO WILLFUL MISCONDUCT, GROSS NEGLIGENCE, ANY BREACH OF ARTICLE 6 (CONFIDENTIALITY), OR ANY INDEMNIFICATION OBLIGATIONS UNDER ARTICLE 9, TO THE MAXIMUM EXTENT PERMITTED UNDER APPLICABLE LAWS, IN NO EVENT WILL EITHER PARTY OR ITS AFFILIATES OR ITS OR THEIR OFFICERS, DIRECTORS, EMPLOYEES OR AGENTS BE LIABLE TO THE OTHER PARTY OR ITS AFFILIATES FOR ANY INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS) ARISING FROM OR RELATED TO THIS AGREEMENT.

Article 12
GENERAL COMPLIANCE WITH LAW

Each Party will use reasonable commercial efforts to comply with all Applicable Law relating to the exercise of rights and satisfaction of obligations under this Agreement.

Article 13
TERM AND TERMINATION

13.1 Term. The Term will commence as of the Effective Date, and unless earlier terminated in accordance with this Section 13, will expire on a Licensed Product-by-Licensed Product and country-by-country basis, upon such time as the Royalty Term with respect to the sale of such Licensed Product in such country expires.

13.2 Termination for Breach.

(a) Material Breach. Subject to the other terms of this Agreement, this Agreement may be terminated, on a Program-by-Program basis, by either Party for a material breach by the other Party to this Agreement, *provided* that the breaching Party has not cured such breach within [*****] after the date of written notice to the breaching Party, which notice shall describe such breachnn reasonable detail and shall state the non-breaching Party's intention to terminate this Agreement pursuant to this Section, provided further that in no event will the failure of CRISPR to pay a disputed amount under this Agreement, the Manufacturing Services Agreement or any Commercial Supply Agreement be considered a material breach of this Agreement.

(b) Program by Program; Development Program. In the event the facts giving rise to termination under Section 13.2(a) relate to one or more Programs but not all Programs, such termination, if any, will relate only to the affected Program(s) and this Agreement will otherwise continue with respect to all other Programs in all respects. Further, if CRISPR exercises any of its termination rights under this Article 13, CRISPR may terminate the Development Program without terminating the remainder of this Agreement.

13.3 Voluntary Termination by CRISPR. CRISPR may terminate this Agreement, in its entirety or on a Program-by-Program basis, at any time upon [*****] prior written notice to CureVac.

13.4 Termination for Bankruptcy. If any Party hereto files for protection under bankruptcy laws, makes an assignment for the benefit of creditors, appoints or suffers appointment of a receiver or trustee over its property, files a petition under any bankruptcy or insolvency act or has any such petition filed against it which is not discharged within [*****] of the filing thereof, then the respective other Party may terminate this Agreement effective immediately upon written notice to the insolvent Party.

13.5 Change of Control of CRISPR. In the event of (i) a direct or indirect acquisition of beneficial ownership of fifty percent (50%) or more of the voting power in CRISPR by a CureVac Competitor; or (ii) the sale or other disposition of all or substantially all of the assets of CRISPR to a CureVac Competitor; or (iii) the merger, amalgamation or other form of business combination or similar transaction between CRISPR and a CureVac Competitor ("**Change of Control**") the following shall apply:

(a) CRISPR shall promptly give written notice of such Change of Control to CureVac; and

(b) CureVac shall have the right to be released of any or all of its ongoing obligations under the Development Program, and of its obligations of disclosure and information exchange relating solely thereto. In addition, the JSC shall be dissolved upon CureVac's request. For clarity, CureVac shall not have the right to be released from any obligations under this Agreement, the Manufacturing Services Agreement, or the Commercial Supply Agreement relating to the Programs or Licensed Products outside of the Development Program. For further clarity, CRISPR shall retain all rights hereunder to all Cas9 mRNA Constructs and any other deliverables delivered to CRISPR under the Development Program prior to such Change of Control, and CRISPR shall have the right to exploit such Cas9 mRNA Constructs and any other deliverables in accordance with the license grant set forth in Section 7.1.

(c) In addition to the confidentiality obligations according to Article 6, CRISPR shall take reasonable steps to ensure that any Confidential Information of CureVac provided under this Agreement is not shared with any others within CRISPR that are not required to manage, perform and exercise CRISPR's rights and obligations under this Agreement.

13.6 Termination for Challenge of CureVac Licensed Patent Rights. CureVac may terminate this Agreement by providing [*****] prior written notice to CRISPR in the event CRISPR or any of its Affiliates directly or indirectly challenges the validity of the Licensed Patent Rights in a legal proceeding or supports a Third Party in the challenge of a Licensed Patent Right in a legal proceeding (in each case before a court of competent jurisdiction). Any such termination shall only become effective if CRISPR or its Affiliate has not withdrawn such action before the end of the above notice period. In the event a Sublicensee of CRISPR challenges the validity of a CureVac Licensed Patent Right, CureVac may terminate this Agreement hereunder, if CRISPR does not terminate such sublicense agreement within the [*****] notice period.

13.7 Remedies. Except as otherwise expressly set forth in this Agreement, the termination provisions of this Article 13 are in addition to any other relief and remedies available to either Party under this Agreement and at law.

13.8 Effects of Expiration or Termination.

(a) License Upon Expiration. Upon expiration, but not upon earlier termination of this Agreement, the licenses granted to CRISPR in Section 7.1 shall automatically covert to the license set forth in Section 5.5(e).

(b) Termination of Licenses. Upon any termination of this Agreement by a Party prior to expiration, except as otherwise provided in Section 13.5, as of the effective date of such termination, all licenses granted by CureVac to CRISPR under this Agreement shall terminate automatically, and the Licensed Intellectual Property shall automatically revert back to CureVac.

(c) Notwithstanding the foregoing, no termination of this Agreement shall be construed as a termination of any sublicense of any Sublicensee hereunder, and thereafter each such Sublicensee shall be considered a direct licensee of CureVac, provided (i) CureVac has approved such sublicense in accordance with Section 7.2; (ii) CureVac does not assume undertakings and liabilities towards the Sublicensee beyond those stipulated herein; and (iii) the Sublicensee is then in full compliance with all terms and conditions of its sublicense.

(d) Post-Termination Activities. Upon termination of this Agreement CRISPR shall provide CureVac with a written inventory of all Licensed Products that are in the process of Manufacture, in use or in stock; *provided*, *however*, that if CRISPR terminates this Agreement in part under Section 13.3, such inventory shall only apply to the Licensed Products subject to such partial termination. All Licensed Products that are not disposed of as provided above shall be delivered to CureVac or otherwise disposed of in CureVac's sole discretion and at CRISPR's sole expense.

(e) Accrued Payment Claims. Termination of this Agreement for any reason whatsoever shall not relieve CRISPR of its obligations to pay all royalties, milestones and other amounts payable to CureVac which have accrued prior to, but remain unpaid as of, the date of expiration or termination hereof.

(f) Reversion. In the event of termination of this Agreement by CRISPR pursuant to Section 13.3 or by CureVac pursuant to Section 13.2 or 13.4, CureVac shall be entitled to demand from CRISPR the transfer and/or assignment, as applicable, of all right, title and interest in and to any Cas9 mRNA Constructs, and all data related thereto. Under no circumstance shall CureVac be entitled to any CRISPR Background Intellectual Property, CRISPR Improvement, CRISPR's Solely-Owned Foreground Intellectual Property, CRISPR's interest in and to any Jointly-Owned Foreground Intellectual Property, or to any CRISPR Drug Product (as defined in the Manufacturing Services Agreement) or any data related to or generated through the use of or reference to a CRISPR Drug Product.

13.9 Surviving Provisions. Notwithstanding any provision herein to the contrary, the rights and obligations of the Parties set forth in Article 6 (Confidentiality), Article 7 (Intellectual Property) (provided that Sections 7.1(a), 7.1(c), 7.2, and 7.3 shall not survive termination by CRISPR under Section 13.3 (Voluntary Termination by CRISPR) or any termination by CureVac under Article 13), Article 8 (with respect to Patent Rights Covering Know-How developed prior to Termination), Article 9 (Indemnification), Section 11 (Insurance, Limitation of Liability), Section 13.7 (Remedies), Section 13.8 (Effects of Expiration or Termination), Section 13.9 (Surviving Provisions), Article 14 (Dispute Resolution) and Article 15 (Miscellaneous, to the extent applicable), as well as any rights or obligations otherwise accrued hereunder (including any accrued payment obligations), shall survive the expiration or termination of this Agreement. Termination shall not relieve any Party from any liability which has accrued prior to such termination.

Article 14
DISPUTE RESOLUTION

14.1 Mandatory Procedures. The Parties agree that any dispute arising out of or relating to this Agreement will be resolved solely by means of the procedures set forth in this Article 14, and that such procedures constitute legally binding obligations that are an essential provision of this Agreement. If either Party fails to observe the procedures of this Article 14, as may be modified by their written agreement, the other Party may bring an action for specific performance of these procedures in any court of competent jurisdiction.

14.2 Dispute Resolution Procedures. In the event of a dispute between the Parties (other than disputes arising out of the JSC), relating to the validity performance, construction or interpretation of this Agreement, upon the request of either Party by written notice, the Parties agree to meet and discuss in good faith a possible resolution thereof, which good faith efforts shall include at least one in-person meeting between the Executive Officers of each Party. If the matter is not resolved within [*****] following the written request for discussions, either Party may then invoke the provisions of Section 14.3.

14.3 Any dispute (other than disputes arising from the JSC) relating to the validity performance, construction or interpretation of this Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in Section 14.2, shall be submitted to arbitration in accordance with the Arbitration Rules of WIPO in effect on the date of the commencement of the arbitration proceedings. The location of the arbitration proceedings will be London, England. The number of arbitrators will be three (3). The language of the arbitration proceeding will be English. The decision of the arbitrators shall be final and binding upon the Parties (absent manifest error on the part of the arbitrator(s)) and enforceable in any court of competent jurisdiction.

14.4 Performance to Continue. Each Party will continue to perform its undisputed obligations under this Agreement pending final resolution of any dispute arising out of or relating to this Agreement; *provided, however,* that a Party may suspend performance of its undisputed obligations during any period in which the other Party fails or refuses to perform its undisputed obligations.

14.5 Tolling. The Parties agree that all applicable statutes of limitation and time-based defenses, as well as all time periods in which a Party must exercise rights or perform obligation hereunder, will be tolled once the dispute resolution procedures set forth in this Section 14.5 have been initiated and for so long as they are pending, and the Parties will cooperate in taking all actions reasonably necessary to achieve such a result. In addition, during the pendency of any dispute under this Agreement initiated before the end of any applicable cure period, (a) this Agreement will remain in full force and effect, (b) the provisions of this Agreement relating to termination for material breach with respect to such dispute will not be effective, (c) the time period for cure as to any termination notice given prior to the initiation of arbitration will be tolled, (d) any time periods to exercise rights or perform obligations will be tolled; and (e) neither Party will issue a notice of termination pursuant to this Agreement based on the subject matter of the arbitration, until the arbitral tribunal has confirmed the material breach and the existence of the facts claimed by a Party to be the basis for the asserted material breach; *provided*, that if such breach can be cured by (i) the payment of money, the defaulting Party will have an additional [*****] within its receipt of the arbitral tribunal's decision to pay such amount or (ii) the taking of specific remedial actions, the defaulting Party will have a reasonably necessary period to diligently undertake and complete such remedial actions within such reasonably necessary period or any specific timeframe established by such arbitral tribunal's decision before any such notice of termination can be issued. Further, with respect to any time periods that have run during the pendency of the dispute, the applicable Party will have a reasonable period of time or any specific timeframe established by such arbitral tribunal's decision to exercise any rights or perform any obligations affected by the running of such time periods.

Article 15
MISCELLANEOUS

15.1 Severability. If any one or more of the provisions of this Agreement is held to be invalid or unenforceable, the provision shall be considered severed from this Agreement and shall not serve to invalidate any remaining provisions hereof, unless the invalid or unenforceable provision is of such essential importance to this Agreement that it is to be reasonably assumed that the Parties would not have entered into this Agreement without the invalid or unenforceable provision. The Parties shall make a good faith effort to replace any invalid or unenforceable provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering this Agreement may be realized.

15.2 Notices. Any notice required or permitted to be given by this Agreement shall be in writing and shall be (a) delivered by hand or by FedEx, UPS or any other similar service with tracking capabilities, (b) registered mail, or (c) delivered by facsimile followed by delivery via any of the methods set forth in this Section 15.2, in each case, addressed as set forth below unless changed by notice so given:

If to CRISPR:

CRISPR Therapeutics AG
Baarerstrasse 14
6300 Zug
Switzerland
Attention: Chief Executive Officer

and

CRISPR Therapeutics Limited
85 Tottenham Court Road
London W1T 4TQ
United Kingdom
Attention: Chief Legal Officer

with copies (which shall not constitute notice) to:

Goodwin Procter LLP
100 Northern Avenue
Boston, MA 02210
Attention: [*****]
Facsimile: [*****]
Telephone: [*****]

and

[*****]

If to CureVac:

CureVac AG
Paul-Ehrlich-Str. 15
72076 Tübingen
Germany
Attention: CEO and General Counsel

Any such notice shall be deemed given on the date received. A Party may add, delete, or change the person or address to which notices should be sent at any time upon written notice delivered to the Party's notices in accordance with this Section 15.2.

15.3 Assignment. Neither Party may, without the consent of the other Party, such consent not to be unreasonably withheld, conditioned or delayed, assign or transfer any of its rights and obligations hereunder; *provided* that no such consent is required for an assignment or transfer (in whole or in part) by either Party (a) to an Affiliate or (b) to a successor-in-interest by reason of merger or consolidation or sale of all or substantially all of the respective Party's assets to which this Agreement relates; *provided further* that, with respect to an assignment or transfer by a Party in accordance with the prior provisions, (i) with respect to an assignment to a successor-in-interest, such assignment includes all relevant rights and obligations under this Agreement, and (ii) any assignee or transferee shall have agreed as of such assignment or transfer to be bound by the terms of this Agreement in a writing provided to the other Party. Subject to the foregoing, this Agreement shall inure to the benefit of and be binding on the Parties' successors and permitted assigns. Any assignment or transfer in violation of the foregoing shall be null and void and wholly invalid, the assignee or transferee in any such assignment or transfer shall acquire no rights whatsoever, and the non-assigning, non-transferring Party shall not recognize, nor shall it be required to recognize, such assignment or transfer. Upon request by CRISPR, the Parties shall cooperate to enter into a separate agreement or agreements with respect to one or more Programs covered under this Agreement (i.e. severing such Program(s) from this Agreement and covering them instead in a separate agreement having the same terms as this one but being limited to such Program or Programs), which separate agreement(s) may be assigned in accordance with the foregoing provisions of this Section 15.3.

15.4 Waivers and Modifications. The failure of any Party to insist on the performance of any obligation hereunder shall not be deemed to be a waiver of such obligation. Waiver of any breach of any provision hereof shall not be deemed to be a waiver of any other breach of such provision or any other provision on such occasion or any succeeding occasion. No, modification, release, or amendment of any obligation under or provision of this Agreement shall be valid or effective unless in writing and signed by both Parties.

15.5 Governing Law. This Agreement shall be governed by and construed and interpreted in accordance with the laws of Switzerland; irrespective of the choice of laws principles of the laws of Switzerland, as to all matters, including matters of validity, construction, effect, enforceability, performance and remedies, provided, that questions affecting the construction and effect of any Patent Rights shall be determined by the law of the country in which the Patent Rights have been filed, granted or issued.

15.6 Relationship of the Parties. Each Party is an independent contractor under this Agreement. Nothing contained herein is intended or is to be construed so as to constitute CureVac and CRISPR as partners, agents, or joint venturers. Neither Party shall have any express or implied right or authority to assume or create any obligations on behalf of or in the name of the other Party or to bind the other Party to any contract, agreement, or undertaking with any Third Party. There are no express or implied third party beneficiaries hereunder.

15.7 Entire Agreement. This Agreement and the attached attachments constitutes the entire agreement between the Parties as to the subject matter of this Agreement and, as of the Effective Date, supersedes and merges all prior and contemporaneous negotiations, representations, agreements, and understandings regarding the same. The Material Transfer Agreement between the Parties dated June 13, 2016, as amended from time to time, and the Confidentiality Agreement between the Parties dated February 26, 2016 are being replaced as of the Effective Date, provided that the ownership rights with respect to any Intellectual Property (as defined in the Material Transfer Agreement) discovered, created, conceived or reduced to practice under the Material Transfer Agreement prior to the Effective Date will remain to be governed by the Material Transfer Agreement. This Agreement, and its attachments, may not be amended except in a writing signed by duly authorized representatives of the Parties expressly stating that it is amending this Agreement and identifying each provision being amended.

15.8 Counterparts. This Agreement may be executed in counterparts (whether delivered by facsimile or otherwise) with the same effect as if both Parties had signed the same document. All such counterparts shall be deemed an original, shall be construed together and shall constitute one and the same instrument.

15.9 Interpretation.

(a) Each of the Parties acknowledges and agrees that this Agreement has been diligently reviewed by and negotiated by and between them, that in such negotiations each of them has been represented by competent counsel, and that the final agreement contained herein, including the language whereby it has been expressed, represents the joint efforts of the Parties and their counsel. Accordingly, in interpreting this Agreement or any provision hereof, no presumption shall apply against any Party as being responsible for the wording or drafting of this Agreement or any such provision, and ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision.

(b) The definitions of the terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine, and neuter forms. The word “will” shall be construed to have the same meaning and effect as the word “shall.” The word “any” shall mean “any and all” unless otherwise clearly indicated by context. The word “including” will be construed as “including without limitation.” The word “or” will be interpreted in the inclusive sense commonly associated with the term “and/or”.

(c) Unless the context requires otherwise, (a) any definition of or reference to any agreement, instrument, or other document herein shall be construed as referring to such agreement, instrument, or other document as from time to time amended, supplemented, or otherwise modified (subject to any restrictions on such amendments, supplements, or modifications set forth herein or therein), (b) any reference to any Applicable Laws herein shall be construed as referring to such Applicable Laws as from time to time enacted, repealed, or amended, (c) any reference herein to any Person shall be construed to include the Person's successors and assigns, (d) all references herein to Articles, Sections, or Attachments, unless otherwise specifically provided, shall be construed to refer to Articles, Sections, and Attachments of this Agreement, and references to this Agreement includes all Articles, Sections, and Attachments hereof, (e) the words "herein", "hereof" and "hereunder", and words of similar import, will be construed to refer to this Agreement in each of their entirety, as the context requires, and not to any particular provision hereof, (f) the word "notice" means notice in writing (whether or not specifically stated) and will include notices, consents, approvals and other written communications contemplated under this Agreement, and (g) provisions that require that a Party, the Parties or any committee hereunder "agree," "consent" or "approve" or the like will require that such agreement, consent or approval be specific and in writing, whether by written agreement, letter, approved minutes or otherwise (but excluding e-mail and instant messaging).

(d) Headings and captions are for convenience only and are not be used in the interpretation of this Agreement.

15.10 Section 365(n).

(a) All licenses granted under this Agreement are deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of right to "intellectual property" as defined in Section 101 of such Code. Each Party, as licensee, may fully exercise all of its rights and elections under the U.S. Bankruptcy Code and any foreign equivalent thereto in any country having jurisdiction over a Party or its assets. The Parties further agree that, if a Party elects to retain its rights as a licensee under such Code, such Party shall be entitled to complete access to any technology licensed to it hereunder and all embodiments of such technology. Such embodiments of the technology shall be delivered to the licensee Party not later than:

(i) the commencement of bankruptcy proceedings against the licensor, upon written request, unless the licensor elects to perform its obligations under the Agreement, or

(ii) if not delivered under Section 15.10(a)(i), upon the rejection of this Agreement by or on behalf of the licensor, upon written request.

(b) Any agreements supplemental hereto will be deemed to be "agreements supplementary to" this Agreement for purposes of Section 365(n) of the Bankruptcy Code.

[*Signature page follows*.]

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement effective as of the Effective Date.

CureVac AG		**CRISPR Therapeutics AG**	
By:	/s/ Dr. Ingmar Hoerr	By:	
Name:	Dr. Ingmar Hoerr	Name:	
Title:	*Chief Executive Officer*	Title:	

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement effective as of the Effective Date.

CureVac AG		**CRISPR Therapeutics AG**	
By:		**By:**	/s/ Rodger Novak
Name:		**Name:**	**Rodger Novak**
Title:		**Title:**	**Chief Executive Officer**

ATTACHMENT A

CRISPR Background Intellectual Property

A. [*****]

ATTACHMENT B

CureVac Background Intellectual Property

[*****]

ATTACHMENT C

Materials

Cas9 mRNA Constructs developed under this Agreement

ATTACHMENT D
Work Plan

[*****]

ATTACHMENT E

Manufacturing Services Agreement

[*****]

ATTACHMENT F

JSC Participants

[*****]

ATTACHMENT G

Alternative Program 1 Target List

[*****]

ATTACHMENT H

Disclosure Letter

[*****]

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

EXCLUSIVE COLLABORATION AND LICENSE AGREEMENT

- by and between -

CUREVAC GMBH

- and -

BOEHRINGER INGELHEIM INTERNATIONAL GMBH

AUGUST 21, 2014

TABLE OF CONTENTS

EXHIBITS

Exhibit 1.3	BI Background Intellectual Property
Exhibit 1.17	CureVac Background Intellectual Property
Exhibit 1.23	CV9202 Specific Patent Rights
Exhibit 1.34	Requirements with respect to Invoices
Exhibit 4.2	CV9202 Development Plan
Exhibit 4.3	CMC Development-related and Manufacturing-related Documentation
Exhibit 4.5A	Ongoing Clinical Trials as of the Effective Date
Exhibit 4.5B	Description of CureVac's License Agreements with the Ludwig Institute for Cancer Research, the University of Zurich and Geneart AG
Exhibit 6.1	Clinical Supply Agreement
Exhibit 6.2A	Terms and Conditions of a Phase III Clinical Supply Agreement between CureVac and BI
Exhibit 6.2B	Terms and Conditions of a Commercial Supply Agreement between • CureVac and BI
Exhibit 6.4A	Material Transfer and Feasibility Study Agreement
Exhibit 6.4B	Terms and Conditions of a License Agreement with respect to the BI pDNA Process
Exhibit 11.2	Disclosures Regarding Representations and Warranties of CureVac

EXCLUSIVE COLLABORATION AND LICENSE AGREEMENT

This Exclusive Collaboration and License Agreement ("**Agreement**") is entered into on August 21, 2014 ("**Effective Date**"),

BY AND BETWEEN

CureVac GmbH, a German limited liability company with offices at Paul-Ehrlich-Str. 15, 72076 Tubingen, Germany ("**CureVac**");

AND

Boehringer Ingelheim International GmbH, a German limited liability company with offices at Binger StraBe 173, 55216 Ingelheim am Rhein, Germany ("**BI**").

RECITALS

WHEREAS, CureVac is a biotechnology company that is a pioneer and technology leader in mRNA-based vaccination approaches and especially discovers, designs and develops first-in-class mRNA vaccines and immune-therapies for the treatment of oncological diseases with unmet medical need;

WHEREAS, BI is a research based pharmaceutical company which possesses expertise relating to the research, development, manufacture, marketing and sale of pharmaceutical products, and BI aims to enter into the immunotherapeutic treatment of oncological diseases;

WHEREAS, CureVac wishes to grant an exclusive license and an exclusive option to BI, and BI wishes to take, an exclusive license and an exclusive option under such intellectual property rights; and

WHEREAS, the Parties wish (i) to mutually collaborate to Develop and Manufacture (each as defined below) the Licensed Vaccines and Licensed Products (as defined below) in the Territory (as defined below), and (ii) for BI to Commercialize (as defined below) the Licensed Vaccines and Licensed Products in the Territory, in each case in accordance with the terms and conditions set forth below.

NOW, THEREFORE, the Parties hereby agree as follows:

1. DEFINITIONS.

For purposes of this Agreement, the following capitalized terms shall have the following meanings, whether used in the singular or plural:

1.1 "**Affiliate**" shall mean and include with respect to any Party, (i) any legal entity of which the securities or other ownership interests representing fifty percent (50%) or more of the equity or fifty percent (50%) or more of the ordinary voting power or fifty percent (50%) or more of the general partnership interest are, at the time such determination is being made, owned, controlled or held, directly or indirectly, by such Party, or (ii) any legal entity which, at the time such determination is being made, is controlling or under common control with, such Party, *provided*, *however*, that regarding CureVac, Affiliate shall not include Mr. Dietmar Hopp and dievini Hopp BioTech holding GmbH & Co. KG and/or any other companies controlled by Mr. Dietmar Hopp and/or dievini Hopp BioTech holding GmbH & Co. KG. As used in this definition, the term "**control**", whether used as a noun or verb, refers to the possession, directly or indirectly, of the power to direct, or cause the direction of, the management or policies of a legal entity, whether through the ownership of voting securities, by contract or otherwise.

1.2 "**Applicable Laws**" shall mean all applicable provisions of all statutes, laws, rules, regulations, administrative codes, ordinances, decrees, orders, decisions, guidance documents, injunctions, awards, judgments, and permits as well as licenses of or from Regulatory Authorities relating to the development, use, manufacture, marketing or regulation of the subject item.

1.3 "**BI Background Intellectual Property**" shall mean Intellectual Property Controlled by BI or its Affiliates on the Effective Date and which is necessary or useful for the Manufacture, Development and Commercialization of the Licensed Vaccines and/or a Licensed Product (including an Afatinib Vaccine) in accordance with this Agreement, but excluding Intellectual Property related to the manufacture of plasmid DNA. The BI Background Intellectual Property includes the Intellectual Property listed in **Exhibit 1.3** hereto.

1.4 "**BI Collaboration Intellectual Property**" shall mean the Collaboration Intellectual Property Controlled by BI including BI's share in jointly owned Collaboration Intellectual Property.

1.5 "**BI Intellectual Property**" shall mean

(a) BI Background Intellectual Property; **and**

(b) BI Collaboration Intellectual Property.

1.6 "**Biosimilar Product**" shall mean a biological medicinal product that is equivalent to a biological medicinal product that has previously obtained regulatory approval and which has an active substance that is equivalent to the active substance of the biological reference medicinal product.

1.7 "**Calendar Quarter(ly)**" shall mean the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 or December 31, for so long as this Agreement is in effect.

1.8 "**Clinical Trials**" shall mean all clinical trials to be conducted with respect to the Development of the Licensed Vaccines, including Phase I Clinical Trials, Phase II Clinical Trials and Phase III Clinical Trials.

1.9 "**CMC Development**" shall mean all research and development activities conducted in respect of the Manufacture of the Licensed Vaccines, including chemistry, manufacturing and control (CMC), test method development and stability testing, process development, manufacturing scale-up, qualification and validation, and any other activity necessary or reasonably useful or otherwise requested or required by a Regulatory Authority as a condition or in support of obtaining or maintaining Regulatory Approvals to successfully Manufacture the Licensed Vaccines for use in the Field.

1.10 "**Collaboration Intellectual Property**" shall mean any Intellectual Property generated by or on behalf of either Party under this Agreement with the exception of Intellectual Property related to the BI pDNA Process and generated under a Related Agreement specific to such BI pDNA Process.

1.11 "**Combination Product**" shall mean a pharmaceutical formulation containing as its active ingredients both a Licensed Vaccine and one or more other therapeutically active ingredients, that is packaged and labeled for sale in the Territory.

1.12 "**Commercialization**" shall mean any and all activities directed to the preparation for sale of, offering for sale of, or sale of a Licensed Product, including activities related to marketing, promoting, labelling, packaging, distributing, importing and exporting such Licensed Products, and interacting with Regulatory Authorities regarding any of the foregoing. For the avoidance of doubt, "Commercialization" shall not include the Manufacture of Licensed Vaccines. When used as a verb, to "**Commercialize**" and "**Commercializing**" shall mean to engage in Commercialization, and "**Commercialized**" has a correlative meaning.

1.13 "**Commercially Reasonable Efforts**" shall mean, with respect to the efforts to be expended by a Party with respect to any objective, the reasonable, diligent, good faith efforts to accomplish such objective as such Party would normally use to accomplish a similar objective under similar circumstances. It is understood and agreed that with respect to the Development and Commercialization of Licensed Vaccines and Licensed Products by BI, such efforts shall be substantially equivalent to those efforts and resources commonly used by BI for pharmaceutical development candidates or products owned by it or to which it has rights, which development candidate or product is at a similar stage in its Development or product life and is of similar market potential taking into account all scientific, commercial and other factors that BI would take into account, including efficacy, safety, expected and actual cost and time to Develop, expected and actual profitability, approved labelling, the competitiveness of alternative products in the marketplace, the expected and actual market exclusivity (including patent and other proprietary position and regulatory exclusivity) of the Licensed Vaccines and Licensed Products, the expected and actual amounts of marketing and promotional expenditures and the likelihood of receipt of a Regulatory Approval given the Regulatory Authority involved.

1.14 "**Confidential Information**" shall mean and include all Know How including Know How comprised in the CureVac Licensed Intellectual Property, and Know How comprised in the BI Intellectual Property, and all other proprietary information, Development Data and Materials, not in the public domain, relating to the Licensed Vaccines and Licensed Products, Afatinib, the Field, the indications, or the business, affairs, research and development activities, results of pre-clinical and clinical trials, national and multinational regulatory proceedings and affairs, finances, plans, contractual relationships and operations of the Parties. The terms and conditions of this Agreement shall be considered Confidential Information of both Parties.

1.15 "**Co-Packaged Product**" shall mean a single packaged product containing a Licensed Vaccine and one or more other therapeutically or prophylactically active products (including [*****]) as separate components in a co-packaged form, that is packaged and labeled for sale in the Territory.

1.16 "**Control**" or "**Controlled**" shall mean with respect to the subject item or right, the ability (whether by ownership or license, other than pursuant to this Agreement) by a Party to grant to the other Party access or a license as provided herein under such item or right without violating the terms of any agreement or other arrangement with any Third Party.

1.17 "**CureVac Background Intellectual Property**" shall mean Intellectual Property Controlled by CureVac or its Affiliates on the Effective Date and which is necessary or useful for the Non-clinical and Clinical Development and Commercialization of the Licensed Vaccines and Licensed Products in accordance with this Agreement. The CureVac Background Intellectual Property includes the Intellectual Property listed in **Exhibit 1.17** hereto. CureVac Background Intellectual Property includes the CV9202 Specific Patent Rights until such CV9202 Specific Patent Rights are assigned and transferred to BI in accordance with Section 9.4 below. CureVac Background Intellectual Property will also include the antigen specific Intellectual Property, if any, to be licensed upon exercise of the Option in accordance with Section 3.3 below.

1.18 "**CureVac Collaboration Intellectual Property**" shall mean the Collaboration Intellectual Property Controlled by CureVac or its Affiliates including CureVac's share in jointly owned Collaboration Intellectual Property and where such Collaboration Intellectual Property is necessary or useful for the Non-clinical and Clinical Development and Commercialization of the Licensed Vaccines and Licensed Products in accordance with this Agreement.

1.19 "**CureVac Licensed Intellectual Property**" shall mean

(a) CureVac Background Intellectual Property; **and**

(b) CureVac Collaboration Intellectual Property.

1.20 "**CureVac Licensed Patent Rights**" shall mean the Patent Rights which form part of the CureVac Licensed Intellectual Property.

1.21 "**CureVac Licensed Manufacturing Intellectual Property**" shall mean the Intellectual Property including the Collaboration Intellectual Property including CureVac's share in jointly owned Collaboration Intellectual Property, in each case as Controlled by CureVac or its Affiliates on the date when BI takes over the CMC Development and Manufacturing of the Licensed Vaccines in accordance with Sections 6.3 or 6.5 below, if ever, and where such Intellectual Property is necessary or useful for the CMC Development and/or Manufacturing of the Licensed Vaccines and Licensed Products in accordance with this Agreement. The CureVac Licensed Manufacturing Intellectual Property as of the date when BI takes over the CMC Development and Manufacture will be listed at the respective time.

1.22 "**CV9202**" shall mean CureVac's clinical product candidate which consists [*****].

1.23 "**CV9202 Specific Patent Rights**" shall mean the Patent Rights listed in **Exhibit 1.23** hereto which will be assigned and transferred to BI under the conditions set forth in Section 9.4 below.

1.24 "**Development**" shall mean all research, non-clinical, and clinical testing and drug development activities conducted in respect of the Licensed Vaccines and Licensed Products, including those necessary or reasonably useful or otherwise requested or required by a Regulatory Authority as a condition or in support of obtaining or maintaining Regulatory Approvals and to successfully Develop, Manufacture and Commercialize the Licensed Vaccines and Licensed Products for use in the Field. "Development" shall include chemistry, Manufacturing and control (CMC), test method development and stability testing, formulation development, delivery system development, non-clinical testing, mechanism studies, toxicology, pharmacokinetics, clinical studies, process development, manufacturing scale-up, qualification and validation, quality assurance/quality control, regulatory affairs activities, statistical analysis and report writing, submission of documents, market research, pharmacoeconomic studies, and epidemiological/real world data studies. Development shall mean both (a) Non-clinical and Clinical Development; and (b) CMC Development. "**Develop**" and "**Developed**" have a correlative meaning.

1.25 "**Development Data**" shall mean (i) reports of non-clinical studies and Clinical Trials, (ii) CMC Development data; and (iii) all other documentation containing or embodying any non-clinical or clinical data relating to the Licensed Vaccines and Licensed Products or the use of the Licensed Vaccines and Licensed Products in the Field, such data in each case (i) and (ii) required for the Development and Commercialization of the Licensed Vaccines and Licensed Products, including but not limited to, registration dossiers.

1.26 "**Development Plan(s)**" shall mean a plan to be mutually agreed between the Parties, as amended by the JSC from time to time, that describes the Development work to be carried out with respect to a Licensed Vaccine and/or Licensed Product, including the responsibilities of each Party, timelines and resource allocation.

1.27 "**Field**" shall mean all uses for cancer (including all infection induced tumor types) in humans, including the treatment, prevention, diagnosis and control of cancer.

1.28 "**First Commercial Sale**" shall mean, on a country-by-country basis, the first sale of each Licensed Product by or on behalf of BI, its Affiliates or Sublicensees to a Third Party customer in such country in exchange for cash or some equivalent to which financial value can be assigned after such Licensed Product has been granted all Regulatory Approvals by the applicable authorities of such country.

1.29 "**FTE**" shall mean a full time equivalent person-year based upon a total of [*****] working hours per calendar year of scientific or technical work carried out by a duly qualified employee of CureVac on or directly related to the work to be conducted under the Agreement. Overtime, and work on weekends, holidays and the like shall not be counted with any multiplier (e.g. time-and-a-half or double time) toward the number of hours that are used to calculate the FTE contribution. The portion of a FTE billable by CureVac for one (1) individual during a given accounting period shall be determined by dividing the number of hours worked by said individual on the work to be conducted under the Agreement during such accounting period and the number of FTE hours applicable for such accounting period based [*****] working hours per calendar year.

1.30 "**FTE Rate(s)**" shall mean, with respect to the following categories of CureVac employees:

(a) Clinical: [*****];

(b) Scientist: [*****];

(c) Technician: [*****],

The FTE Rates include all internal overhead and costs of consumables (unless explicitly specified otherwise in the Development Plans). Excluded are consumable costs for immunomonitoring and exploratory biomarker work as specified in the Development Plans and the costs of Licensed Vaccines. If the consumer price index as published by the German Federal Statistical Office (*Statistisches Bundesamt*) changes by more than [*****] compared to the month of the Effective Date, the FTE Rates shall be adjusted accordingly with effect as of the month following such adjustment. The preceding sentence shall apply *mutatis mutandis* for subsequent changes of the consumer price index compared to the month of the last adjustment of the FTE Rates.

1.31 "**Generic Competition**" shall mean and shall be deemed to exist in a particular country in the Territory with respect to a particular Licensed Product in a given calendar quarter if in such country during such calendar quarter one or more Generic Products (other than a Generic Product sold by BI or its Affiliates or by a Sublicensee under a license granted by BI or its Affiliates) in the aggregate account for more than [*****] of the sum of (i) the aggregate unit sales of such Licensed Product sold by BI or its Affiliates or Sublicensees in such country, and (ii) the aggregate unit sales of the respective Generic Product in such country, as measured by IMS standard units sold based on data provided by IMS International or, if such data is not available, such other reliable data source as reasonably agreed upon by CureVac and BI. If no data is commercially available, then the Parties shall agree upon a methodology for estimating the percentage unit-based market share of Generic Products in such country.

1.32 "**Generic Product**" shall mean, with respect to a particular Licensed Product in a particular country, (i) any pharmaceutical product (other than the Licensed Product) that contains the same active ingredient(s) in a comparable quality and quantity as such Licensed Product, irrespective of its pharmaceutical form, and is approved for the same indication as such Licensed Product, as applicable, under an Abbreviated New Drug Application or under 505(b)(2) of the United States Federal Food, Drug and Cosmetic Act or any similar abbreviated route of approval in such country, or (ii) any biologic medicinal product (other than the Licensed Product) that is a Biosimilar Product of such Licensed Product, and is approved under a Biological Product Licensure application submitted by any person under 42 U.S.C. § 262(k) or any similar abbreviated route of approval in such country.

1.33 "**Intellectual Property**" shall mean any and all Know How (including copyright and other rights therein), Patent Rights and any trade secrets, trade dress, housemarks and trademarks.

1.34 "**Invoice**" shall mean an original invoice sent by CureVac to BI with respect to payment due hereunder containing the information and meeting the requirements as set forth in **Exhibit 1.34**. The Parties shall modify the Invoice requirements by written agreement in the event of a change in the Applicable Laws.

1.35 "**Know How**" shall mean all technical, scientific and other information, inventions, discoveries, trade secrets, knowledge, technology, means, methods, processes, practices, formulae, instructions, skills, techniques, procedures, expressed ideas, technical assistance, designs, drawings, assembly procedures, computer programs, apparatuses, specifications, Development Data, results, pre-clinical, clinical, safety, manufacturing and quality control data and information (including trial designs and protocols), registration dossiers and assay and biological methodology, in each case, solely to the extent confidential and proprietary and in written, electronic or any other form now known or hereafter developed. For the avoidance of doubt, Know How includes any such information comprised or embodied in the Materials, if any. For the further avoidance of doubt, any of the foregoing that, through no fault of either of the Parties hereto, its Affiliates or Sublicensees is published or otherwise falls within the public domain shall no longer be deemed Know How.

1.36 "**Licensed Product(s)**" shall mean a Licensed Vaccine packaged and labeled for sale in the Territory. Unless otherwise set forth herein, Licensed Products shall include Combination Products and Co-Packaged Products. For purposes of this Agreement, Licensed Products (i) being based on different Licensed Vaccines and/or (ii) being Commercialized under a different label and brand (and not only under a label extension of the original Licensed Product) shall be considered separate Licensed Products. For clarity, the Afatinib Vaccine, the Chemo-Radiation Vaccine and the Checkpoint Inhibitor Vaccine shall be considered one and the same Licensed Product, provided they are based on CV9202. Changes to the delivery system and/or formulation of a Licensed Vaccine and/or the addition of a new indication do not result in an additional Licensed Product unless such altered Licensed Product is Commercialized under a different label and brand (and not only under a label extension of the original Licensed Product).

1.37 "**Licensed Vaccine(s)**" shall mean any of the following vaccines: (i) CV9202; and (ii) the [*****] possible vaccines each consisting of [*****], in each case for use in the Field. Upon exercise of the option in accordance with Section 3.2 below, the definition of Licensed Vaccine(s) shall be expanded by the inclusion of (iii) the Option Vaccine. For the avoidance of doubt, subject only to the Option Vaccine, a vaccine comprising CV9202 plus one or more additional RNActive-encoded antigen components is not a Licensed Vaccine. For clarity, this Agreement applies to [*****] Licensed Vaccines including the one (1) Option Vaccine.

1.38 "**Major Market Country**" shall mean the [*****].

1.39 "**Manufacture**" shall mean all manufacturing operations (including bulk and formulation as well as fill and finish) for Licensed Vaccines, including all activities related to the synthesis, making, production, processing, purifying, formulating, filling, and finishing, of the Licensed Vaccine, or any intermediate thereof, including process development, process qualification and validation, scale-up, pre-clinical, clinical and commercial production and analytic development, product characterization, stability testing, quality assurance, and quality control. "**Manufacturing**" has a correlative meaning.

1.40 "**Materials**" shall mean any and all proprietary tangible materials (including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical materials), including reagents, research tools and compositions of matter. For the avoidance of doubt, Material shall include CV9202.

1.41 "**Net Sales**" shall mean the gross amount of sales of Licensed Products invoiced by BI, its Affiliates or Sublicensees to Third Parties, less:

(a) sales returns and allowances actually paid, granted or accrued, including trade, quantity and cash discounts and any other adjustments, including those granted on account of price adjustments or billing errors, rejected goods, damaged or defective goods, recalls, returns;

(b) rebates, chargeback rebates, compulsory rebates, reimbursements or similar payments granted or given to wholesalers or other distributors, buying groups, health care insurance carriers or other institutions and compulsory payments to governmental authorities and any other governmental charges imposed upon the sale of such Licensed Product to Third Parties;

(c) adjustments arising from consumer discount programs or other similar programs;

(d) non-collectable receivables related to such Licensed Product;

(e) customs or excise duties, sales tax, consumption tax, value added tax, and other taxes (except income taxes); and

(f) charges for packing, freight, shipping and insurance (to the extent that BI, its Affiliates or Sublicensees bear such cost).

Each of the foregoing deductions shall be determined as incurred in the ordinary course of business in type and amount consistent with good industry practice and in accordance with generally accepted accounting principles or more specifically, the principles of the German commercial code (*Handelsgesetzbuch*) on a basis consistent with BI's audited consolidated financial statements. All such discounts, allowances, credits, rebates, and other deductions shall be fairly and equitably allocated to the Licensed Products and other products of BI and its Affiliates and Sublicensees such that the Licensed Product does not bear a disproportionate portion of such deductions.

For sake of clarity and avoidance of doubt, sales by BI, its Affiliates or Sublicensees of a Licensed Product to any Third Party which distributes products directly to customers in countries where BI has no Affiliate or Sublicensee (e.g., a permitted recognized agent or a third party distributor) shall be considered sales to a Third Party.

Supply of Licensed Products other than for cash shall be substituted to price on bona fide arm's length sales; whereas the price shall be the average price of such Licensed Product sold for cash during the period based on quantity of drug substance sold.

Any Licensed Product used for promotional or advertising purposes or used for clinical trials or other research purposes shall not be included in Net Sales. Donations for charity reasons shall also not be Net Sales.

1.42 "**Non-clinical and Clinical Development**" shall mean any Development other than CMC Development.

1.43 "**Party**" or "**Parties**" shall mean BI or CureVac, or BI and CureVac, as the context admits.

1.44 "**Patent Right**" shall mean any and all (i) issued patents, patent applications, and future patents issued from any such patent applications; (ii) future patents issued from a patent application filed in any country worldwide which claims priority from a patent or patent application of (i); and (iii) reissues, confirmations, renewals, extensions, counterparts, divisions, continuations, continuations-in-part, supplemental protection certificates or utility models based on any patent or patent application of (i) or (ii).

1.45 "**Person**" shall mean an individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture or other similar entity or organization, including a government or political subdivision, department or agency of a government.

1.46 "**Phase I Clinical Trial**" shall mean a study of a Licensed Vaccine in human subjects principally for determining initial tolerance, immunogenicity, safety and/or pharmacokinetic information in single dose, single ascending dose, multiple dose and/or multiple ascending dose regimens.

1.47 "**Phase I/II Clinical Trial**" shall mean a study of a Licensed Vaccine in human subjects which meets the objectives of both a Phase I Clinical Trial and a Phase II Clinical Trial.

1.48 "**Phase II Clinical Trial**" shall mean a study of a Licensed Vaccine in human subjects principally to determine initial clinical efficacy, immunogenicity, and dose range finding before embarking on Phase III Clinical Trials, including any Phase II Clinical Trial which is part of a Phase I/II Clinical Trial or a Phase I through Phase III seamless design Clinical Trial.

1.49 "**Phase II/III Clinical Trial**" shall mean a study of a Licensed Vaccine in human subjects which meets the objectives of both a Phase II Clinical Trial and a Phase III Clinical Trial.

1.50 "**Phase III Clinical Trial**" shall mean a pivotal study of a Licensed Vaccine in human subjects with a defined dose or a set of defined doses of a Licensed Vaccine principally for the purpose of preparing and submitting applications for Regulatory Approval to the competent Regulatory Authorities in a country of the world, including any Phase III Clinical Trial which is part of a Phase II/III Clinical Trial or a Phase I through Phase III seamless design Clinical Trial.

1.51 "**Related Agreements**" shall mean and include all present and future clinical and commercial supply agreements, feasibility agreements, development agreements and license agreements related to the Licensed Vaccines and/or the BI pDNA Process and concluded between the Parties, including the Clinical Supply Agreement, or concluded between CureVac and BI Bio.

1.52 "**Regulatory Approvals**" shall mean and include all licenses, permits, authorizations and approvals of, and all registrations, filings and other notifications to, any Regulatory Authority within the Territory, including the United States Food and Drug Administration (FDA), the Japanese Pharmaceuticals and Medical Devices Agency (PMDA), and the European Medicines Agency (EMA), necessary or appropriate for the Development and Commercialization of the Licensed Vaccines and Licensed Products within the Field and in a particular country or region of the Territory.

1.53 "**Regulatory Authorities**" shall mean any national, supra-national, regional, state or local regulatory agency, department, bureau, commission, council or other governmental entity in each country in the Territory involved in the reviewing, granting or revoking of Regulatory Approvals.

1.54 "**RNActive**" shall mean CureVac's technology with respect to mRNA encoding an antigenic protein that is expressible in human cells as well as the same mRNA formed as a complex with protamine.

1.55 "**Sublicensee**" shall mean any Third Party licensee (aside from Bl's Affiliates and any Third Party contractors used by BI in the Non-clinical and Clinical Development and Commercialization of the applicable Licensed Vaccine and/or Licensed Product on Bl's behalf) which obtains rights to the CureVac Licensed Intellectual Property, regardless of whether such license is granted by BI, its Affiliates or any Sublicensee.

1.56 "**Target Product Profile (TPP)**" shall mean the comprehensive description of the properties which each of the Licensed Vaccines and Licensed Products is intended to have at approval. For each Licensed Vaccine more than one TPP may be defined (e.g., the Afatinib Vaccine and the Chemo-Radiation Vaccine). The Target Product Profile defines the objectives for the Development and creates the basis for the respective Development Plan.

1.57 "**Taxes**" shall mean all present and future taxes, import deposits assessments, and other governmental charges and any related penalties and interest not attributable to the fault or delay of BI.

1.58 "**Territory**" shall mean the entire world.

1.59 "**Third Party**" shall mean any Person aside from BI and its Affiliates and/or CureVac and its Affiliates.

1.60 "**Valid Claim**" shall mean with respect to a particular country, and in each case to the extent contained within (i) a Patent Right which forms part of the CureVac Background Intellectual Property or (ii) a CV9202 Specific Patent Right

(a) any claim of an issued and unexpired patent in such country that (i) has not been held permanently revoked, unenforceable or invalid by a decision of a court or governmental agency of competent jurisdiction, which decision is un-appealed or un-appealable within the time allowed for appeal; and (ii) has not been abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reissue or disclaimer or otherwise in such country; or

(b) a claim of a pending patent application, which claim has not been abandoned or finally disallowed without the possibility of appeal or re-filing of the application; *provided*, *however*, that once the priority date or earliest filing date to which the pending patent application that comprises such claim refers is more than [*****] old, such claim shall not constitute a Valid Claim for purposes of this Agreement anymore unless and until a patent issues with such claim.

The word "**including**" or any variation thereof means "including without limitation" or any variation thereof and shall not be construed to limit any general statement which it follows to the specific or similar items or matters immediately following it.

Each of the following definitions is set forth in the Section of this Agreement indicated below:

DEFINITION	**SECTION**
[*****] Process	6.3.1
Additional Cure Period	13.3
Afatinib Vaccine	4.2.3
Agreement	Preamble

DEFINITION	**SECTION**
Alleged Breaching Party	13.3
Assigned Patent Rights	9.5.3
BI	Preamble
BI Bio	6.4
BI Claim	12.1
BI Losses	12.1
BI Party	12.1
BI pDNA Process	6.4
Breaching Party	13.3
Change of Control	15.2
Checkpoint Inhibitor Vaccine	7.3.1
Chemo-Radiation Vaccine	4.2.3
Claim	12.3.1
Clinical Supply Agreement	6.1
Commercial Facility	6.3.1
Competing Product	4.4
Continuation	7.3.2
CureVac	Preamble
CureVac Claim	12.2
CureVac Losses	12.2
CureVac DMF	4.3
CureVac Party	12.2
CV9202 Development Plan	4.2.1
Data Package	2.3
Disclosing Party	10.1
Dispute Resolution Panel	13.3
DIS Rules	15.6.2
Effective Date	Preamble
Expert Panel	8.6
Initiation	7.3.2
Joint Collaboration Intellectual Property	9.2.2
Joint Invention(s)	9.2.2
Joint Patent Right(s)	9.2.2
Joint Project Team	8.7
Joint Steering Committee	8.1
JSC	8.1
LICR	4.2.5
LICR Collaboration Agreement	4.2.5
Non-Breaching Party	13.3
Option Period	3.1
Option Vaccine	3.1
Permitted Third Party CMO	6.3.2
Receiving Party	10.1
Royalty Term	7.8.3
Third Party Licensor	9.7.1

2. GRANT AND SCOPE OF LICENSE.

2.1 **License to Develop and Commercialize Licensed Vaccines and Licensed Products.** CureVac hereby grants to BI as of the Effective Date and for the term of this Agreement, and BI hereby accepts, the exclusive license to the CureVac Licensed Intellectual Property for the Non-clinical and Clinical Development, and the Commercialization of Licensed Vaccines and Licensed Products for use in the Field and in the Territory, in accordance with the terms and conditions, and subject to the limitations of this Agreement. Furthermore, BI is entitled to manufacture Licensed Products (but not to Manufacture Licensed Vaccines, subject only to Sections 6.3, 6.5 and 6.6 below). The license shall include the right for the research, development, manufacture, use and commercialization of any diagnostic tools and delivery systems (including formulations required for such delivery systems) required or useful for the Non-clinical and Clinical Development and Commercialization of the Licensed Vaccines and Licensed Products, provided, however, that (i) as of the Effective Date the CureVac Licensed Intellectual Property, except for the Patent Rights identified by the patent family identifier [*****], does not contain any Intellectual Property specific to delivery systems, (ii) CureVac is not obligated to grant rights to BI under Intellectual Property specific to delivery systems and in-licensed by CureVac from Third Parties, and (iii) CureVac gives no representation or warranty that such research, development, manufacture use or commercialization may be possible or successful. The license is exclusive (even as to CureVac), except to the extent set forth in Exhibit 11.2. For example, the rights granted under this Section 2.1 (a) include a non-exclusive sublicense under the Patent Rights identified by the patent family identifiers as [*****] in Exhibit 1.17; (b) include an extension of CureVac's rights to BI, its Affiliates, subcontractors and permitted Sublicensees as "Direct Collaboration Partner" or "Indirect Collaboration Partner" under the Patent Rights identified by the patent family identifiers [*****] in Exhibit 1.17 and licensed to CureVac by Geneart AG, and (c) the Patent Rights identified by the patent family identifiers [*****] in Exhibit 1.17 are subject to a non¬exclusive license granted to BioNTech AG, as applicable; the terms and conditions being disclosed to BI and listed in Exhibit 11.2 hereto, and all the rights and licenses listed in (a) to (b) above are subject to the respective head license agreement as set forth in Exhibit 11.2. Furthermore, the licenses are subject to CureVac's right to perform its obligations hereunder.

2.2 **Right to Sublicense.**

2.2.1 BI shall be entitled to sublicense its rights under Section 2.1 above to any of its Affiliates. Furthermore, BI is entitled to (i) engage Third Party contractors to Non-clinically and Clinically Develop and Commercialize the Licensed Vaccines and Licensed Products on BI's behalf and (ii) to authorize wholesalers and other distributors to Commercialize the Licensed Vaccines and the Licensed Products. Any other sublicenses to Third Parties require CureVac's prior written consent. CureVac will not unreasonably withhold or delay its consent with respect to sub licenses for the Commercialization of the Licensed Vaccines and Licensed Products after receipt of Regulatory Approval on a country-by-country basis.

2.2.2 Any right to sublicense to a Sublicensee is subject to the respective sublicense agreement containing terms and conditions that are not inconsistent with those contained in this Agreement, and shall include provisions regarding CureVac's back licenses, CureVac's rights to Collaboration Intellectual Property, confidentiality, indemnification, audit, record¬keeping and termination for CureVac's protection that are consistent with those provided herein. BI shall remain liable to CureVac for all obligations under this Agreement, including payment to CureVac of any amounts due on account of sales or other disposition of Licensed Products by Sublicensees. BI shall notify CureVac in writing of any sublicensing agreement (except intra company sublicensing agreements with Bl's Affiliates and any agreements with CMOs, CROs, distributors and wholesalers) within [*****] after its execution. Upon request, BI shall provide to CureVac a copy of such sublicensing agreement (except intra company sublicensing agreements with Bl's Affiliates and any agreements with CMOs, CROs, distributors and wholesalers), provided that the agreement may be redacted to the extent not necessary for CureVac to understand the scope of such sublicense and determine if BI is in compliance with this Section 2.2.2. All information provided by BI to CureVac under this Section 2.2.2 will be deemed to be Confidential Information of BI and will be subject to the terms of Article 10 hereof.

2.3 **Technology Data Package Transfer.** In furtherance of the rights and licenses granted by CureVac to BI under this Agreement, during the first [*****] after the Effective Date CureVac shall furnish to BI within [*****] of Bl's prior request, a data package that shall include all details of the CureVac Licensed Intellectual Property which are required for the Non-clinical and Clinical Development by BI of the Licensed Vaccines ("**Data Package**"). For clarity and subject to Sections 6.3 and 6.5 below, while CureVac will remain the holder of the CureVac DMF and BI has no right under this Agreement to modify or amend the CureVac DMF or to file the same with any authority, such Data Package shall include all CMC-related documents to the extent such documents are existing and Controlled by CureVac and which are needed for regulatory purposes, in particular the most recent, entire drug master file for CV9202. For the avoidance of doubt, failure by BI to request the Data Package shall not constitute a waiver of any of Bl's rights under this Agreement. BI shall not use any of the Data Package furnished by CureVac under this Section 2.3 for any purpose whatsoever, except as authorized in this Agreement or any Related Agreement. In the event BI reasonably believes that the Data Package furnished by CureVac under this Section 2.3 is incomplete, within [*****] of receipt of the Data Package, BI shall provide written notice thereof to CureVac, and CureVac shall furnish such missing data concerning such Data Package within [*****] after receipt of BI's written notice hereunder. As part of the Non-clinical and Clinical Development Support to be provided by CureVac under Section 4.1 below, CureVac shall answer all reasonable questions received from BI regarding such transferred Data Package as soon as reasonably possible after receipt.

2.4 **Documents and Declarations.** CureVac shall execute all documents, give all declarations regarding the licenses granted hereunder and reasonably cooperate with BI to the extent such documents, declarations and/or cooperation are required for the recording or registration of the licenses granted hereunder at the various patent offices in the Territory for the benefit of BI. BI shall reimburse CureVac for its reasonable external out-of-pocket costs associated therewith. ‘

2.5 **No Additional Rights.** Nothing in this Agreement shall be deemed or implied to be, and the Parties disclaim all implied rights to, the grant by either Party to the other Party of any right, title or interest in any product, Intellectual Property, any formulation technology, operating procedures, marketing materials or strategies, intangibles, material or proprietary rights except as are expressly set forth in this Agreement.

2.6 **Trademarks, Etc.** For the avoidance of doubt, BI, its Affiliates and its permitted Sublicensees shall be solely responsible for selecting and shall retain all ownership and control over all designs, trade dress and trademarks, and Bl's, its Affiliates' and its permitted Sublicensees' use with respect to the Licensed Products, and subject only to Section 14.4, CureVac shall have no rights whatsoever to the use thereof.

3. EXCLUSIVE OPTION

3.1 **Option.** As of the Effective Date and in consideration for the option fee as set forth in Section 7.2, CureVac hereby grants to BI, and BI hereby accepts, an exclusive option for a maximum term of ten (10) years after the Effective Date ("**Option Period**") to obtain one additional exclusive license, for no additional fee, to use the CureVac Licensed Intellectual Property with regard to one additional vaccine that consists of [*****] for use in the Field ("**Option Vaccine**"). For clarity, in order to protect Bl's exclusive option, during the Option Period CureVac shall not grant any license to any Third Party for [*****].

3.2 **Exercise of the Option.** BI may exercise the option under Section 3.1 once by way of written notice to CureVac during the Option Period. In such notice, BI shall propose to CureVac a [*****] and CureVac shall only be entitled to withhold its consent to such [*****] if - at the time BI exercises the option and proposes a [*****] - neither CureVac nor BI Controls the rights required to include the proposed [*****] in the Option Vaccine. Upon written agreement on the identity of such [*****] the exercise of such option shall become effective for the Option Vaccine in respect of such agreed [*****], and the option rights under this Article 3 shall terminate.

3.3 **Extension of CureVac Licensed Intellectual Property.** In the event CureVac Controls any additional Intellectual Property which is specific to [*****] selected by BI (e.g., Patent Rights protecting the composition of matter or use of such antigen) and is not licensed under Section 2.1, it shall inform BI hereof and upon exercise of the Option the CureVac Background Intellectual Property shall also include such specific additional Intellectual Property, *provided*, that BI reimburses CureVac for all past and future payments towards Third Parties, if any, solely to the extent such payments are required for the use of such additional Intellectual Property for the Non-clinical and Clinical Development and Commercialization of the Option Vaccine.

4. DEVELOPMENT OF LICENSED VACCINES.

4.1 Non-clinical and Clinical Development Support.

4.1.1 BI and CureVac will collaborate on the Development of the Licensed Vaccines, and CureVac will provide certain activities to progress the Non-clinical and Clinical Development of the Licensed Vaccines. Such activities shall include the wind down in an orderly fashion of all already ongoing Phase I Clinical Trials set forth in Exhibit 4.5A as sponsor of such study, and CureVac shall provide electronic copies of all Development Data, in particular all safety, efficacy and immunomonitoring data, of such Clinical Trials to BL Furthermore, CureVac will provide certain activities to ensure, inter alia, a smooth transition of the Non-clinical and Clinical Development of the Licensed Vaccines to BL The scope of the activities to be performed by CureVac, the number of Cure Vac's FTEs to perform such activities, and the budget estimations to perform such activities (including CureVac's out of pocket expenses) are set out in the respective Development Plans for the Licensed Vaccines. In addition to the FTE Rates, BI shall compensate any out of pocket expenses incurred by CureVac in accordance with the Development Plans. CureVac shall be required to make the FTEs set forth in the Development Plans available, and BI shall fully compensate such agreed FTE resources during the agreed time period and at the FTE Rates. The FTE resource commitments shall be binding on both Parties on a [*****] rolling basis. The compensation is to be paid by BI to CureVac on a Calendar Quarterly basis. Payment shall be made in arrears and within [*****] upon receipt of an Invoice detailing with supportive documentation, the FTE costs and out of pocket expenses applicable to CureVac's efforts for such applicable Calendar Quarter period, such information to include the work packages of the Development Plans worked on, the number and type of FTE assigned to each work package and the out of pocket expenses. Notwithstanding the foregoing, CRO costs incurred by CureVac after the Effective Date in connection with the Phase I Clinical Trials listed in Exhibit 4.5A shall be invoiced separately by CureVac upon CureVac's receipt of such CRO's invoice, and irrespective of whether such payments are made in advance or in arrears, such Invoice to be due and payable within [*****] upon receipt of such Invoice by BI, provided that if BI reimburses CureVac for advance payments made by CureVac to CROs, CureVac shall provide the final actual cost per invoiced period and a true up of actual cost compared to advance payment (planned cost) to BL If the advance payment(s) turn out to be higher than the actual cost incurred by CureVac, CureVac shall reimburse the respective amount of the advance payment to BL

4.1.2 As long as CureVac provides Non-clinical and Clinical Development support under Section 4.1.1 above, CureVac shall maintain complete and accurate books and records regarding the FTEs and all out of pocket expenses (including CRO costs) invoiced to BI, as necessary to allow the accurate calculation of payments due hereunder. CureVac shall retain these records for [*****] after the end of the calendar year to which they pertain. Once per calendar year, and no more than once for the records as to any given calendar year, BI shall have the right to engage an independent accounting firm reasonably acceptable to CureVac, at BI's expense, which shall have the right to examine in confidence the relevant CureVac records as may be reasonably necessary to determine and/or verify the amount of payments due hereunder. In the event there was an over-payment by BI hereunder, CureVac shall promptly (but in no event later than [*****] after CureVac's receipt of the independent auditor's report) make payment to BI of any overpayment amounts. In the event that there was an under-payment by BI hereunder, BI shall promptly (but in no event later than [*****] after BI's receipt of the independent auditor's report) pay CureVac the underpayment amount. In the event any payment by BI shall prove to have been incorrect by more than five percent (5%) to BI's detriment for the entire period audited, CureVac will pay the reasonable fees and costs of BI's independent auditor for conducting such audit.

4.2 Diligence.

4.2.1 Subject to the terms of this Agreement, BI shall use its Commercially Reasonable Efforts to progress the Non-clinical and Clinical Development of the Licensed Vaccines and Licensed Products in accordance with the respective Development Plans, including the Development Plan attached hereto as **Exhibit 4.2** and as modified and amended by the JSC from time to time in accordance with Section 8 below ("**CV9202 Development Plan**") and to Commercialize the Licensed Products in the Territory, *provided*, *however* that Development activities listed in the CV9202 Development Plan under the heading "Life Cycle Management" shall be at BI's sole discretion. Notwithstanding the foregoing, after First Commercial Sale of the first Licensed Product in a Major Market Country the JSC shall discuss and decide whether such Licensed Product will be Developed in a second and/or third indication. If the JSC decides to Develop such Licensed Product in a second and/or third indication, the Parties shall amend the respective Development Plan and BI's diligence obligations will be increased so that BI shall use its Commercially Reasonable Efforts to also progress the Non-clinical and Clinical Development of such second and/or third indication. The Development Plans are to set forth, inter alia, (a) the Development work (including CMC Development) to be performed by BI and by CureVac under and during the term of this Agreement; (b) the activities to be performed by CureVac to support the Non-clinical and Clinical Development as further specified in Section 4.1 above; (c) the Clinical Trials to be performed for each clinical phase, including (i) the Clinical Trials to be performed for the Afatinib Vaccine; and (ii) the Clinical Trials to be performed for the Chemo-Radiation Vaccine; and (d) the time estimated for each Clinical Trial.

4.2.2 In the event BI exercises its option under Article 3 above, BI shall promptly prepare a Development Plan for the Option Vaccine, such Development Plan to meet the criteria set forth under Section 4.2.1 above, coordinate such Development Plan for approval within the JSC, and use its Commercially Reasonable Efforts to progress the Non-clinical and Clinical Development of the Option Vaccine and any Licensed Product containing such Option Vaccine in accordance with the Development Plan, and to Commercialize such Licensed Product in the Territory. For the avoidance of doubt, the diligence obligations under Section 4.2.4 below shall also apply to the Option Vaccine in the event BI exercises such option.

4.2.3 BI shall initiate the clinical development with CV9202 of:

(a) [*****]; **and**

(b) [*****],

and not terminate or halt the Non-clinical and Clinical Development unless there are substantial and reasonable technical, safety, efficacy and/or regulatory reasons for doing so, and details of such technical safety, efficacy and/or regulatory have been notified to CureVac in writing through the JSC.

4.2.4 The diligence obligations set forth above include the following specific activities: BI shall

(a) use its Commercially Reasonable Efforts, subsequent to the respective positive Phase I and Phase II Clinical Trials referenced in Section 4.2.3 above, to initiate Phase III Clinical Trials regarding the Licensed Vaccines;

(b) conduct all Non-clinical and Clinical Development activities in a timely manner and allocate such Development budgets as are reasonable and adequate to progress the Non-clinical and Clinical Development of Licensed Vaccines hereunder;

(c) when appropriate based on satisfactory data obtained during the Non-clinical and Clinical Development, use its Commercially Reasonable Efforts to secure all required Regulatory Approvals in the Major Market Countries following completion of all appropriate Clinical Trials; and

(d) use its Commercially Reasonable Efforts to make the First Commercial Sale of the Licensed Products in each Major Market Country following the issuance of the Regulatory Approvals as well as pricing and reimbursement approvals (if any).

For the avoidance of doubt, the specific diligence obligations under (a) to (d) shall not apply outside of the Major Market Countries.

4.2.5 The Parties agree that Bl will assume all of CureVac's rights and obligations (*Vertragsubernahme*) under the collaboration agreement between CureVac, the Cancer Research Institute and the Ludwig Institute for Cancer Research (the Cancer Research Institute and the Ludwig Institute for Cancer Research collectively "**LICR**") entered into as of October 21, 2013 ("**LICR Collaboration Agreement**"), and CureVac shall use Commercially Reasonable Efforts to procure LICR's consent thereto. BI will use Commercially Reasonable Efforts and collaborate with LICR to [*****], provided, however, that BI is not obliged to (a) [*****]; or (b) perform studies with a commercially available [*****]. For purposes of this Agreement, any data and information generated by the LICR in such combination trials and not in the public domain shall be considered Confidential Information of BI. BI will grant and hereby grants to CureVac a non-exclusive license to any such Confidential Information generated by the LICR and Controlled by BI with respect to the [*****] for CureVac to use such Confidential Information in support and promotion of its RNActive technology for any purposes other than the Licensed Vaccines, provided, however, that (i) CureVac shall disclose such Confidential Information to a Third Party solely under an appropriate confidentiality agreement with such Third Party and (ii) prior to such disclosure to a Third Party CureVac shall send to BI the Confidential Information CureVac wishes to disclose and CureVac agrees to withhold disclosure of same for the time necessary to permit BI to obtain optimum patent protections such time period not to exceed [*****] except as required for coordination of such patent protection with Bl's collaboration partners other than CureVac. CureVac shall comply with Bl's request to withhold disclosure for the time necessary to permit BI to obtain optimum patent protection. In the event CureVac is, despite its Commercially Reasonable Efforts, unable to transfer its rights and obligations regarding the Licensed Vaccines under the LICR Collaboration Agreement to BI, CureVac will exercise the LICR Collaboration Agreement with respect to the Licensed Vaccines upon the direction of BI and BI shall refund any payments to be made to LICR and any costs incurred by CureVac under the collaboration with LICR with respect to the Licensed Vaccines to CureVac.

4.2.6 Subject to Section 6.3 below, CureVac shall use its Commercially Reasonable Efforts to progress the CMC Development of the Licensed Vaccines in accordance with the respective Development Plans for the Licensed Products. In particular, CureVac shall conduct all CMC Development activities in a timely manner and allocate such budgets as are reasonable and adequate to progress the CMC Development of Licensed Vaccines at CureVac hereunder in accordance with the Development Plans. Upon CureVac's request, BI shall use its Commercially Reasonable Efforts to support CureVac in the CMC Development by providing any information and/or documentation required by CureVac for the CMC Development.

4.3 **Regulatory Matters.** With the exception of the drug master file (or equivalent) for Licensed Vaccines and Licensed Products ("**CureVac DMF**") and all Manufacturing permits and authorizations necessary for the Manufacture of the Licensed Vaccines, BI shall be solely responsible for all regulatory matters including the filing for approvals to the Licensed Vaccines and Licensed Products in the Field. BI shall own, directly or through an Affiliate, all Regulatory Approvals. With the exception only of matters which require prompt attendance, CureVac shall have the right and the obligation to review and comment on all regulatory filings inasmuch as they relate to the Licensed Vaccines and Licensed Products, and BI will take such comments into reasonable consideration. Furthermore, BI will provide copies of all regulatory approvals and material correspondence with Regulatory Authorities in the Major Market Countries relating to the Clinical Trials with respect to Licensed Vaccines and Licensed Products to CureVac, and will reasonably consider a request by CureVac to participate in a meeting with Regulatory Authorities. Notwithstanding the foregoing, CureVac shall have the right and the obligation to participate in a meeting with Regulatory Authorities if and to the extent such meeting relates to the CMC Development. For the avoidance of doubt, BI will have final say on all regulatory matters of the Licensed Vaccines, and the dispute resolution process laid down in Sections 8.5 and 8.6 of this Agreement does not apply. CureVac shall use Commercially Reasonable Efforts to support BI on all regulatory matters with respect to the Non-clinical and Clinical Development and Commercialization of the Licensed Vaccines and Licensed Products and shall maintain all permits and authorizations necessary for the Manufacture of the Licensed Vaccines, including the CureVac DMF. CureVac shall use Commercially Reasonable Efforts to generate and provide to BI (i) CMC Development-related and Manufacturing-related documentation, data and reports, including those listed in **Exhibit 4.3**, and (ii) CMC Development-related technical and other assistance, in each case (i) and (ii) as reasonably required for obtaining Regulatory Approvals and for required interactions with Regulatory Authorities regarding the Licensed Vaccines, including scientific advices. In addition to the obligations under Section 10 below, BI shall ensure that such CMC Development- and/or Manufacturing-related documentation, data and reports are not circulated within BI's and BI's Affiliates' organizations except as required for the purposes mentioned in the foregoing sentence. Each Party shall designate one or more individual(s) to facilitate the provision of the documentation, materials, data and reports as described in this Section 4.3. To the extent required by a Party, a BI Affiliate or a CureVac Affiliate to achieve or maintain regulatory clinical trial and/or marketing application approvals or to comply with any related requests from regulatory authorities related to the Licensed Vaccines, or, if so required by CureVac or by a CureVac Affiliate, to any RNA based product owned or in-licensed by CureVac or its Affiliate, the Parties shall authorize and hereby authorize each other or their respective Affiliate (but not licensees of the other Party) to cross reference to the sections of the IND/regulatory dossiers of the clinical trials related to vaccines or RNA based products Controlled by the other Party or its Affiliate and to any other relevant regulatory filings and any other relevant documentation Controlled by the other Party or its Affiliate. The Parties shall inform each other in writing prior to any such cross-referencing. BI shall consider in good faith any request by CureVac to authorize a future licensee of CureVac to cross-reference to the sections of the IND/regulatory dossiers of the Clinical Trials related to Licensed Vaccine or Licensed Product.

4.4 **Competing Products.** In the event BI, any of its Affiliates or any of its Sublicensees outside the scope of this Agreement commences clinical trials or commercialization of any mRNA-based, protamine-complexed vaccine targeting any of the indications for which BI is Developing the Licensed Vaccines or Commercializing the Licensed Products ("**Competing Product**"), and irrespective of whether BI used the CureVac Licensed Intellectual Property to develop such Competing Product, CureVac shall be entitled to terminate the exclusivity of the licenses under Section 2.1 above, so that BI shall retain non-exclusive licenses under Section 2.1, but the remaining provisions of this Agreement remain in full force and effect; and BI shall grant to CureVac a non-exclusive license, including the right to grant sublicenses in multiple tiers, to use any of the BI Collaboration Intellectual Property (other than [*****] BI Background Intellectual Property) for the Development, Manufacture and Commercialization of the Licensed Vaccines.

4.5 **Development and Commercialization Costs.** As of the Effective Date and unless otherwise agreed, BI will bear (i) any and all costs regarding the Non-clinical and Clinical Development in accordance with the Development Plans, and Commercialization of the Licensed Vaccines and Licensed Products in the Field and in the Territory, (ii) any ongoing costs related to running Clinical Trials with respect to the Licensed Vaccines, as specified in **Exhibit 4.5A**, and (iii) the costs of future combination trials under the LICR Collaboration Agreement. Notwithstanding the foregoing, any payment obligations arising from the existing license agreements between CureVac and (i) [*****], (ii) the [*****] and (iii) [*****] as such license agreements are further specified in **Exhibit 4.5B** hereto, shall be solely borne by CureVac. Subject to Section 8.5 (fourth sentence) below, any costs incurred by CureVac in relation to CMC Development in accordance with the Development Plans will be solely borne by CureVac.

5. REPORTING OBLIGATIONS.

5.1 **Regulatory Reporting.** BI shall be responsible for filing all reports required to be filed in order to maintain any Regulatory Approvals granted for Licensed Vaccines and Licensed Products in the Territory.

5.2 **Sales Projections.** Commencing on the first December 1 following the date of the First Commercial Sale in the Territory, BI shall provide CureVac on or before December 1 in each calendar year with a confidential, non-binding sales forecast for the upcoming calendar year of the estimated aggregate (i) worldwide sales of Licensed Products and (ii) sales of Licensed Products in each Major Market Country. Subject to its diligence obligations hereunder, BI shall be solely responsible for all aspects of the commercialization and sale of Licensed Products.

5.3 **Pharmacovigilance.** The Parties shall have in place and will maintain until the expiration (or earlier termination) of this Agreement (or, as applicable, until the obligations intended to survive termination of this Agreement have been fulfilled) systems, procedures, training programs and documentation needed to perform and comply with their pharmacovigilance regulatory obligations, and each Party shall promptly inform the other Party of any safety issues that may arise and that need to be reported under Applicable Laws. Each Party will ensure that it complies with all Applicable Laws regarding the Licensed Vaccine and Licensed Product relating to risk management, drug safety and pharmacovigilance. The Parties shall negotiate in good faith and conclude, on or before [*****] a pharmacovigilance agreement.

6. MANUFACTURE AND SUPPLY.

6.1 **Clinical Supply.** All Licensed Vaccines required for use by BI in accordance with this Agreement for the Non-clinical and Clinical Development of the Licensed Vaccines up to and including Phase II Clinical Trials shall be Manufactured by CureVac in accordance with Applicable Laws and the terms and conditions of the Clinical Supply Agreement attached hereto as **Exhibit 6.1** ("**Clinical Supply Agreement**").

6.2 **Phase III Clinical Supply and Commercial Supply.** CureVac shall have the right and the obligation to Manufacture Licensed Vaccines for use in Phase III Clinical Trials and for the Commercialization of Licensed Products under this Agreement, the right and the obligation to Manufacture being subject to the right of CureVac to

(a) waive its right and obligation to Manufacture all Licensed Vaccines for use in Phase III Clinical Trials and for the Commercialization of the Licensed Products by notifying BI of such waiver in writing on or before [*****] and, if CureVac has not provided such notice,

(b) waive its right and obligation to Manufacture all Licensed Vaccines for the Commercialization of the Licensed Products by notifying BI of such waiver in writing on or before [*****]; provided, however, that if CureVac does not notify BI in writing on or before [*****] that CureVac will not waive its right and obligation to Manufacture all Licensed Vaccines for the Commercialization of the Licensed Products, BI shall have the right to request by written notice to CureVac that CureVac (i) authorizes a BI Affiliate located in Austria or Germany, such Affiliate to be designated by BI in said written notice, to conduct non-GMP production of CV9202 in lab scale experiments (on "process-science" level only), *provided*, that CureVac shall have the right to observe and consult on such lab scale experiments, and (ii) provide access to such BI Affiliate to the following data and information and such additional data and information as may be agreed to by the JSC, in each case to the extent necessary or useful for such activities and Controlled by CureVac (such data and information shall be considered Confidential Information of CureVac):

- Protocols for [*****];
- Information on [*****]; and
- Protocols for [*****]

in each case (i) and (ii) to enable BI to prepare for a potential future GMP Manufacturing of Licensed Vaccines by a BI Affiliate or a Permitted Third Party CMO (as defined in Section 6.3.2 below). In the event CureVac does not provide notice of waiver as set forth under (a) and (b) above and achieves all milestone events set forth under Section 6.3.1(b) below, BI shall return or destroy, as instructed by CureVac, all Confidential Information of CureVac set forth above and any materials and results generated in the course of the lab scale experiments and confirm such return or destruction in writing to CureVac, save that BI may retain copies of such results and of CureVac's Confidential Information as set forth in Section 10.5 below.

Before [*****] the Parties shall negotiate in good faith commercially reasonable terms and conditions of an amendment to the Clinical Supply Agreement and conclude such amendment in order to cover Phase III Clinical Trial supply in accordance with the terms and conditions of the binding term sheet attached as **Exhibit 6.2A** hereto, unless CureVac is providing notice of waiver as set forth in (a) above before or during such negotiations. If CureVac has not provided the notice of waiver as set forth in (a) above within the prescribed time, before [*****] the Parties shall negotiate in good faith commercially reasonable terms and conditions of a commercial supply agreement and conclude such commercial supply agreement in accordance with the terms and conditions of the binding term sheet attached as **Exhibit 6.2B** hereto, unless CureVac has provided notice of waiver as set forth in (b) above before or during such negotiations. The Parties will negotiate in good faith any amendment to the commercial supply agreement which either Party requests and which may be necessary or useful to adapt the agreement to potential changes in the Development Plan or to the Licensed Vaccine after [*****]. In order to reach a common understanding about the methods of cost allocation for the Licensed Vaccine cost calculation for the Phase III Clinical Trial supply and for the commercial supply as well as in order to be able to audit such costs, BI and CureVac shall agree upon the calculation method and the content of the calculation in good faith. On or before [*****] CureVac shall describe its current methods of cost allocation for product cost calculation, such description to detail the following elements:

- cost center structure and costs booked to these cost centers
- method of allocation for cost centers
- calculation of hourly rates for personnel
- calculation of hourly rates for plants
- differentiation of idle capacity
- overhead calculation method
- definition of standard price for negotiation

6.3 Manufacturing by BI.

6.3.1 If CureVac

(a) provides notice of waiver as set forth in Section 6.2 (a) or (b) above within the prescribed time to BI;

(b) fails to achieve any one of the following milestone events

(i) CureVac provides the results of the ongoing feasibility study concerning the (x) upscaling of the current [*****] Manufacturing process (such upscaled Manufacturing process being defined as the "[*****] **Process**"); (y) the reconstruction of CureVac's existing pilot plant to implement the [*****] Process at said pilot plant; and (z) the construction of a commercial facility for, *inter alia*, the Manufacturing of Licensed Vaccines for the Commercialization of the Licensed Products ("**Commercial Facility**"), such results (including an evaluation of at least one (1) of the CV9202 plasmid DNAs if such material has been provided to CureVac under the Material Transfer and Feasibility Study Agreement (**Exhibit 6.4A**) below on or before [*****], *provided*, *however*, that the outcome of the evaluation of the CV9202 plasmid DNAs shall not determine the achievement of this milestone) of the feasibility study to be provided to BI on or before [*****] or any later point in time agreed by the JSC, and the JSC confirms that the results of the ongoing feasibility study with respect to (x), (y) and (z) demonstrates that it meets the objectives set by the JSC prior to completion of the feasibility study and consequently supports CureVac's ability to Manufacture for Phase III Clinical Trial supply and commercial supply for purposes of this Agreement;

(ii) the comparability concept of the [*****] Process to the existing [*****] Manufacturing process at CureVac's pilot plant has been discussed and clarified with the EMA and the FDA on or before [*****] or any later point in time if so delayed by the JSC or such delay is caused by BI internal processes;

(iii) the EMA and the FDA accept the comparability of the [*****] Process to the existing [*****] Manufacturing process at CureVac's pilot plant on or before [*****] or any later point in time if so delayed by the JSC or such delay is caused by BI internal processes; and

(iv) CureVac makes a final decision to build a Commercial Facility and notifies BI of such decision on or before [*****]; or

(c) is in material breach of its obligations - if any - to Manufacture and supply Licensed Vaccines in accordance with a Related Agreement, has been notified by BI of such material breach and does not cure such material breach within the time periods set forth in the respective Related Agreement,

BI shall be entitled to Manufacture Licensed Vaccines, and CureVac shall grant and hereby grants to BI and BI accepts a non-exclusive, royalty-free and perpetual, non-transferable license (with the right to grant sub-licenses solely to Affiliates located in [*****], *provided* such Affiliate enters into a direct agreement with CureVac containing a direct extension of rights in-licensed by CureVac from Geneart with respect to the Manufacture of Licensed Vaccines and confidentiality obligations corresponding to the ones set forth in Sections 4.3 and 10 below, under CureVac's then existing CureVac Licensed Manufacturing Intellectual Property for the CMC Development and the Manufacturing of Licensed Vaccines and Licensed Products solely for use by BI under the license granted in Section 2.1, provided that any sub-license or extensions of rights granted to BI shall be subject to the terms and conditions of any then existing head¬license agreements. Any dispute concerning the achievement of one of the milestone events set forth above shall be resolved in accordance with the provisions of Sections 8.5 and 8.6 below.

6.3.2 BI shall have the right to engage a Third Party contract manufacturer located [*****] ("**Permitted Third Party CMO**") to Manufacture Licensed Vaccines by providing written notice of such intent and the identity of the contract manufacturer to CureVac, provided that

(a) CureVac shall be permitted to veto the engagement of such contract manufacturer if (i) CureVac has reasonable grounds to believe that such contract manufacturer will not (x) protect CureVac's Confidential Information including CureVac's proprietary Materials in accordance with the standards set forth in Sections 4.3 and 10 or (y) be able to Manufacture the Licensed Vaccines in accordance with Applicable Laws, and (ii) CureVac provides to BI written documentation supporting such reasonable grounds to BI within [*****] of receipt by CureVac of BI's written notice identifying the contract manufacturer;

(b) BI ensures that the Permitted Third Party CMO meets all obligations of BI under this Section 6, including the obligation set forth in Section 6.3.3 below, and BI makes available a copy of the agreement (redacted to exclude only information on compensation of the Permitted Third Party CMO) with the Permitted Third Party CMO to CureVac; **and**

(c) the Third Party contract manufacturer enters into a direct agreement with CureVac containing a direct extension of rights from Geneart with respect to the Manufacture of the Licensed Vaccines, confidentiality obligations and Material transfer obligations corresponding to the ones set forth in Sections 4.3 and 10.

6.3.3 Any improvements generated by or on behalf of BI to any CureVac Licensed Manufacturing Intellectual Property will be assigned and transferred, and are hereby assigned and transferred to CureVac (and CureVac will accept and hereby accepts such assignment and transfer) and licensed back to BI, on a non-exclusive, cost-free and perpetual basis, with the right to (a) grant sub-licenses to Affiliates and (b) enable the Permitted Third Party CMO to make use of such improvements; and any other Intellectual Property generated by BI with respect to the Manufacturing of the Licensed Vaccine, except for such Intellectual Property related to the BI pDNA Process and generated under a Related Agreement specific to such pDNA Process, will be licensed, and is hereby licensed to CureVac on a non-exclusive, cost-free and perpetual basis, with the right to sublicense, for any purpose other than the Commercialization of the Licensed Products during the term of this Agreement.

6.3.4 Furthermore, (a) each Party shall be released from its respective obligations to enter into any agreement contemplated by Sections 6.2 and 6.4 of this Agreement; (b) upon Bl's written request, BI shall be released from any obligation under the Related Agreements to purchase Licensed Vaccines from CureVac except for such deliveries listed in a Related Agreement's Delivery Schedule which have already become binding on the date of Bl's written request; **and** (c) BI shall have the right to request from CureVac by written notice the transfer of CureVac's CMC Development activities and the Manufacturing technology required for the Manufacture of Licensed Vaccines solely to the entity which will be Manufacturing the Licensed Vaccine under the licenses granted under Section 6.3.1, i.e., to BI, to a BI Affiliate or to the Permitted Third Party CMO. Upon receipt of such written notice by CureVac, CureVac shall, use Commercially Reasonable Efforts to (aa) transfer all data and information to the extent necessary or useful for such activities and Controlled by CureVac (such data and information shall be considered Confidential Information of CureVac) and (bb) provide all support, in each case (aa) and (bb) as reasonably required for BI, the BI Affiliate or the Permitted Third Party CMO, as applicable, to take over the CMC Development activities and the Manufacturing of the Licensed Vaccines. The transfer of such data and information and the support under (aa) and (bb) shall be at no cost to BI, with the exception only of travel costs and travel time, if and to the extent the transfer or support is to be provided at any place outside of Europe. -

6.3.5 In consideration for CureVac's significant past investments and established Manufacturing Intellectual Property, technology and processes, BI shall pay to CureVac a one-off technology transfer fee in the amount of [*****] solely when and if the following conditions are met: (a) the Manufacturing by BI was triggered by the events as set forth in Section 6.3.1 (a); 6.3.1 (b)(i); or Section 6.3.1 (b)(iv); (b) BI makes the First Commercial Sale of a Licensed Product in the USA; and (c) at the time of such First Commercial Sale BI, a BI Affiliate or a Permitted Third Party CMO has Manufactured Licensed Vaccines and CureVac is not Manufacturing Licensed Vaccines or is Manufacturing Licensed Vaccines only as a second source supplier of BI under a separate supply agreement with BI. Such payment shall be due and payable within [*****] after receipt of a respective Invoice.

6.4 **Plasmid DNA as Precursor for Licensed Vaccines.** The Parties aspire that CureVac will manufacture plasmid DNA needed as a precursor for the Manufacture of Licensed Vaccines for Phase III Clinical Trials and commercial supply and potentially also for other RNA based products owned or in-licensed by CureVac in accordance with a manufacturing process to be developed by Bl's Affiliate Boehringer Ingelheim Biopharmaceuticals GmbH ("**BI Bio**") and transferred to CureVac ("**BI pDNA Process**"). To this end, CureVac will provide all necessary materials (e.g., plasmid DNA samples) as well as information and a BI Affiliate will conduct a feasibility study in accordance with the Material Transfer and Feasibility Study Agreement (Exhibit 6.4A). As soon as possible after both Parties have generated all data necessary for assessing whether the quality of the BI pDNA Process (i.e., the analytical results are within the specifications agreed between the Parties at the start of the pDNA feasibility study) meets CureVac's requirements and the plasmid DNA manufactured in accordance with the BI pDNA Process meets the requirements agreed between the Parties, including requirements for RNA based products other than Licensed Vaccines, the Parties shall discuss such data in the Joint Project Team, and the Joint Project Team will provide a recommendation to the JSC. If the JSC decides that the BI pDNA Process and the plasmid DNA manufactured in accordance with the BI pDNA Process meet the requirements set forth in the foregoing sentence, CureVac shall and BI shall ensure that BI Bio will negotiate in good faith commercially reasonable terms and conditions of a license agreement concerning the BI pDNA Process, such terms and conditions to (i) be in accordance with the terms and conditions of the binding term sheet attached hereto as **Exhibit 6.4B** and (ii) insofar as Exhibit 6.4B does not provide otherwise, substantially correspond to the terms and conditions of the license agreement between CureVac and its plasmid DNA development partner on the Effective Date. In order to ensure the availability of plasmid DNA as a precursor for the manufacture of Licensed Vaccines in case the JSC decides that the quality of the BI pDNA Process and/or the plasmid DNA manufactured in accordance with the BI pDNA Process does not meet the requirements agreed between the Parties or CureVac and BI Bio do not reach agreement on a BI pDNA Process license agreement, CureVac shall and BI shall ensure that BI Bio will negotiate in good faith commercially reasonable terms and conditions of and conclude on or before [*****] either

(a) a license agreement concerning a manufacturing process to be developed by BI Bio and transferred to CureVac for the manufacture of plasmid DNA that will be used as precursor solely for the manufacture of Licensed Vaccines; or

(b) a supply agreement under which BI Bio would supply plasmid DNA to CureVac, such plasmid DNA to be used solely as precursor for the manufacture of Licensed Vaccines.

If the Parties, despite good faith efforts, do not conclude one of the plasmid DNA-related agreements set forth above by [*****] the Parties shall agree on involving a Third Party in the manufacturing of plasmid DNA needed as a precursor for the Manufacture of Licensed Vaccines.

6.5 **Manufacturing by BI After Expiry of the Agreement.** Upon expiry of the Agreement in all countries and for all Licensed Products, and if CureVac was still Manufacturing the Licensed Vaccines under this Agreement at the time of expiry, CureVac will reasonably consider to continue supplying BI at terms and conditions corresponding to the ones applicable before the expiry of the Agreement, subject only to reasonable price adjustment to reflect any changes in raw material and labor costs, and the Parties shall conduct good faith negotiations for CureVac to continue supplying Licensed Vaccines. In the event the Parties cannot agree in such good faith negotiations, BI shall have the right to request from CureVac, by written notice prior to expiry of this Agreement, the grant to BI of a non-exclusive, royalty-free and perpetual license under CureVac's then existing CureVac Licensed Manufacturing Intellectual Property for the CMC Development and the Manufacturing of Licensed Vaccines and Licensed Products, with the right to grant sub-licenses to Affiliates and to engage Permitted Third Party CMOs, for use by BI under the retained license of Section 13.1. Upon receipt of such written notice by CureVac, CureVac shall use Commercially Reasonable Efforts to (i) transfer all data and information to the extent necessary or useful for such activities and Controlled by CureVac (such data and information to be considered Confidential Information of CureVac), and (ii) provide all support, in each case (i) and (ii) as reasonably required for BI, the BI Affiliate or the Permitted Third Party CMO to take over the Manufacturing of the Licensed Vaccines, such license and transfer being subject to the additional limitations set forth in the last paragraph of Section 6.3.1 and Sections 6.3.2 and 6.3.3 applied by analogy. The transfer of such data and information and the support under (i) and (ii) shall be at no cost to BI, with the exception only of travel costs and travel time, if and to the extent the transfer or support is to be provided at any place outside of Europe. In consideration for CureVac's significant past investments and established Manufacturing Know How, technology and processes, BI shall pay to CureVac a one-off technology transfer fee in the amount of Five Million Euros (€ 5,000,000) to become due and payable within [*****] of the later of the first commercial sale by BI, a BI Affiliate or a Sublicensee of a Licensed Vaccine Manufactured by BI, a BI Affiliate or a Permitted Third Party CMO and the receipt by BI of an Invoice from CureVac.

6.6 **Fill and Finish.** For Licensed Vaccines used for Commercialization by BI under this Agreement, CureVac and BI shall discuss in good faith the filling and finishing of CureVac Licensed Vaccines by either CureVac, BI, a BI Affiliate or a Third Party contract manufacturer with respect to the costs and quality of such filling and finishing. In case of quality issues at CureVac or if the Parties cannot reach agreement on prices for the filling and finishing of CureVac Licensed Vaccines, CureVac shall grant to BI a non-exclusive, royalty-free license, with the right to grant sub-licenses to Affiliates and to engage a Third Party contract manufacturer, under the CureVac Licensed Manufacturing Intellectual Property solely to the extent required for filling and finishing Licensed Vaccines intended for such Commercialization purposes.

6.7 **CureVac's License to Manufacture.** For the term during which CureVac Manufactures the Licensed Vaccines under this Agreement and the Clinical Supply Agreement and the Related Agreements to be concluded in accordance with Section 6.2, BI shall grant and hereby grants to CureVac a non-exclusive license to any Intellectual Property Controlled by BI and its Affiliates (including any BI Collaboration Intellectual Property but excluding any Intellectual Property related to the BI pDNA Process and generated under a Related Agreement specific to such pDNA Process) solely to the extent required for CureVac to Manufacture the Licensed Vaccines.

7. CONSIDERATION.

7.1 **Upfront Payment.** In consideration for the exclusive licenses granted hereunder, BI shall pay to CureVac a non-refundable and non-creditable fee in the amount of Thirty Million Euros (€ 30,000,000) within thirty (30) days after Bl's receipt of an Invoice of the respective amount from CureVac; *provided* that such amount shall not become payable until such time as BI has received a duly signed original of the Agreement from CureVac.

7.2 **Option Fee.** In consideration for the exclusive option granted hereunder, BI shall pay to CureVac a non-refundable and non-creditable option fee in the amount of Five Million Euros (€ 5,000,000) within thirty (30) days after Bl's receipt of an Invoice of the respective amount from CureVac; *provided* that such amount shall not become payable until such time as BI has received a duly signed original of the Agreement from CureVac.

7.3 **Development and Regulatory Milestone Payments.** In addition to the payments under Sections 7.1 and 7.2, in further consideration for the exclusive licenses granted hereunder, and subject to the terms and conditions set forth in this Agreement, BI shall make the following Development and regulatory milestone payments to CureVac:

7.3.1 **Development and Regulatory Milestone Payments for the First Indication (on the Effective Date expected to be Lung Cancer)**:

(a) [*****]

(b) [*****]

(c) [*****]

(d) [*****]

(e) For regulatory milestones see table below:

[*****]

Provided, however, that if BI suspends the Development of the Afatinib Vaccine and/or the Chemo-Radiation Vaccine and replaces such TPP by another TPP (e.g., the combination of a Licensed Vaccine with a checkpoint inhibitor and/or a co-stimulatory molecule, a "**Checkpoint Inhibitor Vaccine**"), the applicable above milestone payments under (a) to (e) shall be payable for the other TPP replacing the Afatinib Vaccine and/or the Chemo-Radiation Vaccine. For the avoidance of doubt, milestone payments already paid for the Development of a TPP prior to suspension shall not be payable for the other TPP replacing the Afatinib Vaccine and/or the Chemo-Radiation Vaccine.

7.3.2 Development and Regulatory Milestone Payments for the Second and Third Indications:

In the event a Licensed Vaccine or Licensed Product is Developed in a second or third indication (e.g., head and neck cancer and/or cervical cancer) BI shall make the following Development and regulatory milestone payments for the first Licensed Vaccine reaching the respective milestones in the second indication and for the first Licensed Vaccine reaching the respective milestones in the third indication:

(a) [*****]

(b) [*****]

(c) For regulatory milestones for the second and third indications see below:

[*****]

"**Initiation**" of a Clinical Trial for purposes of this Article 7 shall mean dosing of the first patient in such Clinical Trial; and "**continuation**" shall mean the final decision of a BI steering committee (International Development Committee, the International Medical Committee or an equivalent body of BI) to continue a Phase I/II Clinical Trial, a Phase II/III Clinical Trial or a Phase I through Phase III seamless design Clinical Trial. The competent steering committee shall use Commercially Reasonable Efforts to make such final decision in a timely manner and to inform CureVac on the achievement of milestones.

If any one of the milestone events under Section 7.3.1 and 7.3.2 is not required for the Development of a Licensed Vaccine or Licensed Product, such milestone payment shall become payable upon achieving the respective milestone event following the milestone event which was not required, i.e., upon the achievement of such following milestone event two milestone payments become payable hereunder. For clarity, the achievement of an Afatinib Vaccine-related milestone event does not trigger payment of a Chemo-Radiation- related milestone payment, and the achievement of a Chemo-Radiation-related milestone event does not trigger payment of an Afatinib Vaccine-related milestone payment. Further, the achievement of a regulatory milestone event for a certain territory (e.g., the EU) does not trigger payment of a regulatory milestone payment for a different territory (e.g., the USA). Each Development and regulatory milestone payment under Section 7.3.1 and Section 7.3.2 for each indication set forth above is payable only upon first achievement of such milestone for the first Licensed Vaccine or Licensed Product, and no further payments are due for repeated achievements of such milestones for such indication. For purposes of clarity, the maximum aggregate amount payable by BI pursuant to this Section 7.3 is [*****].

7.4 Sales Milestone Payments.

In addition to the upfront and milestone payments specified in Sections 7.1 to 7.3 above, in further consideration for the exclusive licenses granted by CureVac to BI hereunder; and subject to the terms and conditions set forth in this Agreement, BI shall make the following one-off, sales based milestone payments:

(a) If aggregated annual worldwide Net Sales exceed for the first time [*****]:

[*****]

(b) if aggregated annual worldwide Net Sales exceed for the first time [*****]:

[*****];

(c) if aggregated annual worldwide Net Sales exceed for the first time [*****]:

[*****]; **and**

(d) if aggregated annual worldwide Net Sales exceed for the first time [*****]:

[*****].

For purposes of clarity, the maximum aggregate amount payable by BI pursuant to this Section 7.4 is [*****].

7.5 **Obligation to Inform.** BI shall inform CureVac on the occurrence of a milestone event under Sections 7.3 and 7.4 as soon as possible but in any event within [*****] after the occurrence thereof.

7.6 **Milestone Payment Terms.** Each milestone payment shall be due and payable within [*****] after the receipt of the respective Invoice by BI. Notwithstanding the foregoing, each sales milestone payment shall be paid together with the royalty payments of the Calendar Quarter during which the respective milestone has been achieved.

7.7 **Non-Refundable Payments.** All payments to be made by BI to CureVac under Sections 7.1 to 7.4 hereof are non-refundable upon expiry or termination of this Agreement for any reason. None of the payments to be made by BI to CureVac under Sections 7.1 to 7.4 may be credited against any of Bl's royalty obligations under Section 7.8 hereof.

7.8 Royalties.

7.8.1 **Royalty Rates.** As further consideration for the rights and licenses granted by CureVac to BI under this Agreement, BI shall pay or cause payment of royalties to CureVac in an amount equal to [*****] of Net Sales of the Licensed Products.

7.8.2 **Royalty Calculation.** The royalties shall be calculated on the basis of Net Sales, which shall be calculated on a Licensed Product-by-Licensed Product and country-by-country basis from First Commercial Sale until the expiration of the applicable Royalty Term.

7.8.3 **Royalty Term.** Bl's obligation to pay royalties shall begin, on a country-by-country basis, with the First Commercial Sale, and expire, on a country-by-country and Licensed Product- by-Licensed Product basis, upon the later of (i) expiry of the last to expire Valid Claim in such country; (ii) expiry of regulatory exclusivity for the respective Licensed Product in such country, provided, however, that no Generic Competition exists for such Licensed Product in such country or BI does not enforce existing regulatory exclusivity to enjoin Generic Competition despite preponderant chances of success of such action; or (iii) twelve (12) years from the date of First Commercial Sale of the respective Licensed Product (each a "**Royalty Term**"), provided, however, with respect to any country other than the Major Market Countries the Royalty Term shall expire on a Licensed Product-by-Licensed Product basis in such country at the latest fifteen (15) years from the date of First Commercial Sale of the respective Licensed Product in any country other than the Major Market Countries.

7.8.4 **Third Party Royalties Offset.** In the event that BI, after consultation with CureVac, reasonably determines that, in order to have freedom to operate in practicing the CureVac Licensed Intellectual Property in accordance with this Agreement in any country, BI is required to make royalty payments to one or more Third Party Licensors to obtain a license under their Patent Rights, then royalties due to CureVac for the respective Licensed Product in the respective country under this Section 7.8 shall be reduced by [*****] of the amount of such Third Party Licensor payments. Notwithstanding the foregoing, such reductions shall in no event reduce the royalty payable for such Licensed Product to less than [*****] of Net Sales in such country. For clarity, the provisions of this Section 7.8.4 shall not apply with respect to the license agreements referred to in Exhibit 4.5B.

7.8.5 **Countries without Patent Protection; Generic Competition.** In countries (a) where (i) sales of Licensed Product do not or no longer fall under any Valid Claim and (ii) regulatory exclusivity for the Licensed Product has expired, or (b) where the Licensed Product is experiencing Generic Competition (except where (x) BI has the primary right in accordance with Section 9.6.2 of this Agreement to bring a patent infringement action to enjoin such Generic Competition and, despite preponderant chances of success of such infringement action, notifies CureVac that BI will not take action or bring suit to prosecute such infringement; or (y) BI does not enforce existing regulatory exclusivity to enjoin such Generic Competition despite preponderant chances of success of such action), royalties set forth above shall be reduced by [*****]. Should BI obtain evidence that any of the above requirements for such royalty reduction were met during a Calendar Quarter after BI has completed preparing its Net Sales report for such Calendar Quarter, BI shall be entitled to a credit, to be applied by BI against subsequent royalty payments, in the amount by which royalties would have been reduced had due account been taken of such royalty reduction when preparing such Net Sales report. If royalties are subject to the reductions under both Section 7.8.4 and 7.8.5, the reduction under Section 7.8.4 shall be applied before the reduction under Section 7.8.5.

7.8.6 **Blended Royalties.** With respect to a potential step down in royalty rates to account for the expiry of certain Patent Rights, the Parties acknowledge and agree that the CureVac Licensed Intellectual Property licensed under this Agreement may justify royalty rates and/or royalty terms of differing amounts for sales of Licensed Products in the Territory, which rates could be applied separately to Licensed Products involving the exercise of CureVac Licensed Patent Rights in the Territory and/or the incorporation of Know How comprised in the CureVac Licensed Intellectual Property, and that if such royalties were calculated separately, royalties relating to the CureVac Licensed Patent Rights in the Territory and royalties relating to the Know How comprised in the CureVac Licensed Intellectual Property would last for different terms. For practicality reasons the Parties have agreed on a blended royalty rate. For clarity, this Section 7.8.6 (i) solely explains the rationale behind the royalty rates agreed on by the Parties and (ii) does not modify any of the other provisions of this Agreement.

7.8.7 **No Multiple Royalties.** No multiple royalties shall be payable because a Licensed Product, its manufacture, use or sale is or shall be covered by (i) more than one Valid Claim and/or (ii) more than one patent under the Patent Rights which form part of the CureVac Background Intellectual Property and/or the CV9202 Specific Patent Rights.

7.8.8 **Net Sales Adjustments Related to Combination Products and Co-Packaged Products.** In the event a Licensed Product is sold as a Combination Product or Co-Packaged Product, Net Sales of the Combination Product or Co-Packaged Product will be calculated, on a country-by-country basis, as follows:

If the Licensed Product and the other product are also sold separately in the applicable country, Net Sales of the Licensed Product portion of Combination Products and Co-Packaged Products will be calculated by multiplying the total Net Sales of the Combination Product or Co-Packaged Product by the fraction A/(A+B), where A is the average gross selling price in the applicable country of the Licensed Product sold separately in the same formulation and dosage, and B is the sum of the average gross selling prices in the applicable country of all other therapeutically or prophylactically active ingredients or products in the Combination Product or Co-Packaged Product sold separately in the same formulation and dosage, during the applicable Calendar Quarter.

If the Licensed Product is sold separately, but the average gross selling price of the other product(s) cannot be determined, Net Sales of the Combination Product or the Co-Packaged Product shall be equal to the Net Sales of the Combination Product or Co-Packaged Product multiplied by the fraction A/C wherein A is the average gross selling price of the Licensed Product and C is the average gross selling price of the Combination Product or Co-Packaged Product.

If the other product(s) is/are sold separately, but the average gross selling price of the Licensed Product cannot be determined, Net Sales of the Combination Product and/or Co-Packaged Product shall be equal to the Net Sales of the Combination Product and/or Co-Packaged Product multiplied by the following formula: one (1) minus B/C wherein B is the average gross selling price of the other product(s) and C is the average gross selling price of the Combination Product and/or Co-Packaged Product.

If the average gross selling price of neither the Licensed Product nor the other product(s) can be determined, Net Sales of the Combination Product or Co-Packaged Product shall be equal to Net Sales of the Combination Product or Co-Packaged Product multiplied by a mutually agreed percentage.

The average gross selling price for such other product(s) contained in the Combination Product or Co-Packaged Product shall be calculated for each calendar year by dividing the sales amount by the units of such other product(s), as published by IMS or another mutually agreed independent source. In the initial calendar year during which a Combination Product or Co-Packaged Product is sold, forecasted average gross selling prices shall be used for royalty calculation purposes. Any over or under payment due to a difference between forecasted and actual average gross selling prices shall be paid or credited in the second royalty payment of the following calendar year. In the following calendar year the average gross selling price of the previous year shall apply from the second royalty payment on.

7.8.9 **Royalty Payments.** Within [*****] after the end of each Calendar Quarter in which any Net Sales occur, BI shall calculate the royalty payments owed to CureVac and shall remit to CureVac the amount owed to CureVac. All royalty payments shall be computed by converting the Net Sales in each country in the Territory into the currency of Euros, using the monthly exchange rates as customarily used by BI in its regular accounting system (momentarily average rates published by the European Central Bank in Frankfurt/Main, Germany).

7.8.10 **Reports.** Each royalty payment shall be accompanied by a written report describing the Net Sales of each Licensed Product sold by or on behalf of BI, its Affiliates and Sublicensees during the applicable Calendar Quarter for each country in which sales of any Licensed Product occurred, specifying: the gross sales (if available) and Net Sales in each country's currency, including an accounting of deductions taken in the calculation of Net Sales; the applicable exchange rate to convert from each country's currency to Euros; and the royalties payable in Euros.

7.8.11 **Records.** BI, its Affiliates and/or its Sublicensees shall keep and maintain records of sales of the Licensed Product(s) so that the royalties payable and the royalty reports may be verified. Such records shall be open to inspection during business hours for a [*****] period after the Calendar Quarter to which such records relate, but in any event not more than once per calendar year, by a nationally recognized independent certified public accountant selected by CureVac to whom BI has no reasonable objections and retained at CureVac's expense. Said accountant shall sign a confidentiality agreement prepared by BI and reasonably acceptable to CureVac and shall then have the right to examine the records kept pursuant to this Agreement and report to CureVac the findings (but not the underlying data) of said examination of records as necessary to evidence that the records were or were not maintained and used in accordance with this Agreement. CureVac shall ensure that a copy of any report provided to CureVac by the accountant is given concurrently to BI. If said examination of records reveals any underpayment(s) of the royalty payable, then BI shall promptly pay the balance due to CureVac, and if the underpayment(s) is/are more than 5%, then BI shall also bear the expenses of said accountant. If said examination of records reveals any overpayment(s) of royalty payable, then CureVac shall credit the amount overpaid against BI's future royalty payment(s).

7.9 Payment Terms.

7.9.1 All payments by BI to CureVac shall be made by wire transfer payment, and shall be remitted to the following bank account:

[*****]

Invoices shall be sent to BI at the following address: Boehringer Ingelheim International GmbH [*****]

Quote the BI in-house contact person in a corresponding reference field or anywhere on the invoice/credit note outside of the address field:

Contact: [*****]

7.9.2 Payments not paid within five (5) days after the due date under this Agreement shall bear interest at an annual rate of three percent (3%) above the three-month-LIBOR rate of the respective currency for the time period in which such amount is outstanding, as disclosed from time to time by the European Central Bank which applied on the due date. Calculation of interest will be made for the exact number of days in the interest period based on a year of 360 days (actual/360) by BI.

7.10 Taxes.

7.10.1 All payments under or in connection with this Agreement shall be inclusive of any income taxes and each Party shall be responsible for its own income taxes assessed by a tax or other authority except as otherwise set forth in this Agreement.

7.10.2 If applicable laws require withholding of BI of any taxes imposed upon CureVac on account of any royalties and payments, paid under this Agreement, such taxes shall be deducted by BI as required by law from such remittable royalty and payment and shall be paid by BI to the proper tax authorities. Official receipts of payment of any withholding tax shall be secured and sent to CureVac as evidence of such payment. The Parties shall exercise their best efforts to ensure that any withholding taxes imposed are reduced as far as possible under the provisions of any relevant tax treaty, and BI shall forward any refund payments to CureVac without undue delay, *provided*, *however*, in the event BI transferred its domicile outside of Germany, BI shall bear the risk and compensate CureVac for such withholding tax not being partly or fully refunded, and if CureVac transfers its domicile outside of Germany, CureVac shall bear the risk of such withholding tax not being partly or fully refunded.

7.10.3 All payments due to the terms of this Agreement are expressed to be exclusive of value added tax (VAT) or similar indirect taxes (e.g., Goods and Service tax). VAT/indirect taxes shall be added to the payments due to the terms if legally applicable.

8. JOINT STEERING COMMITTEE AND JOINT PROJECT TEAM.

8.1 **Formation of the JSC.** The Parties shall form a Joint Steering Committee (the "**Joint Steering Committee**" or "**JSC**"), which shall monitor the Development of the Licensed Vaccines as described in more detail in Section 8.3 below. Each Party shall be equally represented on the Joint Steering Committee with an equal number of participants. The Joint Steering Committee shall be comprised of at least six (6) professionally and technically qualified representatives, three (3) from each Party. The Joint Steering Committee shall meet for the first time within six (6) weeks after the Effective Date and thereafter at least once a Calendar Quarter, with additional meetings to be held as the Parties deem necessary or in case a situation occurs in which a decision by the JSC is required, within [*****] after written request for such meeting by either Party. BI shall designate the chairperson of the JSC. The meeting place shall alternate between the offices of BI in [*****] and the offices of CureVac in [*****] or as otherwise decided by the JSC. JSC meetings may be conducted in person, by telephone or videoconference as agreed between the Parties, *provided*, *however*, that at least twice a year the JSC meeting shall be held in person. Each Party shall provide the other Party with written notice of its representatives for the JSC within [*****] after the Effective Date of this Agreement and, thereafter, immediately upon replacement, *provided*, *however*, that the Parties shall use Commercially Reasonable Efforts to ensure continuity on the JSC. Each Party may invite guests to the meetings, in order to discuss special technical or commercial topics relevant to the applicable agenda, *provided*, *however*, such guests are bound by confidentiality obligations corresponding to Sections 4.3 and 10. Prior to each meeting of the JSC each Party will make available to the other Party written copies of Development Data regarding the Development and other information relating to its respective activities and timelines. Furthermore, the Parties shall inform each other in writing at least [*****] prior to each JSC meeting of any event which could result in a material deviation from the activities and timelines set forth in the Development Plans.

8.2 **Decision Making in the JSC.** The JSC shall have the right to adopt such standing rules as shall be necessary for its work, to the extent that such rules are not inconsistent with this Agreement. A quorum of the JSC shall exist whenever at least one representative appointed by each Party is present. The representatives from each Party may give proxy to the other representatives from such Party. The representatives from each Party will collectively have one vote in decisions of the JSC, with decisions of the JSC made by unanimous vote at a meeting at which a quorum exists.

8.3 **Responsibilities of the JSC.** The Parties shall be jointly responsible for directing the activities of the JSC, which activities shall include but not be limited to

(a) the review, validation, material modification, update and amendment of the Development Plans;

(b) the monitoring of the Development activities under the Development Plans;

(c) the exchange of Development Data and other technical information;

(d) the resolution of any disputes within the Joint Project Team; and

(e) the coordination of patents and other intellectual property rights applications regarding Joint Inventions.

For the avoidance of doubt, the JSC is not permitted to change any terms of this Agreement.

8.4 **Minutes.** The JSC shall keep accurate and complete minutes of its meetings. The chairperson for each meeting shall be responsible for taking such minutes and distributing them to CureVac for its review and comment within two (2) weeks after the date of each meeting, and within one (1) week after the receipt thereof, CureVac shall remit such minutes back to the chairperson with its comments, if any. The Parties shall in good faith attempt as quickly as is reasonably possible to resolve any disputes as to the content of such minutes so as to have a final agreed version as quickly as is reasonably possible.

8.5 **Decision Making Authority.** All decisions of the JSC shall be made in good faith in the best interest of this Agreement and the Parties shall use their Commercially Reasonable Efforts to take decisions unanimously. In the event that the JSC is unable to agree on any matter after good faith attempts to resolve such disagreement in a commercially reasonable fashion, then either Party may refer the disagreement to a personal face-to-face meeting between the board member representing RD&M or his/her nominated designee of BI and the CEO or CCO of CureVac, and each Party shall ensure that such meeting takes place within [*****] after the date of the relevant referral. If the board member representing RD&M or his/her nominated designee of BI and the CEO or CCO of CureVac cannot resolve such disagreement in a mutually acceptable manner within a further [*****] period after such personal face-to-face meeting, then the vote of BI with appropriate consideration of the interests of CureVac shall be decisive regarding Development and Commercialization, except in the event the disputed topic would result in (a) a substantial reduction of Bl's diligence obligations under Section 4.2 hereof; (b) a delay of the Non-clinical and Clinical Development of more than [*****]; (c) a substantial change regarding the Manufacture of the Licensed Vaccines; (d) less FTE support of CureVac or an increase in FTE support of CureVac by more than [*****]; (e) the evaluation of the outcome of the ongoing feasibility study as referenced in Section 6.3.1(b) above; or (f) the evaluation of the outcome of the feasibility study with respect to the BI pDNA Process as referenced in Section 6.4 above. If BI casts its decisive vote in relation to a CMC Development matter, BI shall pay to CureVac compensation at the FTE Rates for any CureVac FTEs needed for the additional CMC Development activities demanded by BI (if any) and reimburse CureVac for any reasonable out of pocket costs incurred by CureVac in relation to such additional CMC Development activities. For the avoidance of doubt, the FTE resource commitments in the Development Plans, as set forth in Section 4.1.1 above, can only be reduced by the Parties and are not subject to the decision making process in the JSC.

8.6 **Expert Panel Resolution.** In the event that the Parties are unable to reach an agreement on any of the issues under Section 8.5 (a) to (e) or on any Manufacturing matter within [*****] after the personal face-to-face meeting between the board member representing RD&M or his/her nominated designee of BI and the CEO or CCO of CureVac, either Party is entitled to request that the question be referred to a panel of three (3) independent experts in the Development of biologic products for the treatment of cancer in humans and on the specific issue at dispute ("**Expert Panel**"). Such request shall be made by written notice explicitly referring to this Section 8.6. Each Party shall nominate within [*****] of the request one expert, while the third expert shall be mutually agreed by the Parties within another [*****]. If a Party does not nominate the one expert within such first [*****] such expert shall be nominated by the respective other Party. If the Parties are unable to agree on the third expert, the third expert shall be selected and nominated by the two experts appointed by the Parties. Each Party shall submit to the Expert Panel a written report setting forth its proposed resolution of such dispute within the later of (i) [*****] following a referral to the panel, or (ii) [*****] after selection of such Expert Panel. The Expert Panel shall meet face-to-face to discuss the written reports and shall be entitled, at its discretion to invite for a hearing representatives of the Parties. The Expert Panel shall then select as its decision one of the proposals from the Parties, and shall not have the authority to render any substantive decision other than the proposal of either BI or CureVac. The decision of the Expert Panel shall be final and binding on the Parties and the Party whose proposal has not been selected by the Expert Panel will pay all costs of the Expert Panel.

8.7 **Joint Project Team.** In addition to the JSC, the Parties shall jointly, unless otherwise mutually agreed, agree on and establish a project team ("**Joint Project Team**"), which shall be comprised of experts from the development disciplines of the Parties and which shall oversee and bring forward the Development. BI will have the lead of the Joint Project Team. The Joint Project Team shall meet regularly, but at least once per Calendar Quarter. Meetings of the Joint Project Team may be conducted in person, by telephone or videoconference as agreed between the Parties. Each Party shall provide the other Party with written notice of its representatives for the Joint Project Team within [*****] after the Effective Date of this Agreement and, thereafter, immediately upon replacement. Each Party may invite guests to the meetings, in order to discuss special technical or commercial topics relevant to the applicable agenda, *provided*, *however*, such guests are bound by confidentiality obligations corresponding to Sections 4.3 and 10. All decisions of the Joint Project Team shall be by unanimous agreement and any dispute within the Joint Project Team which cannot be resolved within four weeks will be brought to the attention of and for decision within the JSC.

9. **INTELLECTUAL PROPERTY.**

9.1 **Ownership of Background Intellectual Property.** BI retains all rights to the BI Background Intellectual Property, and CureVac retains all rights to the CureVac Background Intellectual Property, subject only to the licenses granted hereunder and the assignment and transfer of the CV9202 Specific Patent Rights to BI under Section 9.4 below.

9.2 Ownership of Collaboration Intellectual Property.

9.2.1 For any invention comprised within Collaboration Intellectual Property, CureVac and BI will inform each other and determine in good faith whether it is

(a) either (i) dependent upon or covered by the BI Background Intellectual Property, and (x) neither dependent upon nor covered by the CureVac Background Intellectual Property and (y) not applicable to the CMC Development and/or Manufacture of the Licensed Vaccine or the manufacture of any other RNA-based product owned or in-licensed by CureVac; or (ii) solely directed to the composition of matter, the formulation or use of the Licensed Vaccine, i.e., not applicable to any other vaccine, compound or product, and not applicable to the Manufacture of the Licensed Vaccine or the manufacture of any other RNA-based product owned or in-licensed by CureVac, in which event such invention shall be solely owned by BI and shall be considered BI Collaboration Intellectual Property, irrespective as to which Party generated such Collaboration Intellectual Property. For the avoidance of doubt, any invention comprised within Collaboration Intellectual Property that is solely directed to the CV9202 Specific Patent Rights shall be solely owned by BI and shall be considered BI Collaboration Intellectual Property;

(b) (i) dependent upon or covered by the CureVac Background Intellectual Property, and neither dependent upon nor covered by the BI Background Intellectual Property nor directed to the composition of matter, the formulation or use of the Licensed Vaccine or the CV9202 Specific Patent Rights; or (ii) directed to the CMC Development (except any invention that is solely directed to the composition of matter, the formulation or use of the Licensed Vaccines) and/or Manufacture of the Licensed Vaccines or the manufacture of any other RNA-based product owned or in-licensed by CureVac, in which event such invention shall be solely owned by CureVac and shall be considered CureVac Collaboration Intellectual Property, irrespective as to which Party generated such Collaboration Intellectual Property;

(c) either (i) relates to both: (x) the composition of matter, the formulation or use of the Licensed Vaccine; and (y) any other CureVac Background Intellectual Property or any other vaccine, compound or product owned or in-licensed by CureVac; or (ii) relates to both: (xx) the BI Background Intellectual Property; and (yy) any other CureVac Background Intellectual Property or to the CMC Development (except any invention that is solely directed to the composition of matter, the formulation or use of the Licensed Vaccines) or Manufacture of the Licensed Vaccines or to the manufacture of any other RNA-based product owned or in¬licensed by CureVac; in which event, the Parties shall discuss in good faith whether any such invention can be divided and owned in accordance with Sections (a) and (b) above, made subject to separate patent filings to be assigned accordingly; and if no such division is possible, such Collaboration Intellectual Property shall be treated as provided under Section 9.2.2.

9.2.2 Any Collaboration Intellectual Property which is neither solely owned by BI nor solely owned by CureVac shall be jointly owned by the Parties ("**Joint Collaboration Intellectual Property**"). Any invention within the Joint Collaboration Intellectual Property shall be a "**Joint Invention**" and any Patent Right filed with respect to such Joint Invention shall be a "**Joint Patent Right**". For the avoidance of doubt, CureVac's share in Joint Collaboration Intellectual Property which falls within the scope of Bl's licenses under Sections 2.1 and/or 2.2, shall be automatically included within such license(s), on the terms and conditions contained in this Agreement.

9.3 Assignment and transfer of Collaboration Intellectual Property.

9.3.1 **Assignment and Transfer.** The initial holder of Collaboration Intellectual Property which is to be wholly or jointly owned by the other Party in accordance with Section 9.2 above shall assign and transfer, and hereby assigns and transfers, to such other Party all or a 50 percent share, as the case may be, of its present and future rights, interest and title to any such Collaboration Intellectual Property, and the other Party shall accept and hereby accepts such assignment and transfer. At the written instruction and, if the transferring Party incurs out-of-pocket costs, at the expense of the other Party, the transferring Party agrees to make or procure all such assignments from its employees, consultants and subcontractors as are necessary to give effect to this provision and to assist the transferee in every way reasonably required by the transferee (i) to obtain Patent Rights to such Collaboration Intellectual Property in any and all countries for which Patent Rights are being sought, and to (ii) maintain and defend Patent Rights in all Collaboration Intellectual Property which have been or may be assigned as provided above. At the expense (solely for out-of-pocket costs incurred) of the other Party, the transferring Party shall execute and deliver all such documents, instruments and other papers and take all such other action which the transferee may reasonably request in order to effect the provisions of this Section 9.3.

9.3.2 **Back license to CureVac.** BI hereby grants to CureVac, and CureVac hereby accepts, a cost-free, fully-paid, irrevocable, perpetual, sublicensable in multiple tiers and transferable license to use the Collaboration Intellectual Property assigned and transferred hereunder from CureVac to BI for the Manufacture of the Licensed Vaccine, the exploitation of any product other than a Licensed Vaccine or Licensed Product and/or for any use outside the Field. Such license shall be exclusive with regard to the Collaboration Intellectual Property described in Section 9.2.1(a)(ii) and non-exclusive with regard to the Collaboration Intellectual Property described in Section 9.2.1(a)(i) above.

9.3.3 **Back license to BI.** CureVac hereby grants to BI, and BI hereby accepts, a cost-free, fully- paid, non-exclusive, irrevocable, perpetual, sublicensable in multiple tiers and transferable license to use the Collaboration Intellectual Property assigned and transferred hereunder from BI to CureVac for the exploitation outside the scope of this Agreement.

9.3.4 **Exploitation of joint inventions and results.** Each Party may exploit any Joint Collaboration Intellectual Property in any and all fields (except, in the case of BI, for the CMC Development or Manufacture of the Licensed Vaccines or the manufacture of any other mRNA-based product), on a non-exclusive, cost-free basis, and with no accounting or obligation to the other, and each Party hereby grants to the other Party, and the other Party hereby accepts, a non-exclusive, cost-free, perpetual, irrevocable and worldwide license (in case of CureVac with the right to transfer and sublicense in multiple tiers and in case of BI with the right to sublicense in accordance with Section 2.2 above) to the other Party's share in such Joint Collaboration Intellectual Property, subject to the licenses granted hereunder.

9.4 Assignment and Transfer of CV9202 Specific Patent Rights.

9.4.1 Upon [*****], CureVac shall assign and transfer to BI the CV9202 Specific Patent Rights. Upon such assignment, the CV9202 Specific Patent Rights shall no longer be included in the definition of CureVac Background Intellectual Property. In order to effect the assignment and transfer, CureVac will support BI, upon Bl's request in executing all assignment documentation and providing any declaration which may be necessary to effect the assignment and transfer of the CV9202 Specific Patent Rights from CureVac to BL BI shall be responsible for, and will pay all out-of-pockets expenses with respect to the assignment and transfer of the CV9202 Specific Patent Rights, including the fees for notarization and legalization of the assignment documents, and for recording such assignment documents with the competent patent offices.

9.4.2 As of the assignment and transfer of the CV9202 Specific Patent Rights, BI shall use its best efforts to prosecute, maintain and defend the CV9202 Specific Patent Rights in at least all Major Market Countries, shall keep CureVac informed of all such prosecution, maintenance and defense efforts, and shall give CureVac reasonable opportunity to review and comment on such prosecution, maintenance and defense. BI shall not unreasonably refuse to address any of CureVac's comments made in accordance with this Section 9.4.2.

9.4.3 BI hereby grants to CureVac, and CureVac hereby accepts, an exclusive, irrevocable, perpetual, cost-free, sublicensable in multiple tiers and transferable license to use the CV9202 Specific Patent Rights for the Manufacture of the Licensed Vaccines, the exploitation of any product other than a Licensed Vaccine or Licensed Product and/or for any use outside the Field.

9.5 Management of CureVac Licensed Patent Rights.

9.5.1 **Filing and Prosecution of CureVac Licensed Patent Rights.** During the term of this Agreement, and subject to Sections 9.5.2 and 9.5.5 below, CureVac shall be responsible for preparing and filing the CureVac Licensed Patent Rights, and prosecuting, maintaining and defending, throughout the Territory, all of the CureVac Licensed Patent Rights and, upon Bl's request, shall keep BI advised of the status of prosecution of all such patent applications included within the CureVac Licensed Patent Rights, and shall give BI before filing or response to office actions, as applicable, reasonable opportunity to review and comment upon the text of any applications or amendments for CureVac Licensed Patent Rights. CureVac shall not unreasonably refuse to address any of Bl's comments made in accordance with this Section 9.5.1.

9.5.2 **Filing and Prosecution of Joint Patent Rights.** BI shall have the right, but not the obligation, of preparing, filing, prosecuting, maintaining and defending Joint Patent Rights anywhere in the Territory. At the latest [*****] before filing, the prosecuting Party shall give the non-prosecuting Party an opportunity to review and comment upon the text of any application with respect to such Joint Patent Right, shall consult with the non¬prosecuting Party with respect thereto, shall not unreasonably refuse to address any of the non-prosecuting Party's comments and supply the non-prosecuting Party with a copy of the application as filed, together with notice of its filing date and serial number. The prosecuting Party shall keep the non-prosecuting Party reasonably informed of the status of the actual and prospective prosecution, maintenance and defense, including but not limited to any substantive communications with the competent patent offices that may affect the scope of such filings, and the prosecuting Party shall give the non-prosecuting Party a timely, prior opportunity to review and comment upon any such substantive communication and shall consult with such non-prosecuting Party with respect thereto, and shall not unreasonably refuse to address any of such non-prosecuting Party's comments.

9.5.3 **Assigned Patent Rights.** Upon assignment, BI shall have the right but not the obligation, of preparing, filing, prosecuting, maintaining and defending Patent Rights within the Collaboration Intellectual Property assigned and transferred, wholly or in part, as the case may be, by CureVac to BI in accordance with Section 9.3 (the "**Assigned Patent Rights**"), anywhere in the Territory, and shall keep CureVac advised of the status of prosecution of all such Patent Rights, and shall give CureVac before filing or response to office actions, as applicable, reasonable opportunity to review and comment upon the text of any applications or amendments or other substantive actions for such Patent Rights. BI shall not unreasonably refuse to address any of CureVac's comments made in accordance with this Section 9.5.3.

9.5.4 **Costs.** The costs of filing, prosecuting, maintaining and defense of the CureVac Licensed Patent Rights under Section 9.5.1 and 9.5.2 shall be borne by the Party responsible for such filing, prosecution, maintenance and defense, except for and subject to such Party's right to elect to discontinue the patent prosecution and maintenance as set forth in Section 9.5.5 below.

9.5.5 **Abandonment of Patent Rights.** If CureVac elects to cease the filing, prosecution, maintenance and/or defense of a CureVac Licensed Patent Right or if BI elects not to participate in filing of a patent application on a Joint Invention or to cease the prosecution, maintenance or defense of any Joint Patent Right, a CV9202 Specific Patent Right or an Assigned Patent Right in any country of the Territory, such Party shall provide the other Party with written notice immediately upon the decision to abandon the filing, prosecution, maintenance and/or defense of such CureVac Licensed Patent Right, Joint Patent Right, CV9202 Specific Patent Right or Assigned Patent Right, as the case may be, in any event, however, not later than [*****] before any relevant deadline relating to or any public disclosure of the relevant Patent Rights. In such event, the abandoning Party shall permit the other Party, at such other Party's sole discretion, to take over or continue, as the case may be, the filing, prosecution, maintenance and defense of such Patent Right on behalf of and in the name of the owner of such Patent Right and at such other Party's own expense. If the abandoning Party was also the prosecuting Party and if the other Party elects to take over and continue such filing, prosecution, maintenance and defense, the abandoning Party shall execute such documents and perform such acts, at the expense of the Party taking over prosecution, as may be reasonably necessary to permit such Party to take over and continue the filing, prosecution, maintenance and/or defense of such Patent Right on behalf and in the name of the respective owner or co-owners of such Patent Right and at its own expense. For the avoidance of doubt, the abandoning Party shall remain an owner or co-owner of the abandoned Patent Right but has no further say in the filing, prosecution, maintenance and defense of the Patent Right, provided, however, that the prosecuting Party shall timely inform such abandoning Party if it is decided to finally abandon the respective Patent Right, in which event the other Party shall have the right to assume sole responsibility for ongoing prosecution, maintenance and defense of such Patent Right in accordance with this Section 9.5.

9.6 Enforcement of CureVac Licensed Patent Rights, Joint Patent Rights, CV9202 Specific Patent Rights and Assigned Patent Rights.

9.6.1 If either BI or CureVac becomes aware of any infringement, anywhere in the world, of any issued CureVac Licensed Patent Right, Joint Patent Right, CV9202 Specific Patent Right or Assigned Patent Right, it will promptly notify the other Party in writing thereof.

9.6.2 CureVac shall have the primary right, but not the obligation, to take action to obtain a discontinuance of infringement or bring suit against a Third Party infringer of a CureVac Licensed Patent Right it is responsible for under Section 9.5.1. Upon assignment to BI under Section 9.4 of this Agreement, BI shall have the primary right to take action to obtain a discontinuance of infringement or bring suit against a Third Party infringer of CV9202 Specific Patent Rights or Assigned Patent Rights. The Party prosecuting and maintaining the Joint Patent Right shall have the primary right, but not the obligation, to take action to obtain a discontinuance of infringement or bring suit against a Third Party infringer of such Patent Right. The enforcing Party shall bear all expenses of such action or suit.

9.6.3 If the Party which has the primary right to bring an infringement action elects not to take action or to bring suit to prosecute such infringement, it shall notify the other Party of such election within [*****] after receipt of the notice of the infringement or after the election to stop any such suit. If after the expiration of the [*****] period (or, if earlier, the date upon which the Party which has the primary right to bring an infringement action provides written notice that it does not plan to bring such action), the Party which has the primary right to bring action has neither obtained a discontinuance of infringement of the CureVac Licensed Patent Right, the Joint Patent Right, the CV9202 Specific Patent Right or the Assigned Patent Right, as the case may be, nor filed suit against any such Third Party infringer of such Patent Rights, then the other Party shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patent Rights, provided that such other Party shall bear all the expenses of such suit.

9.6.4 In any litigation brought by either Party pursuant to this Section 9.6, the enforcing Party shall notify the non-enforcing Party of the commencement of that litigation and shall have the right and standing to use and sue in the other Party's name. Notwithstanding the first sentence of this paragraph, irrespective of which Party brings the infringement action hereunder, (i) the Parties shall collaborate with respect to such action; (ii) the non¬enforcing Party shall have the right, at its own expense, to be represented by independent counsel in any such litigation; and (iii) the Parties shall consult with each other regarding, and agree on strategic decisions and their implementation in connection with such action. The Party bringing the infringement action hereunder shall bear all the expenses of any suit brought by it claiming infringement of any CureVac Licensed Patent Right, Joint Patent Right, CV9202 Specific Patent Right or Assigned Patent Right.

9.6.5 Any recoveries obtained by either Party as a result of any proceeding against a Third Party infringer under this Section 9.6 shall be allocated as follows:

(a) Such recovery shall first be used to reimburse each Party for all reasonable litigation costs in connection with such litigation incurred by that Party;

(b) such recovery shall then be used to compensate each Party for the respective damages suffered from the infringement of the respective Patent Right, provided that in the event the remaining portion of the recovery is not sufficient to compensate each Party's damages, such compensation shall be paid on a pro-rata share based on the respective damages suffered, *provided*, *however*, if such respective damages suffered cannot be reasonably ascertained, the recovery shall be equally shared between the Parties; **and**

(c) the remaining portion of such recovery, if any, shall be equally shared between CureVac and BI to the extent it relates to Licensed Vaccines and Licensed Products, and shall belong to the Party Controlling the respective Patent Right to the extent it does not relate to Licensed Vaccines and Licensed Products.

9.6.6 Neither Party shall settle any claim or demand in any such litigation that materially negatively impacts the other Party's rights or interests under this Agreement without the prior written consent of the other Party, which consent shall not be unreasonably withheld or delayed. In addition to the foregoing, to the extent any action initiated by BI involves any infringement of CureVac Licensed Patent Rights, Joint Patent Rights, the CV9202 Specific Patent Rights or the Assigned Patent Right and is reasonably likely to relate to CureVac's products and/or technologies other than a Licensed Vaccine, BI will consult with CureVac regarding issues relating to such CureVac Licensed Patent Rights, Joint Patent Rights, the CV9202 Specific Patent Rights or the Assigned Patent Rights, CureVac's products and technologies, and the Parties will mutually agree on strategic litigation decisions regarding such issues.

9.6.7 The non-enforcing Party shall provide such assistance as the enforcing Party shall reasonably request in connection with any action or suit hereunder to prevent or enjoin any such infringement or unauthorized use of an issued Patent Right within the CureVac Licensed Patent Rights, Joint Patent Rights, the CV9202 Specific Patent Rights or the Assigned Patent Rights, including agreeing to be joined as a party to such action or suit and executing legal documents as reasonably requested by the enforcing Party. Such assistance will be provided by a Party, at the enforcing Party's cost. The Parties agree that, irrespective of which Party brings the action or suit pursuant to this Section 9.6, the Parties will update each other as to the status of such actions through the JSC and the enforcing Party will not unreasonably reject comments from the other Party relating to the management of such litigation.

9.7 Infringement and Third Party Licenses.

9.7.1 If the Development and Commercialization or use of any Licensed Vaccine or Licensed Product in accordance with this Agreement is alleged by a Third Party to infringe a Third Party's Patent Right, or such allegation can be reasonably expected, the Party becoming aware of such allegation shall promptly notify the other Party. Additionally, if either Party determines that, based upon the review of a Third Party's Patent Right, it may be desirable to obtain a license from such Third Party with respect thereto, such Party shall promptly notify the other Party of such determination and the Parties shall consult with each other and attempt to agree on a common strategy to either obtain a reasonable license or otherwise. If BI reasonably determines that such license from a Third Party ("**Third Party Licensor**") is necessary in order to have freedom to operate in practicing the CureVac Licensed Intellectual Property in accordance with this Agreement in any country, then BI shall have the sole right, but not the obligation, to negotiate and obtain a license from such Third Party Licensor as necessary for BI, its Affiliates, and permitted Sublicensees to Non- clinically and Clinically Develop and Commercialize the Licensed Vaccines and Licensed Products in such country.

9.7.2 If a Third Party sues BI or CureVac or any of their Affiliates, distributors or permitted Sublicensees alleging that Bl's practice of a right granted by CureVac to BI hereunder through the Development and Commercialization of any Licensed Vaccine or Licensed Product pursuant to this Agreement infringes or will infringe said Third Party's Intellectual Property, then, upon the defending Party's request and in connection with the defense of any such Third Party infringement suit, the non-defending Party shall provide reasonable assistance to the defending Party for such defense and/or shall join in any such action if required in order to defend such claim or to assert all available defenses and claims, and to cooperate reasonably with the defending Party.

9.7.3 The defending Party shall not enter into a settlement that imposes a financial obligation upon the non-defending Party or which limits the scope or invalidates any Patent Right of either Party without such Party's prior written consent, which consent shall not be unreasonably withheld or delayed, and in any settlement the defending Party shall always take into consideration the interest of the non-defending Party.

9.8 **Patent Term Extension and Supplementary Protection Certificate.** The JSC shall decide on any patent term extensions, including supplementary protection certificates and any other extensions that are now or become available in the future, wherever applicable, in order to secure the optimal protection for the Licensed Vaccine available under Applicable Laws. The JSC shall not decide to extend a Patent Right that is not a CureVac Licensed Patent Right, Joint Patent Right, CV9202 Specific Patent Right or an Assigned Patent Right in any country or other jurisdiction, without CureVac's prior written consent which CureVac shall not unreasonably delay or withhold. The Party having the responsibility to prosecute the respective Patent Right shall have the sole obligation of applying for any extension or supplementary protection certificate with respect to a Licensed Vaccine and such Patent Right in the Territory, and such Party shall keep the other Party fully informed of its efforts to obtain such extension or supplementary protection certificate. The other Party shall provide prompt and reasonable assistance, as requested by the applying Party, including by taking such action as patent holder as is required under any Applicable Law to obtain such patent extension or supplementary protection certificate. BI shall pay all expenses in regard to obtaining and maintaining any extension or supplementary protection certificate in respect of the Licensed Vaccine in the Territory.

9.9 **CREATE Act.** This Agreement includes a joint research agreement as defined in §§ 100(h) and 102(c) of title 35, United States Code as amended by the America Invents Act. If either Party intends to disqualify as prior art subject matter in a Patent Right within the Collaboration Intellectual Property that would otherwise qualify as prior art under 35 U.S.C. §102 (a)(2) with respect to a claimed invention in any such Patent Right pursuant to the provisions of 35 U.S.C. §102(c), such Party shall first obtain the prior written consent of the other Party (including the terms and conditions under which any Patent Rights subject to a terminal disclaimer and the Patent Rights over which the application is disclaimed shall be enforced and licensed), which consent shall not be unreasonably withheld. Following receipt of such written consent, such Party shall limit any statement added to the specification of any Patent Right within the Collaboration Intellectual Property to such information which is strictly required by 35 U.S.C. § 102(c)(3) and the rules and regulations promulgated thereunder to disqualify as prior art subject matter that would otherwise qualify under 35 U.S.C. §102 (a)(2) as contemplated by the CREATE Act, and which is consistent with the terms and conditions of this Agreement.

10. CONFIDENTIALITY.

10.1 **Obligation of Confidentiality.** As of and after the Effective Date, all Confidential Information disclosed, revealed or otherwise made available to one Party ("**Receiving Party**") by or on behalf of the other Party ("**Disclosing Party**") under, or as a result of, this Agreement is made available to the Receiving Party solely to permit the Receiving Party to exercise its rights, and perform its obligations, under this Agreement or any Related Agreement. The Receiving Party shall not use any of the Disclosing Party's Confidential Information for any other purpose, and shall not disclose, reveal or otherwise make any of the Disclosing Party's Confidential Information available to any other Person, firm, corporation or other entity, without the prior written authorization of the Disclosing Party, except as explicitly stated in this Article 10.

10.2 **Additional Obligations.** In furtherance of the Receiving Party's obligations under Section 10.1 hereof, the Receiving Party shall take all reasonable steps, and shall implement all appropriate and reasonable safeguards, to seek to prevent the unauthorized use or disclosure of any of the Disclosing Party's Confidential Information. Without limiting the generality of this Section 10.2, the Receiving Party shall disclose any of the Disclosing Party's Confidential Information only to those of its officers, employees, Affiliates, Sublicensees and consultants, and its potential Sublicensees, and consultants that have a need to know the Disclosing Party's Confidential Information, in order for the Receiving Party to exercise or confirm its rights or the scope of the licenses granted hereunder, and/or to perform its obligations under this Agreement. Furthermore, the Receiving Party shall be permitted to disclose the existence and a reasonably redacted version of this Agreement (excluding its exhibits) to its assignees and investors, and to potential assignees and investors who have a reasonable need to review the terms of this Agreement. The disclosures under this Section 10.2 are subject to such officers, employees, Affiliates, Sublicensees, consultants, assignees and investors, and potential Sublicensees, consultants, assignees and investors having executed appropriate agreements containing substantially similar terms regarding confidentiality and non-use as those set out in this Agreement or are otherwise bound by obligations of confidentiality effectively prohibiting the unauthorized use or disclosure of the Disclosing Party's Confidential Information. The Receiving Party shall furnish the Disclosing Party with written notice immediately of it becoming aware of any unauthorized use or disclosure of any of the Disclosing Party's Confidential Information by any officer, employee, Affiliate, Sublicensee, consultant, assignee or investor, or potential Sublicensee, consultant, assignee or investor of the Receiving Party, and shall take all actions that the Disclosing Party reasonably requests in order to prevent any further unauthorized use or disclosure of the Disclosing Party's Confidential Information. Furthermore, CureVac is entitled to disclose the terms and conditions of this Agreement to licensees and potential licensees, subject to redaction to show only the provisions which are relevant for the scope of the licenses granted hereunder [*****] and further subject to such licensee or potential licensee having executed an appropriate confidentiality agreement.

10.3 **Limitations.** The Receiving Party's obligations under Sections 10.1 and 10.2 hereof shall not apply to the extent that the Receiving Party can demonstrate by competent evidence that any of the Disclosing Party's Confidential Information:

(a) passes into the public domain, or becomes generally available to the public through no fault of the Receiving Party;

(b) was known to the Receiving Party or its Affiliates prior to being made available hereunder without restriction of use or disclosure;

(c) is disclosed, revealed or otherwise made available to the Receiving Party or its Affiliates by a Third Party, without restriction of use or disclosure, that is under no obligation of non-disclosure and/or non-use to the Disclosing Party in relation to the subject item;

(d) has been independently developed or created by the Receiving Party or its Affiliates without access to the Disclosing Party’s Confidential Information;

(e) is necessary or useful to be disclosed by the Receiving Party for making applications or submissions to or otherwise dealing with Regulatory Authorities in connection with the Development, Manufacture or Commercialization of a Licensed Vaccine or Licensed Product or for obtaining Patent Rights protecting Collaboration Intellectual Property, provided, however, that the Receiving Party shall furnish the Disclosing Party with as much prior written notice of such disclosure requirement as reasonably practicable; or

(f) is required to be disclosed under Applicable Laws and to the extent required to be disclosed under Applicable Laws; provided, however, that the Receiving Party shall furnish the Disclosing Party with as much prior written notice of such disclosure requirement as reasonably practicable, so as to permit the Disclosing Party, in its sole discretion, to take appropriate action, including seeking a protective order, in order to prevent the Disclosing Party's Confidential Information from passing into the public domain or becoming generally available to the public.

10.4 **Materials.** The Parties hereby agree that any Material to be transferred from CureVac to BI under this Agreement, other than Licensed Vaccines transferred under the Clinical Supply Agreement or any Related Agreement to be concluded in accordance with Section 6.2 above, shall remain the exclusive property of CureVac, and BI shall use such Material only for purposes of this Agreement. In particular, for any Materials transferred to BI under Article 6 (i.e., to enable BI, its Affiliates or a Permitted Third Party CMO to Manufacture Licensed Vaccines) BI further agrees not use such Materials other than to Manufacture Licensed Vaccines in accordance with the terms of this Agreement. BI shall not transfer such Material to or use such Material on behalf of a Third Party other than a Permitted Third Party CMO. Furthermore, BI undertakes to keep such Materials secure and safe from loss, damage, theft, misuse and unauthorized access and to use such Materials in accordance with all Applicable Laws. Upon termination of this Agreement, BI shall cease use of and return to CureVac or destroy (as CureVac shall specify in writing promptly upon termination of this Agreement) all such Materials in its possession upon such termination, and shall certify such return or destruction in writing to CureVac.

10.5 **Return of Confidential Information.** Subject to Sections 13.1 and 14.4 and subject to any other right to retain Confidential Information, upon expiration or termination of this Agreement for any reason whatsoever, the Receiving Party shall cease all use of and return to the Disclosing Party, or destroy, as the Disclosing Party shall specify in writing promptly upon such expiration or termination, all copies of all documents and other materials that contain or embody any of the Disclosing Party's Confidential Information, except to the extent that the Receiving Party is required by Applicable Laws to retain such documents and materials, and provided further that each Party may keep a single copy of all Confidential Information within its legal archives solely to assure compliance with the provisions of this Article 10. The obligation to destroy shall also apply to copies of any computer records and files containing such Confidential Information, except to the extent created by the Receiving Party's automatic archiving and backup computer systems. Within [*****] after the date of expiration or termination of this Agreement, the Receiving Party shall confirm that the Receiving Party has complied with its obligations under this Section 10.5.

10.6 **Survival.** All of the Receiving Party's obligations under Sections 10.1 and 10.2 hereof, with respect to the protection of the Disclosing Party's Confidential Information, shall for a period of [*****] survive the expiration or termination of this Agreement for any reason whatsoever.

10.7 **Public Announcements.** No public announcement concerning the existence of, terms, or subject matter of this Agreement shall be made, either directly or indirectly, by any Party, without first obtaining the prior written approval of the other Party and agreement upon the nature and text of such public announcement which such agreement and approval shall not be unreasonably withheld or delayed; except as may be legally required (i) by Applicable Laws, (ii) by the listing standards or agreements of any national or international securities exchange or other similar laws of a governmental authority, market or agency, (iii) to respond to an inquiry of a governmental authority or agency, or (iv) in a judicial, administrative or arbitration proceeding. In all instances, the Party concerned shall seek appropriate confidential treatment of this Agreement and the subject matter hereof and the Parties shall agree in advance on any redacted forms of this Agreement that are filed publicly, such agreement not to be unreasonably withheld or delayed. The Party desiring to make any such public announcement (including those which are legally required) shall inform the other Party of the proposed announcement or disclosure in reasonably sufficient time prior to public release, which shall be not less than [*****] (or such shorter period as the Parties may agree upon in writing, or such shorter period applicable to those public announcements which are legally required) prior to release of such proposed public announcement, and shall provide the other Party with a written copy thereof in order to allow such other Party to comment upon such public announcement. Each Party agrees that it shall co-operate fully with the other Party with respect to all disclosures regarding this Agreement to any governmental or regulatory agencies, including requests for confidential treatment of proprietary information of either Party included in any such disclosure. Neither Party will issue a press release without the prior written consent of the other Party. The Parties agree that each Party may, following the Effective Date, issue a press release describing this Agreement in general terms, provided that the content of such press release shall first be approved by the other Party. For such purpose, the Party intending to issue the press release shall provide the other Party with a draft press release at least [*****] prior to the proposed date of disclosure.

10.8 **Applicable Laws.** Nothing in this Agreement shall be construed as preventing or in any way inhibiting either Party from complying with Applicable Laws governing activities and obligations undertaken pursuant to this Agreement in any manner which it reasonably deems appropriate, including, for example, by disclosing to Regulatory Authorities confidential or other information received from the other Party, subject to Sections 10.3 (e) and (f) and 10.7.

10.9 **Publication.** Prior to the First Commercial Sale of a Licensed Product, publications in a journal, paper, magazine or any other such similar disclosure relating to or arising from this Agreement and/or the Development or Commercialization of Licensed Vaccines and/or Licensed Products shall not take place without the prior written agreement of both BI and CureVac, such agreement not to be unreasonably withheld, provided, however, that with respect to the Licensed Vaccines and Licensed Products CureVac shall only be permitted to use the Development Data on the Licensed Vaccines and Licensed Products as reference to market its mRNA based technologies and shall not make any other publication regarding the Licensed Vaccines and Licensed Products unless expressly permitted by BI. Any draft publication intended to be submitted for publication or disclosure by one of the Parties hereto shall first be sent to the other Party in order to allow such Party to make comments thereon, and to preserve its Intellectual Property by delaying such publication and/or removing its Confidential Information. Each Party shall comply with the other Party's request to delete references to the other Party's Confidential Information in any such publication, and agrees to withhold publication of same for the time necessary to permit the other Party to obtain optimum patent protection, such time period not to exceed [*****]. Bl's obligation to provide CureVac with any draft publication intended to be submitted for publication or disclosure by BI in respect of a Licensed Product ceases upon the First Commercial Sale of such Licensed Product. Each Party's contribution shall be acknowledged in any publication by co-authorship or acknowledgment, whichever is appropriate in accordance with customary scientific practice. Once approval has been granted for a particular disclosure, such disclosed information may be subsequently disclosed without requiring additional approval for each instance of disclosure.

11. WARRANTIES AND LIABILITIES.

11.1 **Representations and Warranties of each Party.** Each of CureVac and BI hereby represents and warrants to the other Party hereto as follows on the Effective Date:

(a) it is a corporation or entity duly organized and validly existing under the laws of the state or other jurisdiction of its incorporation or formation;

(b) the execution, delivery and performance of this Agreement by such Party does not conflict with any other agreement by which it is bound, and has been duly authorized by all requisite corporate action and does not require any shareholder action or approval;

(c) it has the power and authority to execute and deliver this Agreement and to perform its obligations hereunder; and

(d) it shall at all times comply with all Applicable Laws relating to its activities under this Agreement.

11.2 **Additional Representations and Warranties of CureVac.** Subject to the disclosures in the attached Exhibit 11.2, CureVac hereby represents and warrants that, on the Effective Date:

(a) it Controls the right, title and interest in the Patent Rights comprised in the CureVac Background Intellectual Property as listed in Exhibit 1.17, and to the extent licensed under this Agreement;

(b) it is the sole and exclusive owner (free and clear of any liens, mortgages, security interests, charges, encumbrances or otherwise) of the CV9202 Specific Patent Rights listed on Exhibit 1.23;

(c) all employee inventions covered by the Patent Rights listed in part (A)(1) of Exhibit 1.17 and on Exhibit 1.23 have been duly claimed by CureVac in accordance with the German Arbeitnehmererfindungsgesetz or CureVac has entered into binding agreements transferring the rights in and to such inventions to CureVac;

(d) it has the right to enter into this Agreement and to grant the licenses contained herein, and neither CureVac nor any of its Affiliates is a party to or otherwise bound by any agreement that will result in any person or entity obtaining any interest in, or that would give to any entity or person any right to assert any claim in or with respect to, any of Bl's exclusive rights granted under this Agreement;

(e) to its knowledge, no Third Party has any right, title or interest in or to any of the CureVac Licensed Patent Rights within the scope of the exclusive licenses granted hereunder;

(f) all of the Patent Rights listed on part (A)(1) of Exhibit 1.17 and on Exhibit 1.23 are pending or issued and have not been abandoned as of the Effective Date;

(g) to CureVac's knowledge, no claim, suit, litigation, arbitration, opposition or other proceeding before a court of law, arbitral body, Regulatory Authority or patent office is pending or has been rendered or is threatened by any Third Party which would limit, cancel or question the validity, enforceability, ownership or use of any of the Patent Rights listed on part (A)(1) of Exhibit 1.17 and on Exhibit 1.23;

(h) Exhibits 1.17 and 1.23 list all of CureVac's and CureVac's Affiliates' Patent Rights that to the knowledge of CureVac would be infringed by the Non-CIinical and Clinical Development or Commercialization of Licensed Vaccines or Licensed Products;

(i) to CureVac's knowledge, no Patent Rights or other Intellectual Property owned or controlled by a Third Party exist that could materially conflict with the grant of rights by CureVac to Bl under this Agreement; and

(j) it has furnished or made available to Bl all material information that is in its possession concerning CV9202 and relevant to the safety or efficacy of CV9202, and, to CureVac's knowledge, such information is accurate, complete and true in all material respects.

11.3 **Disclaimer.** CureVac makes no representation or warranty and specifically disclaims any guarantee that the Development of the Licensed Vaccines will be successful, in whole or in part, or that the CureVac Licensed Intellectual Property will be suitable for Development and/or Commercialization of Licensed Products. Subject only to Sections 11.1 and 11.2 above, CureVac expressly disclaims any warranties or conditions, express, implied, statutory or otherwise with respect to the CureVac Licensed Intellectual Property and Licensed Vaccines and Licensed Products, including any warranty of merchantability or fitness for a particular purpose. In particular, subject only to Sections 11.1 and 11.2, CureVac expressly disclaims any warranties or conditions, express, implied, statutory or otherwise with respect to the non-infringement of the CureVac Licensed Intellectual Property and the Licensed Vaccines and Licensed Products.

11.4 **Limitation of Liability.** Subject to Section 12 of this Agreement and except in the case of gross negligence (*grobe Fahrlassigkeif*), an intentional act (*Vorsatz*) or bodily injury, neither Party shall be liable to the other Party for any indirect, incidental, punitive or consequential damages including lost profits, whether based on contract or tort, or arising under Applicable Laws or otherwise.

12. INDEMNIFICATION.

12.1 **CureVac's Obligations to Indemnify.** CureVac shall indemnify, defend and hold BI and its Affiliates, and its and their employees, agents, officers, and directors (individually and/or collectively referred to herein as a "**BI Party**") harmless from and against any and all losses, liabilities, damages, expenses (but excluding indirect, incidental, special, consequential or punitive losses or damages, etc.) or fees (but only reasonable attorneys fees and expenses and costs of litigation pertaining to such BI Claim) paid or payable by BI or a BI Party to a Third Party (collectively, "**BI Losses**") to the extent that such BI Losses result from or arise in connection with a claim, suit or other proceeding made or brought by a Third Party against BI or a BI Party (a "**BI Claim**") based on, resulting from, or arising in connection with:

(a) any claim by [*****] regarding an allegation that the manufacture, use, sale or offer for sale of Licensed Vaccine and/or Licensed Product pursuant to and consistent with this Agreement infringes such claimant's intellectual property rights, provided, however, CureVac grants rights (in particular sub-licenses) to such intellectual property rights to BI under this Agreement;

(b) any material breach of any of CureVac's representations or warranties set forth in this Agreement; **or**

(c) any other grossly negligent, willful or intentionally wrongful act, error or omission on the part of CureVac, or any officer, director, employee, agent or representative of CureVac;

provided, *however*, that CureVac shall not be obligated to indemnify, defend or hold harmless BI or a BI Party from any BI Claim or for any BI Loss incurred by BI or a BI Party to the extent arising out of, or attributable to, (A) a material breach by BI, or any BI Party of any obligation, covenant, agreement, representation or warranty of BI, or a BI Party contained in this Agreement or under a Related Agreement; (B) any material violation of Applicable Laws by BI, or a BI Party, in connection with the performance of Bl's or its Affiliates' obligations under this Agreement or under a Related Agreement; (C) any act or omission by BI, or a BI Party, which constitutes gross negligence, or willful or intentional misconduct on the part of BI, or a BI Party; or (D) BI Claims to the extent BI is responsible for indemnifying, defending and holding CureVac and CureVac Parties harmless for such claims as set forth in Section 12.2 or in the Clinical Supply Agreement or any Related Agreement to be concluded in accordance with Section 6.2 above.

12.2 **Bl's Obligations to Indemnify.** BI shall indemnify, defend and hold CureVac and its Affiliates, and its and their officers, directors, trustees, agents and employees (individually and/or collectively referred to herein as a "**CureVac Party**") harmless from and against any and all losses, liabilities, damages, expenses (but excluding indirect, incidental, special, consequential or punitive losses or damages, etc.) or fees (but only reasonable attorney fees and expenses and costs of litigation pertaining to such CureVac Claim) paid or payable by CureVac or a CureVac Party to a Third Party (collectively, "**CureVac Losses**") to the extent that such CureVac Losses result from or arise in connection with a claim, suit or other proceeding made or brought by a Third Party against CureVac or a CureVac Party (a "**CureVac Claim**") based on, resulting from, or arising in connection with:

(a) any material breach of any of Bl's representations or warranties set forth in this Agreement;

(b) any other grossly negligent, willful or intentionally wrongful act, error or omission on the part of BI, or any officer, director, employee, agent or representative of BI;

(c) any claim that any of the Licensed Vaccines and Licensed Products fail to conform with the requirements of any Applicable Laws, including the failure by BI to obtain any required Regulatory Approvals for the Licensed Vaccines and Licensed Products;

(d) any product liability claim regarding the Licensed Vaccine or Licensed Product;

provided, *however*, that BI shall not be obligated to indemnify, defend or hold harmless CureVac or a CureVac Party from any CureVac Claim or for any CureVac Loss incurred by CureVac or an CureVac Party to the extent arising out of or attributable to: (A) a material breach by CureVac, or any CureVac Party of any obligation, covenant, agreement, representation or warranty of CureVac, or any CureVac Party contained in this Agreement or in any Related Agreement; or (B) any material violation of Applicable Laws by CureVac or a CureVac Party, in connection with the performance of CureVac's or its Affiliates' obligations under this Agreement or under any Related Agreement; or (C) any act or omission by CureVac, or a CureVac Party, which constitutes gross negligence, or wilful or intentional misconduct on the part of CureVac, or a CureVac Party; or (D) CureVac Claims to the extent CureVac is responsible for indemnifying, defending and holding BI and/or any BI Party harmless for such claims as set forth in Section 12.1 or in the Clinical Supply Agreement or any Related Agreement to be concluded in accordance with Section 6.2 above.

12.3 Indemnification Procedures.

12.3.1 Each indemnified Party shall notify in English the indemnifying Party in writing (and in reasonable detail) of the Claim within [*****] after receipt by such indemnified Party of notice of the BI Claim or the CureVac Claim, as the case may be, or otherwise becoming aware of the existence or threatened existence thereof (such BI Claim or CureVac Claim being referred to as a "Claim"). Failure to give such notice shall not constitute a defense, in whole or in part, to any claim by an indemnified Party hereunder except to the extent the rights of the indemnifying Party are materially prejudiced by such failure to give notice. The indemnifying Party shall notify in English the indemnified Party of its intentions as to defense of the Claim or potential Claim in writing within [*****] after receipt of notice of the Claim. If the indemnifying Party assumes the defense of a Claim against an indemnified Party, the indemnifying Party shall have no obligation or liability under this Article 12 as to any Claim for which settlement or compromise of such Claim or an offer of settlement or compromise of such Claim is made by the indemnified Party without the prior written consent of the indemnifying Party.

12.3.2 The indemnifying Party shall assume exclusive control of the defense and settlement (including all decisions relating to litigation, defense and appeal) of any such Claim (so long as it has confirmed its indemnification obligation responsibility to such indemnified Party under this Section 12.3 with respect to a given Claim); provided, however, that the indemnifying Party may not settle such Claim in any manner that would require payment by the indemnified Party, or would materially adversely affect the rights granted to the indemnified Party hereunder, or would materially conflict with the terms of this Agreement, or adversely affect such Party or its products, without first obtaining the indemnified Party's prior written consent, which consent shall not be unreasonably withheld.

12.3.3 The indemnified Party shall reasonably cooperate with the indemnifying Party in its defense of the Claim (including, without limitation, copying and making documents and records available for review and making persons within its control available for pertinent testimony in accordance with the confidentiality provisions of Article 10, and neither Party shall be required to divulge privileged material to the other) at the indemnifying Party's expense. If the indemnifying Party assumes defense of the Claim, the indemnified Party may participate in, but not control, the defense of such Claim using attorneys of its choice and at its sole cost and expense, with such cost and expense not being covered by the indemnifying Party. If the indemnifying Party does not agree to assume the defense of the Claim asserted against the indemnified Party (or does not give notice that it is assuming such defense), or if the indemnifying Party assumes the defense of the Claim in accordance with this Section 12.3 yet fails to defend or take other reasonable, timely action, in response to such Claim asserted against the indemnified Party, the indemnified Party shall have the right to defend or take other reasonable action to defend its interests in such proceedings, and shall have the right to litigate, settle or otherwise dispose of any such Claim; provided, however, that no Party shall have the right to settle a Claim in a manner that would adversely affect the rights granted to the other Party hereunder, or would materially conflict with this Agreement, or would require a payment by the Party, or adversely affect the Party (its Affiliates) or its products in or outside the Territory, without the prior written consent of the Party entitled to control the defense of such Claim, which consent shall not be unreasonably withheld.

13. TERM AND TERMINATION.

13.1 **Expiry.** This Agreement shall automatically become effective as of the Effective Date. It shall remain in full force and effect on a country-by-country and Licensed Product-by-Licensed Product basis, for the duration of the Royalty Term, unless terminated earlier by either Party for whatever reason. Upon expiry of this Agreement for a Licensed Product in any country, BI shall retain its license granted under Sections 2.1 (including the right to sublicense in accordance with Section 2.2) and 6.3 as an irrevocable, perpetual, fully paid- up and royalty free right to use the CureVac Licensed Intellectual Property and/or the CureVac Licensed Manufacturing Intellectual Property, as applicable, solely for such Licensed Produces) in such country and in the Field, such license to be exclusive for the longer of (i) the term during which CureVac supplies at least [*****] of Bl's demand for Licensed Vaccines to BI; **and** (ii) [*****] upon expiry of this Agreement; and to be non-exclusive thereafter.

13.2 **Termination for Convenience.** BI shall be entitled to terminate this Agreement at its sole discretion at any time by giving [*****] prior written notice.

13.3 **Termination for Material Breach.** In the event that either Party ("**Breaching Party**") commits a material breach of any of its obligations hereunder, such material breach to include a breach of the obligations under Section 4.2, the other Party hereto ("**Non-Breaching Party**") may give the Breaching Party written notice of such material breach, which notice shall clearly identify the material breach, the intent to terminate this Agreement for such material breach and the actions or conduct that it considers to be an acceptable cure of such material breach. In the event that the Breaching Party fails to cure such material breach within [*****] in the event of a default in payment, and within [*****] in the event of any other breach, after the date of the Non-Breaching Party's notice thereof, the Non-Breaching Party may terminate this Agreement by giving written notice of termination to the Breaching Party. In case the Party receiving a notice of a material breach ("**Alleged Breaching Party**") disputes to have materially breached this Agreement, such party shall provide written notice hereof to the other Party within [*****] following its receipt of notice of termination. In such event termination of this Agreement shall not occur if the Alleged Breaching Party within [*****] after such written notice refers the dispute for resolution through a dispute resolution panel of three (3) independent legal arbitrators with expertise in pharmaceutical licensing ("**Dispute Resolution Panel**"). Each Party shall nominate within [*****] of the request one arbitrator, while the third arbitrator shall be mutually agreed by the Parties within another [*****]. If the Parties are unable to agree on the third arbitrator, the third arbitrator shall be selected and nominated by the two arbitrators appointed by the Parties. Each Party shall submit to the Dispute Resolution Panel a written report setting forth its arguments to support or to rebut a material breach which justifies a termination for cause under this Section 13.3 within the later of (i) [*****] following a referral to the Dispute Resolution Panel, or (ii) [*****] after selection of such Dispute Resolution Panel. The Dispute Resolution Panel shall meet face-to-face to discuss the written reports and shall be entitled, at its discretion to invite for a hearing representatives of the Parties or other Third Party experts, subject to each Third Party expert executing an appropriate confidentiality agreement. The Dispute Resolution Panel shall then select one of the proposals from the Parties, and shall not have the authority to render any substantive decision other than the proposal of either BI or CureVac. The decision of the Dispute Resolution Panel shall be final and binding on the Parties and the Party whose proposal has not been selected by the Dispute Resolution Panel will pay all costs of the Dispute Resolution Panel. If, as a result of such dispute resolution process, it is determined that the Alleged Breaching Party materially breached this Agreement and such Party does not cure such breach within [*****] after the date of the decision by the Dispute Resolution Panel (or within [*****] in the event of a default in payment) (the "Additional Cure Period"), then such termination shall be effective as of the expiration of the Additional Cure Period. Such dispute resolution proceeding does not suspend any obligations of either Party hereunder, and each Party shall use reasonable efforts to mitigate any damage. If as a result of such dispute resolution proceeding it is determined that the Alleged Breaching Party did not materially breach this Agreement (or such breach was cured during the Additional Cure Period), then no termination shall be effective, and this Agreement shall continue in full force and effect. Notwithstanding the foregoing, in the case of an allegation that BI has failed to devote Commercially Reasonable Efforts in relation to a Licensed Vaccine or a Licensed Product, CureVac shall not have the right to terminate this Agreement (a) if no Change of Control had occurred at the time of termination: following the first acceptance of a marketing authorization application/NDA filing in a Major Market Country; **and** (b) if a Change of Control had occurred at the time of termination: following initiation of or continuation into the first Phase III Clinical Trial of a Licensed Vaccine, provided that BI pays CureVac the amount of such damages that have been awarded by a dispute resolution proceeding pursuant to Section 15.6. Termination of this Agreement in accordance with this Section 13.3 shall not affect or impair the Non-Breaching Party's right to pursue any legal remedy, including the right to recover direct damages, for any harm suffered or incurred by the Non-Breaching Party as a result of such breach.

13.4 **Termination for Challenge of CureVac Licensed Patent Rights.** CureVac may terminate this Agreement by providing [*****] prior written notice to BI in the event BI or any of its Affiliates directly or indirectly challenges the validity of the CureVac Licensed Patent Rights in a legal proceeding or supports a Third Party in the challenge of a CureVac Licensed Patent Right in a legal proceeding (in each case before a court of competent jurisdiction). Any such termination shall only become effective if BI or its Affiliate has not withdrawn such action before the end of the above notice period. In the event a Sublicensee of BI challenges the validity of a CureVac Licensed Patent Right, CureVac may terminate this Agreement hereunder, if BI does not terminate such sublicense agreement within the [*****] notice period.

14. CONSEQUENCES OF TERMINATION

14.1 **Reversion of Rights.** Subject to Section 14.6(b) below, upon termination, but not expiration, of this Agreement, Bl's licenses under Article 2 and Article 6 of this Agreement automatically lapse and all of CureVac's rights to the CureVac Licensed Intellectual Property automatically revert back to CureVac.

14.2 **Sell Off.** Immediately upon the termination of this Agreement by BI in accordance with Section 13.2 above or by CureVac in accordance with Sections 13.3 or 13.4, BI shall cease all Development and Commercialization of the Licensed Vaccines and Licensed Products under the licenses granted hereunder; provided, however, that BI shall have the right to distribute and sell its existing inventory of the Licensed Products for a period of not more than [*****] following the date of the termination hereof, subject to Bl's continuing obligation to pay sales milestones and royalties with respect to the Net Sales derived from the distribution and sale of such existing inventory of the Licensed Products, in accordance with the requirements of Sections 7.3, 7.4 and 7.8 above.

14.3 **Accrued Payment Claims.** Termination of this Agreement for any reason whatsoever shall not relieve BI of its obligations to pay all royalties, milestones and other amounts payable to CureVac which have accrued prior to, but remain unpaid as of, the date of expiration or termination hereof, or which accrue thereafter, in accordance with Section 14.2 hereof.

14.4 **Access to Regulatory Approvals and BI Intellectual Property.**

In the event of termination of this Agreement by BI pursuant to Section 13.2 or by CureVac pursuant to Section 13.3 or 13.4, CureVac shall be entitled to demand from BI the transfer and/or assignment, as applicable, of the following:

(a) all rights and titles which were taken from a Third Party during the course of the license and which are necessary to ongoing activities, provided that CureVac shall refund any payments to be made by BI to such Third Party after the effective date of termination for the use of such rights and titles;

(b) Regulatory Approvals held by BI, its Affiliates or Sublicensees, and if Regulatory Approvals have not been obtained by BI, its Affiliates or Sublicensees, CureVac may require that BI transfers to CureVac the status of any application for the Regulatory Approvals and notifies the competent Regulatory Authority thereof and supplies CureVac with all documents and clinical data already prepared by BI, its Affiliates or Sublicensees for the filing of applications for Regulatory Approvals (with BI using its reasonable efforts to promptly undertake such actions); and/or

(c) a non-exclusive, cost-free, perpetual and worldwide license (with the right to sublicense) to the BI Intellectual Property (other than Afatinib-related BI Background Intellectual Property) to the extent such BI Intellectual Property has been used for the Development, Manufacture and/or Commercialization of the Licensed Vaccines and Licensed Products, in each instance for the continued Development, Manufacture and Commercialization of the Licensed Vaccines and Licensed Products, the Patent Rights comprised in such BI Intellectual Property to be listed or otherwise identified upon CureVac's request of such license.

14.5 **Re-assignment and Re-transfer of CV9202 Specific Patent Rights and Assigned Patent Rights.** In the event of a termination by BI pursuant to Section 13.2 or pursuant to Section 13.3, if BI elects to terminate the Agreement (Section 14.6 (a) below) or by CureVac pursuant to Section 13.3 or 13.4, BI shall re-assign and re-transfer, and hereby re-assigns and re-transfers to CureVac effective as of such termination (i) the CV9202 Specific Patent Rights and (ii) the Assigned Patent Rights or the share thereof that was assigned and transferred from CureVac to BI pursuant to Section 9.3, as the case may be, and CureVac hereby accepts such re-assignment and re-transfer. In order to effect the re-assignment and re-transfer, BI will support CureVac, upon CureVac's request in executing all assignment documentation and providing any declaration which may be necessary to effect the re¬assignment and re-transfer of the CV9202 Specific Patent Rights and the Assigned Patent Rights from BI to CureVac. Except in the case of termination by BI in accordance with Sections 13.3 and 14.6(a), BI shall be responsible for, and will pay all necessary out-of- pockets expenses with respect to the re-assignment and re-transfer of the CV9202 Specific Patent Rights and the Assigned Patent Rights, including the fees for notarization and legalization of the assignment documents, and for recording such assignment documents with the competent patent offices.

14.6 **Termination for Cause by BI.** In the event of a termination by BI in accordance with Section 13.3 above, BI may elect to

(a) terminate the Agreement, in which case all licenses and rights granted by either Party to the other Party shall terminate, BI shall cease to Develop, Manufacture and Commercialize the Licensed Vaccines and Licensed Products and, in addition to any other legal remedy BI might have, CureVac shall reimburse BI for all reasonable expenses related to the orderly wind down of all ongoing Clinical Trials; or

(b) continue to exercise its rights and obligations (except as set forth in this Section 14.6(b)) hereunder, and in such case the JSC shall be disbanded, BI shall have no further diligence obligations with respect to the Licensed Vaccines and Licensed Products, and CureVac shall pay to BI the amount of such damages that have been awarded by a dispute resolution proceeding pursuant to Section 15.6 below. For the avoidance of doubt, in the event BI elects to continue to exercise its rights and obligations under this Agreement, the terms and conditions of this Agreement, including the payment obligations, shall continue to apply with the exception only of the diligence obligations and the obligation to convene and exchange information in the Joint Steering Committee.

14.7 **Wind Down or Transfer of Development Work.** In the event of termination of this Agreement by BI pursuant to Section 13.2 or by CureVac pursuant to Section 13.3 or 13.4 and provided such termination occurs while Development activities regarding the Licensed Vaccines are still ongoing, BI shall

(a) promptly inform CureVac on the status of the ongoing Clinical Trials, the estimated timelines, budgets and required resources of such Clinical Trials and answer any reasonable question CureVac may have regarding such Clinical Trials; **and**

(b) wind down in an orderly fashion any Clinical Trials and cease all other Development activities, or, at the election of CureVac, permit CureVac to take over such Development activities, *provided that* BI informs CureVac in writing on all material Development activities and associated costs and CureVac provides written notice to BI of its intent to take over such Development activities prior to effective termination of this Agreement or within [*****] after receipt of the information on the ongoing Development activities, whichever is later. Upon receipt of such written notice by BI, BI shall use Commercially Reasonable Efforts to (i) transfer all data and information and (ii) provide all support, in each case (i) and (ii) as reasonably required for CureVac to take over the Development activities, and the Parties shall discuss in good faith the details of a transfer of the respective Clinical Trials and other Development activities to CureVac. If - and only if - CureVac decides to take over the Development activities, CureVac shall be responsible for the costs of such Development activities which are being incurred by either Party after the effective date of termination, with the exception only of the internal costs incurred at BI.

14.8 **Survival.** Sections 1, 4.1.2, 6.5, 7.8.11, 7.9, 9.1 to 9.6, 10.1 to 10.8, 11.4, 12, 13.1, 13.3, 14, 15.1, 15.3 to 15.15 shall survive the expiration or termination of this Agreement.

15. GENERAL PROVISIONS.

15.1 **Assignment.** Subject to the other terms of this Agreement, neither Party shall have the right or the power to assign any of its rights or obligations under this Agreement without the prior written consent of the other Party, such written authorization not to be unreasonably withheld or delayed; *provided*, *however*, that the prior written authorization of the other Party shall not be required for a Party to assign all its rights and delegate the performance of all of its obligations hereunder to (i) an Affiliate; or (ii) to a Third Party which acquires all or substantially all of its assets related to this Agreement and the Related Agreements between the Parties. Any permitted assignment hereunder by either Party to an Affiliate or to a Third Party pursuant to this Section 15.1 shall not relieve such Party of any of its obligations under this Agreement, including, but not limited to, the Party's obligation to make the payments under Article 7.

15.2 **Change of Control of CureVac.** In the event of (i) a direct or indirect acquisition by any pharmaceutical company of beneficial ownership of fifty percent (50%) or more of the shares in CureVac; or (ii) the sale or other disposition to any pharmaceutical company of all or substantially all of the assets of CureVac; or (iii) the merger, amalgamation or other form of business combination or similar transaction between CureVac and one or more pharmaceutical companies ("**Change of Control**") the following shall apply:

(a) CureVac shall promptly give written notice of such Change of Control to BI;

(b) Upon Bl's written request, CureVac and its Affiliates shall promptly: (i) return any and all Confidential Information and Materials of BI to BI within [*****] upon Bl's request, save that CureVac may retain copies of Bl's Confidential Information as set forth in Section 10.5;

(c) BI shall have the right to be released of its ongoing disclosure and information exchange obligations according to Sections 4.3 (regulatory matters including the grant of any further right of cross referencing) and 5.2 (sales forecast). In addition, the JSC and/or the Joint Project Team shall be dissolved upon Bl's request.

(d) In addition to the confidentiality obligations according to Section 10, CureVac shall take reasonable steps to ensure that any Confidential Information of BI is not shared with any others within CureVac that are not required to manage, perform and exercise CureVac's rights and obligations under this Agreement,

provided, however, that no Change of Control for purposes of this Section 15.2 shall occur if the pharmaceutical company taking control over CureVac is controlled by Mr. Dietmar Hopp and/or dievini Hopp BioTech holding GmbH & Co. KG. The term "controlled" as used in the aforementioned sentence refers to the possession, directly or indirectly, of the power to direct, or cause the direction of, the management or policies of a legal entity, whether through the ownership of voting securities, by contract or otherwise.

15.3 **Force Majeure.** If the performance of any part of this Agreement by either Party, or any obligation under this Agreement, is prevented, restricted, interfered with or delayed by reason of any cause beyond the reasonable control of the Party liable to perform, unless conclusive evidence to the contrary is provided, the Party so affected shall, upon giving written notice to the other Party, be excused from such performance to the extent of such prevention, restriction, interference or delay, provided that the affected Party shall use its Commercially Reasonable Efforts to avoid or remove such causes of non-performance and shall continue performance with the utmost dispatch whenever such causes are removed. When such circumstances arise, the Parties shall discuss what, if any, modification of the terms of this Agreement may be required in order to arrive at an equitable solution.

15.4 **Notices.** All notices, reports and other communications between the Parties under this Agreement shall be sent by registered mail, postage prepaid and return receipt requested, by courier, or by facsimile, with a confirmation copy sent by registered mail or courier, addressed as follows:

To:	CureVac	CureVac GmbH
	Attention:	Chief Executive Officer/Geschaeftsfuehrer
	Address:	Paul-Ehrlich-Str. 15
		72076 Tubingen, Germany
	Fax:	[*****]

With copy to:		CureVac GmbH
	Attention:	General Counsel
	Address:	Paul-Ehrlich-Str. 25 72076 Tubingen, Germany
	Fax:	[*****]
To:	BI	Boehringer Ingelheim International GmbH
	Attention:	Head of PM Business Development & Licensing/Strategy
	Address:	Binger StraBe 173 55216 Ingelheim am Rhein
	Fax:	[*****]
With copy to:	BI	Boehringer Ingelheim International GmbH
	Attention:	Head of Legal Strategic Transactions
	Address:	Binger StraBe 173 55216 Ingelheim am Rhein
	Fax:	[*****]

or such other addresses or facsimile numbers as shall be furnished by like notice by such Party. Any such notice or communication given by mail shall be deemed to have been given [*****] after the date so mailed unless sent by an internationally recognized express courier and receipt confirmed, and any such notice or communication given by facsimile shall be sent with confirmation copy and shall be deemed to have been given when sent by facsimile and the appropriate answer back received, provided however, that should such answer back be automatically generated outside of regular business hours of the recipient Party, such notice shall be deemed to have been given on the next regular business day of such Party.

15.5 **Governing Law.** This Agreement and all disputes arising hereunder, shall be exclusively governed by, and interpreted and enforced in accordance with the laws of Germany, without reference to conflicts of laws principles. The validity or enforceability of the intellectual property rights shall be subject to an evaluation under the law of the country in which the intellectual property rights were applied for or have been issued.

15.6 **Dispute Resolution.**

15.6.1 In the event of any dispute arising out of or in connection with this Agreement that cannot be settled by good faith negotiations over a period of [*****] within the JSC, and thereafter over an additional period of [*****] between senior management representatives of the Parties, the Parties agree to try to solve such dispute amicably by mediation. The Parties shall conduct a mediation procedure according to the Mediation Rules of the Deutsche Institution fur Schiedsgerichtsbarkeit e.V. (DIS) in effect on the date of the commencement of the mediation proceedings. The location of the mediation proceedings will be Frankfurt, Germany. The number of mediators will be one (1). The language of the mediation proceeding will be English. If the dispute has not been settled pursuant to the said rules within [*****] following the filing of a request for mediation or within such other period as the Parties may agree in writing, either Party may submit the dispute to final and binding arbitration.

15.6.2 Any dispute relating to the validity, performance, construction or interpretation of this Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in Section 15.6.1, shall be submitted to arbitration in accordance with the Arbitration Rules of the Deutsche Institution fur Schiedsgerichtsbarkeit e.V. ("**DIS Rules**"). The existence, nature and details of any such dispute(s), and all communications between the Parties related thereto, shall be considered Confidential Information of the Parties and shall be treated in accordance with the terms of Article 10 above. The decision of the arbitrators shall be final and binding upon the Parties (absent manifest error on the part of the arbitrator(s)) and enforceable in any court of competent jurisdiction. The location of arbitration will be Frankfurt, Germany. The arbitration will be heard and determined by one (1) arbitrator, who will be jointly selected by BI and CureVac. If, within [*****] following the date upon which a claim is received by the respondent, the Parties cannot agree on a single arbitrator, the arbitration will be heard and determined by three (3) arbitrators, with one arbitrator being appointed by each Party and the third arbitrator being selected by the two Party-appointed arbitrators. If either Party fails to select an arbitrator, or if the Party-appointed arbitrators cannot agree on a third arbitrator within [*****] of the respondent receiving the claim, such arbitrator will be appointed in accordance with the DIS Rules. The arbitration award that is consistent with the provisions of this Agreement that is so given will be binding upon the Parties, accompanied by a reasoned opinion in writing (in English), and the judgment on the award may be entered in any court having competent jurisdiction thereof. Each Party will bear its own costs and expenses (including its attorney's fees) associated with any arbitration initiated under this section, and each Party will bear an equal share of the arbitrators' and administrative fees associated with any arbitration initiated under this section. The language of the arbitration proceeding will be English. Notwithstanding the provisions of this Section 15.6.2, each Party shall have the right to seek preliminary or permanent injunctive relief in any court of competent jurisdiction as such Party deems necessary to preserve its rights and to protect its interests.

15.7 **Severability.** If any provision of this Agreement is determined by any court or administrative tribunal of competent jurisdiction to be invalid or unenforceable, the Parties shall negotiate in good faith a replacement provision that is commercially equivalent, to the maximum extent permitted by Applicable Laws, to such invalid or unenforceable provision. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of the other provisions of this Agreement. Nor shall the invalidity or unenforceability of any provision of this Agreement in one country or jurisdiction affect the validity or enforceability of such provision in any other country or jurisdiction in which such provision would otherwise be valid or enforceable.

15.8 **Entire Agreement and Amendments.** This Agreement, together with all Exhibits attached hereto, constitutes the entire agreement between the Parties regarding the subject matter hereof, and supersedes all prior agreements, understandings and communications between the Parties, with respect to the subject matter hereof, *provided*, *however*, that confidentiality agreements between of the Parties regarding the subject matter hereto and entered into before the Effective Date, including the reciprocal confidential disclosure agreement entered into by and between the Parties effective as of October 30, 2012, as amended by the 2nd amendment effective as of July 25, 2014, shall remain effective with respect to information exchanged between the Parties before the Effective Date. No modification or amendment of this Agreement shall be binding upon the Parties unless in writing and executed by the duly authorized representative of each of the Parties; this shall also apply to any change of this clause.

15.9 **Waivers.** The failure by either Party hereto to assert any of its rights hereunder, including the right to terminate this Agreement due to a breach by the other Party hereto, shall not be deemed to constitute a waiver by that Party of its right thereafter to enforce each and every provision of this Agreement in accordance with its terms.

15.10 **Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

15.11 **Independent Contractors.** The Parties are independent contractors and this Agreement shall not constitute or give rise to an employer-employee, agency, partnership or joint venture relationship among the Parties and each Party's performance hereunder is that of a separate, independent entity.

15.12 **Language.** This Agreement, and any amendments or modifications thereto, shall be executed in the English language. No translation, if any, of this Agreement into any other language shall be of any force or effect in the interpretation of this Agreement or in determination of the intent of either of the Parties hereto.

15.13 **Headings.** The headings are placed herein merely as a matter of convenience and shall not affect the construction or interpretation of any of the provisions of this Agreement.

15.14 **Third Parties.** None of the provisions of this Agreement shall be for the benefit of or enforceable by any Third Party which shall be a Third Party beneficiary to this Agreement.

15.15 **Costs.** Except as is otherwise expressly set forth herein, each Party shall bear its own expenses in connection with the activities contemplated and performed hereunder.

- Signature page follows -

IN WITNESS WHEREOF, this Agreement has been signed by the Parties hereto in two (2) originals, each Party acknowledging receipt of one original.

CureVac GmbH

Name :
Title :

CureVac GmbH

Name :
Title :

Boehringer Ingelheim International GmbH

ppa.

/s/ Dr. Stephan Lensky
Name : Dr. Stephan Lensky

Title : Corporate Vice President

Boehringer Ingelheim International GmbH

ppa.

/s/ Dorothee Schwall-Rudolph
Name : Dorothee Schwall-Rudolph

Title : Legal Counsel

Exhibit 1.3

BI Background Intellectual Property

[*****]

Exhibit 1.17 CureVac Background Intellectual Property

[*****]

Exhibit 1.23

CY9202 Specific Patent Rights

[*****]

EXHIBIT 1.34

REQUIREMENTS FOR INVOICES

[*****]

Exhibit 4.2

[*****]

Exhibit 4.3

Regulatory CMC DATA

[*****]

Exhibit 4.5A

[*****]

Exhibit 4.5B

SpecifÏcation of License Agreements between CureVac and the Ludwig Institute for Cancer Research, the University of Zurich and Geneart AG

[*****]

Appendix 2.3: Handling Protocol v 2.0SEP2013for CureVac Product(s)

[*****]

Appendix 3.5: IP Disclosure Letter

[*****]

Appendix 3.5

IP Disclosure Letter Regarding Manufacture of CureVac Product using the Manufacturing Process

[*****]

Appendix 5.2: Delivery Schedule

[*****]

Appendix 6.1a: Vial Price

[*****]

Appendix 6.1b: Calculation

[*****]

Appendix 6.4
Requirements for Invoices

[*****]

Appendix 8.2:
Framework of QAA
(to be replaced by Quality Assurance Agreement)

[*****]

Appendix 13:
CUREVAC's commercial liability insurance

[*****]

Exhibit 6.2A

BINDING TERM SHEET

Clinical Trial Supply

[*****]

Exhibit 6.2B

Binding Term Sheet for Commercial Supply

[*****]

Exhibit 11.2

Disclosures Regarding Representations and Warranties of CureVac

[*****]

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

AMENDMENT NO. 1 TO THE

EXCLUSIVE COLLABORATION AND LICENSE AGREEMENT

by and between

CureVac GmbH, a German limited liability company with offices at Paul-Ehrlich-Str. 15, 72076 Tübingen, Germany ("**CureVac**"), and

Boehringer Ingelheim International GmbH, a German limited liability company with offices at Binger Straβe 173, 55216 Ingelheim am Rhein, Germany, ("**BI**").

WHEREAS, the Parties entered into that certain Exclusive Collaboration and License Agreement effective as of August 21, 2014 ("**Agreement**");

WHEREAS, the Parties acknowledge that certain developments subsequent to the Agreement's Effective Date, [*****] necessitate changes to the setup of the Clinical Trials combining CV9202 and chemo-radiotherapy set forth in the CV9202 Development Plan;

WHEREAS, the Parties acknowledge that implementing the above-mentioned changes to the setup of the Clinical Trials might have a significant impact on the time point of the milestone payments set forth in Section 7.3 of the Agreement;

WHEREAS, the Parties desire to reiterate and strengthen their common aspiration that CureVac will continue to progress the CMC Development and Manufacture of the Licensed Vaccines;

WHEREAS, the Parties wish to clarify certain matters relating to the Development of CV9202;

NOW, THEREFORE, the Parties hereby agree as follows:

1. **Definitions**. Terms defined in this Amendment No. 1 are used with those meanings in this Amendment No. 1. Terms not defined in this Amendment No. 1 are used with the meanings as defined in the Agreement.

2. **CV9202 Development Plan**. CureVac agrees that Exhibit 4.2 to the Agreement is hereby replaced in its entirety by Exhibit 4.2 attached to this Amendment No. 1. For clarity, no decision or confirmation by the JSC is required for this amendment of the CV9202 Development Plan. However, the JSC is entitled to review, validate, modify, update and amend the amended CV9202 Development Plan, as set forth in Article 8 of the Agreement.

3. **[*****] Milestone Payment**. Sections 7.3.1(c) and 7.3.1(d) of the Agreement are replaced in their entirety as follows:

"(c) [*****]

[*****]

(d) [*****]

[*****];"

4. **New CMC Development Milestone Payments**. New Section 7.3.3 is added to the Agreement as follows:

"**CMC Development Milestone Payments:**

(a) Upon the earlier of [*****]

[*****];

(b) Upon the earlier of (i) [*****]

[*****].

For clarity, if CureVac achieves the milestone event set forth in Section 7.3.1(d) prior to achieving the milestone events under Section 7.3.3, the milestone payments under Sections 7.3.1(d), 7.3.3(a) and under Section 7.3.3(b) will all become payable with achieving milestone event under Section 7.3.1(d), [*****] The milestone events under Sections 7.3.3(a) and 7.3.3(b) only lead to separate payments if they occur prior the achievement of the milestone event under Section 7.3.1(d). For further clarity, none of the two (2) milestone payments set forth in this Section 7.3.3 is payable more than once."

5. **Financial Manufacturing Support**. Both Parties agree to find an appropriate financial solution for the significant delay of the milestone payment for [*****] due to the revised CV9202 Development Plan to allow CureVac to further invest in connection with the CMC Development and/or the construction of the commercial-scale production facility in which Licensed Vaccines would be Manufactured ("**Financial Manufacturing Support**"). BI and CureVac will negotiate in good faith and agree until [*****] on the terms and conditions of such Financial Manufacturing Support ([*****]). The terms and conditions will provide that the Financial Manufacturing Support will be provided by BI earliest on [*****] and only (i) upon CureVac's written request, (ii) if no Change of Control has occurred and (iii) CureVac continues its CMC Development activities as foreseen in the CV9202 Development Plan and there are no reasonable grounds for BI to believe that CureVac is unable or unwilling to successfully complete these CMC Development activities.

6. **Consulting Support for Commercial Facility**. CureVac has already asked and may ask BI for consulting support relating to (i) the upgrade of CureVac's current manufacturing plant to a pilot plant (including scale-up of the mRNA manufacturing process) and (ii) the construction of CureVac's future commercial-scale production facility in which Licensed Vaccines would be Manufactured. In such case BI shall, at no cost to CureVac, provide all or parts of the asked for consulting support to CureVac. With respect to such consulting support rendered after the Effective Date, (i) BI makes no representation or warranty (express, implied, statutory or otherwise), (ii) Section 12.2 of the Agreement does not apply, and (iii) notwithstanding Section 11.4 of the Agreement, BI's liability (whether based on contract, tort or otherwise) is limited to intentional acts, *provided* that nothing in this Section 6 of this Amendment No. 1 excludes or limits liability for cases for which a limitation of liability is not possible under Applicable Laws.

7. **Immunomonitoring**. Phase I/II Clinical Trials and Phase II Clinical Trials immunomonitoring services by CureVac are considered fee-for-service work packages. The Parties acknowledge that within the scope of this fee-for-service work some of CureVac's immunomonitoring Know-How needs to be transferred to BI in order to enable BI to set up the study support for the Clinical Trials appropriately. Exhibit 7A to this Amendment No. 1 lists the immunomonitoring technical documentation to be provided by CureVac to BI. BI experts will work together with CureVac on a validation plan, a sample analysis plan and fulfillment of GCP requirements. In addition, BI has the right to perform quality control checks of the immunomonitoring measurements. The required activities are defined in more detail in the updated CV9202 Development Plan. If CureVac cannot provide the required capacity for a potential immunomonitoring program for Phase III Clinical Trials, BI has the right to request transfer by CureVac of the required immunomonitoring methods to a reasonably acceptable Third Party CRO to be selected by the Joint Project Team. The working hours of CureVac personnel for such method transfer shall be reimbursed by BI at the FTE Rates in accordance with a budget to be set forth in the CV9202 Development Plan.

8. **Regulatory Matters**. In accordance with Section 4.3 of the Agreement, the Parties' respective responsibilities and the costs relating to regulatory matters are further clarified in Exhibit 4.3A attached to this Amendment No. 1.

9. **Pharmacovigilance**. The last sentence of Section 5.3 of the Agreement is replaced as follows:

   "Detailed pharmacovigilance responsibilities and obligations are set forth in the pharmacovigilance agreement by and between the Parties effective as of [*****]."

10. **Phase ID Clinical Supply and Commercial Supply**. The deadlines set forth in Section 6.2 of the Agreement until which the Parties shall (i) negotiate in good faith commercially reasonable terms and conditions of an amendment to the Clinical Supply Agreement and conclude such amendment in order to cover Phase III Clinical Trial supply in accordance with the terms and conditions of the binding term sheet attached to the Agreement as Exhibit 6.2A and (ii) negotiate in good faith commercially reasonable terms and conditions of a commercial supply agreement and conclude such commercial supply agreement in accordance with the terms and conditions of the binding term sheet attached to the Agreement as Exhibit 6.2B, each of (i) and (ii) unless CureVac is providing notice of waiver as set forth in Section 6.2 (a) or (b) before or during such negotiations, are hereby extended until [*****].

11. **Plasmid DNA as Precursor for Licensed Vaccines**. The deadlines set forth in Section 6.4 of the Agreement are hereby extended until [*****].

12. **Full Force and Effect**. The Parties confirm that the Agreement, as amended by this Amendment No. 1, is in full force and effect.

13. **Amendment Effective Date**. This Amendment No. 1 shall enter into force on June 30, 2015.

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their duly authorized representatives. This Amendment may be executed in one or more counterparts, each of which will be deemed an original, but all of which will constitute but one and the same instrument.

CUREVAC GMBH

Date: 09.07.2015

By: /s/ Dr. Florian von der Mülbe

Name: Dr. Florian von der Mülbe

Title: COO

ppa.

By: /s/ Dr. Franz-Werner Haas

Name: Dr. Franz-Werner Haas

Title: CCO

BOEHRINGER INGELHEIM INTERNATIONAL GMBH

Date: June 30, 2015

ppa.

By: /s/ Dr. Jochen Gann

Name: Dr. Jochen Gann

Title: Corp. Vice President

ppa.

By: /s/ Dr. Martin Schwarz

Name: Dr. Martin Schwarz

Title: Corp. Vice President

Exhibit 4.2: CV9202 Development Plan

[*****]

Exhibit 4.3A

[Untitled list of tasks]

[*****]

Exhibit 7A:

[*****]

Exhibit 10.5

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

AMENDMENT NO. 2 TO THE

EXCLUSIVE COLLABORATION AND LICENSE AGREEMENT

by and between

CureVac AG (formerly CureVac GmbH), a German limited liability company with offices at Paul-Ehrlich-Str. 15, 72076 Tübingen, Germany ("**CureVac**"), and

Boehringer Ingelheim International GmbH, a German limited liability company with offices at Binger Straße 173, 55216 Ingelheim am Rhein, Germany ("**BI**").

WHEREAS, the Parties entered into that certain Exclusive Collaboration and License Agreement effective as of August 21, 2014 (the "**Original Agreement**"), as amended by the first amendment effective as of June 30, 2015 (the "**Amendment No. 1**") (the Original Agreement, as amended by Amendment No. 1, the "**Agreement**");

WHEREAS, the Parties wish to exchange the target product profiles described in the Agreement due to changes in the NSCLC treatment landscape and subsequent adaptation in the development strategy;

WHEREAS, the Parties wish to clarify certain matters relating to the Development of CV9202;

NOW, THEREFORE, the Parties hereby agree as follows:

1. **Definitions**. Terms defined in this Amendment No. 2 are used with those meanings in this Amendment No. 2. Terms not defined in this Amendment No. 2 are used with the meanings as defined in the Agreement.

2. **Diligence**. Section 4.2.3 of the Agreement is hereby replaced in its entirety as follows:

   "Provided that CureVac has delivered to BI or BI's CRO the following amounts of Clinical Trial supply

   [*****]

   BI shall initiate the clinical development with CV9202 in combination with a checkpoint inhibitor [*****] (the "**Checkpoint Inhibitor Vaccine**") in a Phase 1/11 Clinical Trial in stage IV NSCLC (other than a Clinical Trial sponsored by LICR) and not terminate or halt the Nonclinical and Clinical Development unless there are substantial and reasonable technical, safety, efficacy and/or regulatory reasons for doing so, and details of such technical safety, efficacy and/or regulatory have been notified to CureVac in writing through the JSC."

3. **CV9202 Development Plan**. The Parties agree that Exhibit 4.2 to the Agreement is hereby replaced in its entirety by Exhibit 4.2 attached to this Amendment No. 2. For clarity, no decision or confirmation by the JSC is required for this amendment of the CV9202 Development Plan. However, the JSC is entitled to review, validate, modify, update and amend the amended CV9202 Development Plan, as set forth in Article 8 of the Agreement.

4. **Development and Regulatory Milestone Payments for the First Indication.** Section 7.3.1 of the Agreement is hereby replaced in its entirety as follows:

"**Development and Regulatory Milestone Payments for the First Indication (on the Effective Date expected to be** [*****]

[*****]

Provided, *however*, that if BI suspends the Development of the Checkpoint Inhibitor Vaccine and/or the Chemo-Radiation Vaccine and replaces such TPP by another TPP, the applicable above milestone payments under (a) to (e) shall be payable for the other TPP replacing the replaced TPP. For the avoidance of doubt, milestone payments already paid for the Development of a TPP prior to suspension shall not be payable for the other TPP replacing the replaced TPP.

5. **Commercial Supply Waiver**. The deadline set forth in Section 6.2(b) of the Agreement until which CureVac has the right to waive its right and obligation to Manufacture all Licensed Vaccines for the Commercialization of the Licensed Products (the "**Commercial Supply Waiver**") by notifying BI of such waiver in writing on or before [*****] is hereby extended until [*****] CureVac shall use Commercially Reasonable Efforts to provide sufficient funds and personnel resources to be allocated for (i) the construction and qualification of a [*****] pilot plant in CureVac's current site (GMP III) and (ii) the construction and qualification of the new [*****] plant (GMP IV).

6. **Commercial Supply Agreement**. The deadline set forth in Section 6.2 of the Agreement until which the Parties shall negotiate in good faith commercially reasonable terms and conditions of a commercial supply agreement and conclude such commercial supply agreement in accordance with the terms and conditions of the binding term sheet attached to the Agreement as Exhibit 6.2B, unless CureVac is providing timely notice of waiver as set forth in Section 6.2(b) of the Agreement, is hereby extended until [*****] Such supply agreement shall include that CureVac shall reserve manufacturing slots for a total amount of [*****] mRNA in the years [*****] ([*****] for initial market supplies.

7. **mRNA Manufacturing Information.** To enable BI to prepare for a potential future GMP Manufacturing of Licensed Vaccines by a BI Affiliate or a Permitted Third Party CMO (as defined in Section 6.3.2 of the Agreement), CureVac shall provide the required (i.e., required for the aforementioned purpose), transparent and up-to-date information to BI regarding its mRNA Manufacturing technology for the Licensed Vaccines, including: CureVac shall (i) deliver to BI, on or before [*****], the documents, information and data set forth in Exhibit 6.2C to this Amendment No. 2, (ii) provide to BI on a Calendar Quarterly basis updates with respect to changes to its mRNA Manufacturing technology (if any), and (iii) make reasonably available at no cost to BI 4 FTE for one day per Calendar Quarter (i.e., with further FTE days to be reimbursed to CureVac) for BI's questions with respect to the mRNA Manufacturing technology and to obtain a response to those questions in a reasonable timely manner; provided, however, that any further support, including site visits and trainings will be compensated at the FTE Rate. Further, BI will reimburse CureVac's reasonable out of pocket expenses with respect to such visits and trainings. In the event CureVac does not exercise the Commercial Supply Waiver within the prescribed time and achieves all milestone events set forth under Section 6.3.1(b) of the Agreement, then, upon CureVac's request, BI shall return or destroy, as instructed by CureVac, all Confidential Information of CureVac set forth above and confirm such return or destruction in writing to CureVac, save that BI may retain copies of such CureVac's Confidential Information as set forth in Section 10.5 of the Agreement.

8. **Confidentiality**. Section 4.3 sentence 9 of the Agreement ("In addition to the obligations under Section 10 below, BI shall ensure that such CMC Development- and/or Manufacturing-related documentation, data and reports are not circulated within BI's and BI's Affiliates' organizations except as required for the purposes mentioned in the foregoing sentence.") is hereby deleted. The Parties acknowledge and agree that, as a result of the aforementioned deletion, the side letter to the Agreement dated February 3, 2015 ceases to apply. For clarity, all CMC Development- and/or Manufacturing-related documentation, data and information, remain subject to the confidentiality obligations under Section 10 of this Agreement.

9. **Plasmid DNA as Precursor for Licensed Vaccines.** Section 6.4 of the Agreement is hereby replaced in its entirety as follows:

"The Parties agree that CureVac will source plasmid DNA needed as a precursor for the Manufacture of Licensed Vaccines for Phase III Clinical Trials and commercial supply from Lonza AG or an Affiliate of Lonza AG (Lonza AG and its Affiliates "**Lonza**") as first supplier for plasmid DNA needed for Phase III Clinical Trials supply and as first or second supplier for plasmid DNA needed for commercial supply, under a manufacturing process to be developed by Lonza, or, if Lonza is not available for such sourcing, by another competent CMO. CureVac shall use Commercially Reasonable Efforts that appropriate supply agreements between Lonza or such other CMO and CureVac for the precursor for the Manufacture of the Licensed Vaccines will be in place (anticipated deadline for supply agreement for Phase III: [*****] anticipated deadline for commercial supply agreement: [*****] If CureVac exercises the Commercial Supply Waiver, BI shall have the right to request that BI will assume all of such CureVac's rights and obligations *(Vertragsübernahme)* under the two supply agreements between CureVac and Lonza, and CureVac shall use Commercially Reasonable Efforts to procure Lonza's consent thereto."

10. **Changes to Amendment No. 1**. Sections 3, 10 and 11 of Amendment No. 1 are hereby deleted in their entireties.

11. **Full Force and Effect**. The Parties confirm that the Agreement, as amended by this Amendment No. 2, is in full force and effect.

12. **Amendment Effective Date**. This Amendment No. 2 shall enter into force on August 1, 2016.

Signature page follows.

IN WITNESS WHEREOF, the Parties have caused this Amendment No. 2 to be executed by their duly authorized representatives. This Amendment No. 2 may be executed in one or more counterparts, each of which will be deemed an original, but all of which will constitute but one and the same instrument.

CUREVAC AG

Date: 1.8.16

By: /s/ Dr. Florian von der Mülbe

Name: Dr. Florian von der Mülbe

Title: Chief Operating Officer

ppa.

By: /s/ Dr. Mariola Fotin-Mleczek

Name: Dr. Mariola Fotin-Mleczek

Title: Chief Scientific Officer

BOEHRINGER INGELHEIM INTERNATIONAL GMBH

Date:

ppa.

By: /s/ Jürgen Beck

Name: Jürgen Beck

Title: Authorized Signatory

ppa.

By: /s/ Dorothee Schwall-Rudolph

Name: Dorothee Schwall-Rudolph

Title: Authorized Signatory

Exhibit 4.2: CV9202 Development Plan

[*****]

Exhibit 6.2C: mRNA Manufacturing Information to Be Provided by CureVac

[*****]

CONFIDENTIAL

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

AMENDMENT NO. 3 TO THE

EXCLUSIVE COLLABORATION AND LICENSE AGREEMENT

by and between

CureVac AG (formerly CureVac GmbH), a German corporation with offices at Paul-Ehrlich-Str. 15, 72076 Tübingen, Germany ("**CureVac**"), and

Boehringer Ingelheim International GmbH, a German limited liability company with offices at Binger Straβe 173, 55216 Ingelheim am Rhein, Germany ("**BI**").

WHEREAS, the Parties entered into that certain Exclusive Collaboration and License Agreement effective as of August 21, 2014 (the "**Original Agreement**"), as amended by the first amendment effective as of June 30, 2015 (the "**Amendment No. 1**") and by the second amendment effective as of August 1, 2016 (the "**Amendment No. 2**") (the Original Agreement, as amended by Amendment No. 1 and Amendment No. 2, the "**Agreement**");

WHEREAS, the Parties agree that [*****] militate in favor of adapting the Development strategy for CV9202 (B11361849);

WHEREAS, CureVac chose not to exercise the waiver set forth in Section 6.2(b) of the Agreement; consequently CureVac has the right and the obligation to Manufacture all Licensed Vaccines for the Commercialization of the Licensed Products;

WHEREAS, the Parties wish to clarify certain matters relating to the Development of CV9202 (BI1361849);

NOW, THEREFORE, the Parties hereby agree as follows:

1. **Definitions**. Terms defined in this Amendment No. 3 are used with those meanings in this Amendment No. 3. Terms not defined in this Amendment No. 3 are used with the meanings as defined in the Agreement.

2. **Diligence**. Section 4.2.3 of the Agreement is hereby deleted in its entirety.

3. **CV9202 Development Plan**. The Parties agree that Exhibit 4.2 to the Agreement is hereby replaced in its entirety by Exhibit 4.2 attached to this Amendment No. 3.

   For clarity, no decision or confirmation by the JSC is required for this amendment of the CV9202 Development Plan. However, the JSC is entitled to review, validate, modify, update and amend the amended CV9202 Development Plan, as set forth in Article 8 of the Agreement.

4. **Phase III Clinical Supply Agreement**. The deadline set forth in Section 6.2 of the Agreement until which the Parties shall negotiate in good faith commercially reasonable terms and conditions

of an amendment to the Clinical Supply Agreement and conclude such amendment in order to cover Phase III Clinical Trial supply in accordance with the terms and conditions of the binding term sheet attached to the Agreement as Exhibit 6.2A is hereby extended until [*****].

5. **Commercial Supply Agreement**. The deadline set forth in Section 6.2 of the Agreement until which the Parties shall negotiate in good faith commercially reasonable terms and conditions of a commercial supply agreement and conclude such commercial supply agreement in accordance with the terms and conditions of the binding term sheet attached to the Agreement as Exhibit 6.2B is hereby extended until the date that is [*****] after the last patient has been dosed for the first time in the ongoing Clinical Trial sponsored by LICR ("**Last Patient In**"). At least [*****] prior to then to be expected Last Patient In (as set forth in the then-current CV9202 Development Plan) the Parties shall commence negotiations for the Commercial Supply Agreement. In addition, the Parties shall conclude an amendment to the existing term sheet for commercial supply (Exhibit 6.2B to the Agreement) until [*****]. Further, CureVac shall provide a plan, to be updated at each JSC meeting, how CureVac will achieve manufacturing readiness in accordance with the CV9202 Development Plan and to ensure compatibility with CV9202 project planning at BI. The Commercial Supply Agreement shall include that CureVac shall reserve manufacturing slots for the estimated total amounts of mRNA as shown in the table below:

[*****]

6. **Section 6.3.1(b) Milestones**.

Section 6.3.1(b) of the Agreement is hereby replaced in its entirety as follows:

"(b) fails to achieve any one of the following milestone events

(i) the JSC decides on achievement of process lock for drug substance (mRNA) development at [*****];

(ii) the EMA and the FDA accept the comparability of the [*****] to the existing [*****] Manufacturing process at CureVac's pilot plant on or before [*****] or any later point in time if so delayed by the JSC or such delay is caused by BI internal processes;

(iii) the competent health authority (at present: *Regierungspräsidum Tübingen*) approves the GMP IV facility on or before [*****]; **or**

(iv) the JSC decides on successful completion of drug substance and drug product engineering runs on or before [*****].

7. **Manufacturing Information**. Subject to Section 6.3.1 in order to enable BI to prepare for a potential future GMP Manufacturing of Licensed Vaccines by a BI Affiliate or a Permitted Third Party CMO (as defined in Section 6.3.2 of the Agreement), Section 7 of Amendment No. 2 provides that CureVac shall provide to BI the required (i.e., required for the aforementioned purpose), transparent and up-to-date information regarding its mRNA Manufacturing technology for the Licensed Vaccines. The Parties agree that the aforementioned obligation also includes the provision of the following documents, information and data to BI which CureVac shall provide to BI within [*****] after one of the conditions set forth in Section 6.3.1 has been met, the following documents to the extent they are available as of the date of the aforementioned condition is met;documents are not available to the extent they are subject to confidentiality or license restrictions precluding CureVac from disclosing the information contained in such documents to BI:

- Qualitative and quantitative composition final drug product/drug product intermediates
- Raw material/Excipient functionality, specification, quality/grade and suppliers
- Raw material/Excipient/starting material/drug substance/drug product/packaging material: testing procedure, incl. parameters, methods and equipment
- Raw material/Excipient/starting material/drug substance/drug product/packaging material: storage and stability information
- Presentation of finished drug product (parameters, appearance, packaging materials)
- Description of manufacturing process (master cell bank, plasmid vectors, pDNA, mRNA drug substance and drug product)
- Manufacturing equipment (pDNA, mRNA drug product)
- Essential requirements for manufacturing process/equipment, e.g. special layout of manufacturing area, measures to avoid cross-contamination, in-process controls during manufacturing.

8. **Scope of Exclusive License**. For the avoidance of doubt, during the term of the Agreement and subject to CureVac's right to perform its obligations under the Agreement, CureVac will not grant any license under CureVac Licensed Intellectual Property to any Third Party for the Development or Commercialization of a Licensed Vaccine regardless of whether the Licensed Vaccine is protamine-complexed or otherwise formulated.

9. **PharmaJet Device**. At BI's request, CureVac and BI shall enter into good faith negotiations and conclude an agreement under which CureVac grants to BI a non-exclusive sublicense, for the Development and Commercialization of Licensed Vaccines, under the licenses granted to CureVac under that certain License and Supply Agreement by and between CureVac and PharmaJet Inc. effective as of January 14, 2013. The parties will also discuss in good faith alternative routes of licensing, such as a direct license by BI from PharmaJet.

10. **Consulting Support for Commercial Facility**. BI's consulting support for CureVac's commercial facility as outlined in Section 6 of Amendment No. 1 is deemed completed. In case further critical topics relating to CureVac's commercial facility arise both Parties will discuss whether to resume the consultancy in defined support areas. Any consultancy resumption requires a unanimous decision of the JSC to be documented in meeting minutes.

11. **Full Force and Effect**. The Parties confirm that the Agreement, as amended by this Amendment No. 3, is in full force and effect.

12. **Amendment Effective Date**. This Amendment No. 3 shall enter into force on [*****].

Signature page follows.

IN WITNESS WHEREOF, the Parties have caused this Amendment No. 3 to be executed by their duly authorized representatives. This Amendment No. 3 may be executed in one or more counterparts, each of which will be deemed an original, but all of which will constitute but one and the same instrument.

CUREVAC AG

Date: July 17, 2019

By: /s/ Florian von der Mülbe

Name: Florian von der Mülbe

Title: Chief Production Officer

ppa.

By: /s/ Franz-Werner Haas

Name: Franz-Werner Haas

Title: Chief Operating Officer

BOEHRINGER INGELHEIM INTERNATIONAL GMBH

Date: August 9, 2019

ppa.

By: /s/ Jochen Gann

Name: Jochen Gann

Title: Authorized Signatory

August 08, 2019

ppa.

By: /s/ Dorothee Schwall-Rudolph

Name: Dorothee Schwall-Rudolph

Title: Authorized Signatory

Exhibit 4.2: CV9202 Development Plan

[*****]

REDACTED

Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

Global Access Commitments Agreement

This Global Access Commitments Agreement (including all appendices, exhibits and attachments hereto, the "**Agreement**"), is entered into as of February 13, 2015 ("**Effective Date**"), by and between the Bill & Melinda Gates Foundation, a Washington charitable trust that is a tax-exempt private foundation (the "**Foundation**"), and CureVac GmbH, a German limited company, together with its Affiliates ("**CureVac**" or the "**Company**"), in connection with the Foundation making a program-related investment in the Company by acquiring Series B Shares of the Company issued from the Company as part of one or more capital increases (the "**Shares**") (the acquisition of Shares is referred to herein as the "**Foundation Investment**"). The Foundation Investment is subject to the terms and conditions of the investment documents executed in connection with the closing ("**Closing**"), including, without limitation, this Agreement, and the Investment and Shareholders' Agreement (the "**Shareholders' Agreement**") among the Company's shareholders, dated February 13, 2015, and related documents, in each case as amended from time to time (collectively, the "**Investment Documents**"). Capitalized terms not defined herein shall have the same meaning as in the Investment Documents. The Foundation and Company are each referred to as a "**Party**" and collectively as the "**Parties**". In consideration of the Foundation making the Foundation Investment on the terms and conditions in the Investment Documents, and for other good and valuable consideration, the undersigned hereby irrevocably agree as follows:

1. Charitable Purposes and Use of Funds

The Foundation is making the Foundation Investment as a "program-related investment" within the meaning of Section 4944(c) of the Code. The Foundation is committed to accelerating the development of lifesaving and low-cost vaccines and drugs to reduce the burden of disease in Access Countries in furtherance of its mission to help all people lead healthy, productive lives. The Foundation requires that the innovations, products and information developed with its funding be created and managed to ensure "**Global Access**" can be achieved, in particular that (i) knowledge gained using its funding be promptly and broadly disseminated and (ii) the intended products developed with its funding and owned or Controlled by the Company be made available and accessible at reasonable cost to people most in need in Access Countries. The Foundation's primary purpose in making the Foundation Investment is to further the accomplishment of the Foundation's charitable purposes, including securing Global Access rights to new, low-cost vaccines and drugs developed (in whole or in part) through the use of the Company's Platform Technology and for certain selected Target Diseases and Conditions (collectively, the "**Charitable Purpose**"). In furtherance of the Charitable Purpose, the Foundation's investment in the Company will secure the Global Access Commitments set forth below.

The Company agrees to use the funds from the Foundation Investment solely (a) to fund the Company's new manufacturing facility which is planned to have the capacity to produce at least [*****] doses which inter alia can be used to manufacture vaccines and drugs in support of the Foundation's Charitable Purpose, and which is described in Appendix 1 ("**New Facility**") and/or (b) to continue development of the Company's Platform Technology and use of the Platform Technology to advance drug and vaccine candidates in support of the Foundation's Charitable Purpose.

2. **Certain Definitions**

The following terms shall have the following meanings:

(a) "**Access Countries**" means the countries (each an "**Access Country**") on the World Bank list of low-income and lower middle-income economies (http://www.worldbank.org/data/countryclass/classgroups.htm) on the Effective Date, which are set forth on Appendix 2. If after the Effective Date a country which was an Access Country on the Effective Date (i) is removed from such list and (ii) if such country becomes part of the European Union or is subject to another treaty with other non-Access Countries which leads to a material increase of the risk of parallel imports, the Parties will cooperate in good faith to reasonably reduce the risk of parallel imports and if it is not possible to reduce the risk to a degree that is acceptable to both Parties, such country will be removed from the list of Access Countries for purposes of this Agreement.

(b) "**Access Country Doses**" means vaccines and drugs the Company has developed using funds from the Foundation or Foundation-supported Entities in connection with Projects and that are intended for use in the Access Countries (including, without limitation, vaccines and drugs for use in clinical trials).

(c) "**Affiliate**" means, as to any Person, any other Person that directly or indirectly controls, or is under common control with or is controlled by such Person, provided, however, that regarding CureVac, Affiliate shall not include Mr. Hopp and Dievini Hopp biotech holding GmbH & Co. KG and/or any other companies controlled by Mr. Hopp and/or Dievini Hopp biotech holding GmbH & Co. KG.

(d) "**Change in Control**" means (i) the acquisition after the date of this Agreement, directly or indirectly, by any Person or group (within the meaning of Section 13(d)(3) of the Exchange Act) of the beneficial ownership of securities of the Company possessing more than 50% of the total combined voting power of all outstanding voting securities of the Company; (ii) a merger, consolidation or other similar transaction involving the Company, except for a transaction in which the holders of the outstanding voting securities of the Company immediately prior to such merger, consolidation or other transaction hold, in the aggregate, securities possessing more than 50% of the total combined voting power of all outstanding voting securities of the surviving entity immediately after such merger, consolidation or other transaction; or (c) the sale, transfer, license or other disposition (in one transaction or a series of related transactions) of all or substantially all of the assets of the Company.

(e) "**Charitable Purpose**" has the meaning given in Section 1.

(f) "**Charitability Default**" means any event in which Company:

(i) commits a material breach of the Global Access Commitments;

(ii) fails to comply with the restrictions on the use of funds set forth in this Agreement; or

(iii) fails to comply with the U.S. tax code-related obligations set forth in Sections 9, 11 and 13 below.

(g) "**Claim**" has the meaning set forth in Section 6.

(h) "**Code**" means the Internal Revenue Code of 1986, as amended, and the regulations thereunder.

(i) "**COGS**" means [*****]. In the event the Company and the Foundation are unable to agree on the COGS amount for a Product within [*****], then the determination of COGS will be made by an independent internationally recognized accounting firm mutually acceptable to the Company and the Foundation that does not provide accounting services to the Company or the Foundation and that has expertise in calculating COGS for a pharmaceutical product.

(j) "**COGS Methodology Handbook**" means the methodology described in the "COGS Principles & Assessment Methodology Handbook" and the "COGS Handbook Appendix A Template Tables" attached at Appendix 3.

(k) "**Commitment Period**" means the period from the Effective Date until the date on which all funds received from the Foundation pursuant to the Investment Agreements have been expended in accordance with the terms of this Agreement.

(l) "**Competitor**" means a company engaged in the development of RNA vaccines and/or drugs.

(m) "**Control**" means with respect to the subject item, the possession (whether by ownership or license) by a Party of the ability to grant to the other Party access or a license as provided herein under such item or right without violating the terms of any agreement or other arrangements with any third party.

(n) "**Cure Period**" has the meaning set forth in Section 8(a).

(o) "**Developed Country**" means any country that is not an Access Country (collectively, the "**Developed Countries**").

(p) "**Dispute**" has the meaning set forth in Section 4.

(q) "**Exchange Act**" means the Securities Exchange Act of 1934, as amended (and any successor thereto) and the rules and regulations promulgated thereunder.

(r) "**Existing Agreements**" means the collaboration agreements between the Company and third parties as such agreements exist on the Effective Date, which are listed on Appendix 4.

(s) "**Foundation-supported Entity**" means an entity that receives funding, directly or indirectly, from the Foundation, collaborates with the Foundation, or both, for the purpose of accomplishing the Foundation's charitable objectives. For the avoidance of doubt, the Company will not be required to collaborate with and/or provide confidential information or rights to a Foundation-supported Entity that is a Competitor of the Company unless the Company determines to its reasonable satisfaction that such information is or rights are, as the case may be, protected by an appropriate confidentiality agreement and such information or rights will only be used by the Foundation-supported Entity in connection with and solely for achieving the Charitable Purpose.

(t) "**Funded Developments**" means products, services, processes, technologies, materials, software, data, other innovations, and intellectual property developed using funds from the Foundation in connection with any Project.

(u) "**GAAP**" means Generally Accepted Accounting Principles in the United States.

(v) "**Global Access**" has the meaning set forth in Section 1.

(w) "**Global Access Commitments**" has the meaning set forth in Section 3.

(x) "**Global Access License**" has the meaning set forth in Section 3(d).

(y) "**Indemnitees**" has the meaning set forth in Section 6.

(z) "**Listed Person**" has the meaning set forth in Section 155.

(aa) "**New Facility**" has the meaning given in Section 1.

(bb) "**Option Agreement**" means the agreement between the Company and [*****], which is listed in Appendix 4, as such agreement existed on the Effective Date.

(cc) "**Person**" means any individual, partnership, corporation, limited liability company, association, trust, joint venture, unincorporated organization or other legal entity.

(dd) "**Platform Technology**" means the Company's technology for development of prophylactic and therapeutic mRNA vaccines and drugs against infectious diseases and vaccine adjuvants, comprised of long, non-coding RNA molecules and formulation/delivery technology necessary to develop the mRNA vaccines and drugs. For the avoidance of doubt, the intent of the Parties is that development activities will include the full process from pre-clinical development to delivery of Product.

(ee) "**Product**" means any drug or vaccine that is developed pursuant to a Project.

(ff) "**Project**" has the meaning set forth in Section 3(a)(i).

(gg) "**Project Commencement Period**" means the period ending on the 10-year anniversary of this Agreement.

(hh) "**Target Diseases and Conditions**" means [*****].

(ii) "**Total Manufacturing Capacity**" means Company's capacity in vials based on its ability over any time period to manufacture and produce vaccines and/or drugs at its New Facility, which shall be forecasted and determined on a rolling quarterly basis.

(jj) "**Withdrawal Rights**" has the meaning set forth in Section 8(a).

3. Global Access Commitments

As a condition to the Foundation making the Foundation Investment at the initial closing and committing to invest a subsequent tranche, subject to the terms and conditions of the Investment Documents, and to ensure satisfaction of the Charitable Purpose, the Company agrees to the following "**Global Access Commitments**". Unless the Parties and [*****] agree otherwise, if the Parties would agree on a Project which relates to an [*****] non-exclusive pathogen under the Option Agreement, the Global Access Commitments hereunder would be subject to the rights granted to [*****] under the Option Agreement.

(a) Vaccine and Drug Development Projects.

(i) The Company will work together with the Foundation on all stages of vaccine and drug development and commercialization for Target Diseases and Conditions. Each Project will be documented in a definitive agreement between the Foundation or a Foundation-supported Entity which Project is chosen by the Foundation and approved by the Company (such approval not to be unreasonably withheld or delayed) for such Project and the Company and a project plan (each a "**Project**"), which may include work to be undertaken, responsibilities, participation by other parties, timelines and milestones, project management, contributions in-kind and funding requirements, a product development and marketing plan, product registration in the Access Countries, any additional global access commitments specific to the Project, terms for manufacturing and commercialization of Access Country Doses and the price for Access Country Doses, which must be an affordable price for sales for use in the Access Countries that the Parties agree will not exceed [*****]. The Company will permit the Foundation or a representative designated by the Foundation to reasonably inspect twice every [*****] during regular business hours and at the Foundation's cost the Company's books and records as well as manufacturing documentation (including but not limited to the detailed bill of materials) for the purpose of determining cost of goods sold for each Product.

(ii) The Foundation - and the Company, under the conditions set forth below - will contribute in kind or through funding to agreed-upon Projects. The specific level and allocation of funding responsibilities for a specific Project will be decided on a Project-by-Project basis as mutually agreed in good faith in writing by the Parties based on a fair allocation of the expected benefits. For the avoidance of doubt, if a Project serves solely the Foundation's charitable purposes, the expectation of the Parties is that the Foundation will fully fund the direct costs associated with such specific Project. The Company agrees that as part of the Global Access Commitments, it will accept and work on three Projects proposed by the Foundation at a time, subject to the Foundation or a Foundation-supported Entity selected by the Foundation and approved by the Company (such approval not to be unreasonably withheld or delayed) for such Project agreeing to pay its proportionate share of the funding responsibilities associated with such Projects. If the Company is working on three Foundation (or Foundation-supported Entity) Projects, then the Company will not be required to commence work on a new Project until one of the three Projects has been completed, terminated or if the Parties agreed to put a Project on hold in accordance with the terms of such Project; provided that the Company and the Foundation can work on more than three Projects in parallel if they mutually agree to do so. A Project is deemed to be completed if, as set forth in the respective project plan, no more work is to be performed on the Project by Company or its sublicensees, contractors or other collaborators. Any Project which has been terminated or put on hold shall no longer be considered an active Project for purposes of this Agreement. For the avoidance of doubt, there is no limitation on the number of Projects the Foundation can request the Company to perform (subject to the requirement that the Company is not required to work on more than three Projects at a time); provided that the Company is not obligated to accept an additional Project if the start of the proposed Project is scheduled to be after the expiry of the Project Commencement Period, but if a Project is commenced prior to the end of the Project Commencement Period, the Company will continue such Project to completion, even if this occurs after the end of the Project Commencement Period, provided, however, that the Foundation has no right to request to increase the scope of work after the end of the Project Commencement Period without the Company's consent.

(iii) Unless provided otherwise in a specific Project Agreement (as defined below), the Parties agree that any results, information, invention, patent right and other intellectual property right and any know how generated by or on behalf of the Company with respect to the Platform Technology and/or the Funded Developments shall be owned by the Company and the Company shall be responsible, in its sole discretion, to file, prosecute, maintain and defend such intellectual property rights.

(iv) The Company further agrees that it will not reject any Projects proposed by the Foundation unless the Company can demonstrate that accepting such Project would be reasonably likely to have a material adverse effect on the Company ("**Good Reason**"). By way of example, the Company agrees that it will not constitute Good Reason for the Company to reject a Project because the Company could make a higher profit by performing other work, but the Company will not be required to accept a Project on terms that would cause the Company to operate at a loss without any offsetting benefit.

(b) Access to Project Data and Information. Subject to Existing Agreements, the Company will [*****] to:

(i) Publish the results and information developed in connection with each Project within a reasonable period of time after such information or results are obtained in a manner that satisfies the requirement that such research be published in a form that is "available to the interested public" as described in Treasury Regulation 1.501(c)(3)-1(d)(5)(iii)(c)(2), which could include publication in a treatise, thesis, trade publication or a scientific journal, the presentation of a paper at a research conference or symposium and electronic publication, with due regard to delays or limitations on content of such publications that are necessary or useful (i) to protect the Company's intellectual property, trade secrets and confidential information covering, inter alia, the Platform Technology itself and/or (ii) to allow the Company to obtain any intellectual property rights based on the results and information developed in connection with each Project.

(ii) Promptly provide to the Foundation from time to time, upon the Foundation's request and with the agreement of the relevant Foundation-supported Entity (as appropriate), access to data and information regarding each Project, subject to the conclusion of a confidential disclosure agreement among the Foundation, the Company and, as necessary and appropriate and only upon the Company's prior written consent (not to be unreasonably withheld or delayed) the relevant Foundation-supported Entity.

(iii) Promptly provide to the Foundation from time to time, upon the Foundation's request, rights to share data and information developed in connection with each Project, with due regard to the need to protect confidential information and to avoid untimely public disclosures that may bar access to patent protection or public disclosures that may undermine trade secret protection.

(c) Manufacture of Access Country Doses. The Company agrees to manufacture Access Country Doses in an amount based on a rolling forecast provided by the Foundation to the Company of expected demand for Access Country Doses up to a maximum of [*****] of its New Facility Total Manufacturing Capacity (or the reasonable equivalent thereof in the event the New Facility is combined with or replaced by other manufacturing facilities, including, without limitation, as a result of a Change in Control). For such purpose, the Foundation will provide the Company with at least [******] prior notice before it is required to begin manufacturing Access Country Doses. Unless and until such notice has been given by the Foundation, the Company will have the right to allocate 100% of its New Facility Total Manufacturing Capacity at the Company's discretion. For the avoidance of doubt, the Company will not be required to manufacture vaccines and drugs that have been developed by third parties (other than Foundation-supported Entities participating in any Project as provided above) unrelated to the Company using funds received from the Foundation.

(d) Non-exclusive License. Subject to the Existing Agreements, in connection with and relating solely to each Project the Company will grant the Foundation a worldwide, non-exclusive, perpetual, irrevocable, fully-paid up, royalty-free license to the Funded Developments and the background intellectual property Controlled by the Company that is covering the Platform Technology to the extent reasonably required to use, research, develop, make, sell, and offer-for-sale the Funded Developments for the specific Project, including the Products developed under such Project (the "**Global Access License**"), but any development, manufacture, sale, offer-for-sale, importation or distribution of products is limited to importation into and distribution to people in Access Countries in a manner consistent with the Foundation's charitable purpose; provided that the Global Access License will only come into force (condition precedent) in the event of the Company's insolvency, dissolution or an uncured Charitability Default (Section 8(a) shall apply accordingly). The Global Access License is sublicensable to (i) Foundation-supported Entities, (ii) to CROs and CMOs acting on behalf of the Foundation or the Foundation-supported Entities or (iii) to third party licensees of the Company who have entered into a collaboration and license or asset transfer agreement with the Company with respect to a pathogen covered under a Project, provided, however, that if such third party licensee refuses to enter into a sublicense agreement with the Foundation in spite of a good faith approach of the Foundation to conclude such sublicense agreement, the Foundation may grant a sublicense to any other third party. Any agreement to be concluded in the future under the Existing Agreements will have to respect and cannot limit or restrict the Global Access Commitments.

(i) The Company agrees to take such further actions, including technology transfer, as would be typical industry practice at the time for a company providing a license to a third party, to ensure that the Foundation (or its potential permitted sub-licensee) can effectively take advantage of the Global Access License if a triggering event occurs. Without limiting the foregoing, in connection with any Global Access License hereunder, the Company will take any actions reasonably necessary to grant the Foundation a license or sub-license to any third-party intellectual property applicable to the Platform Technology or the Funded Developments that is necessary to enable the Foundation to effectively take advantage of the Global Access License for the selected Projects.

(ii) Subject to the Existing Agreements, the Company shall permit the Foundation (or its sublicensees) the right to access and cross-reference any applicable IND, BLA or regulatory file Controlled by Company and relating to any Projects and shall, upon request, provide an electronic copy of each such file.

(e) The Global Access Commitments will be ongoing and will continue for as long as the Foundation continues to pursue its charitable mission except that the Company's obligation to accept additional Projects (in lieu of abandoned Projects) will terminate upon expiry of the Project Commencement Period.

(f) The Company will provide to the Foundation the reports regarding program-related investments and such other reports as may be agreed upon between the Company and the Foundation and reasonable audit rights regarding the Company's compliance with the use of the Foundation's funds and the Global Access Commitments.

(g) Except for rights granted in the Existing Agreements as of the Effective Date, the Company will not grant to a third party any rights or enter into any arrangements or agreements that would limit or restrict the Foundation's rights related to the Global Access Commitments, including the Foundation's right during the Project Commencement Period to enter into Projects with the Company with respect to any Target Diseases and Conditions. For the avoidance of doubt, nothing in this Agreement prohibits the Company from entering into an agreement with a third party with respect to the development, manufacture and commercialization of a product for a Target Disease and Condition provided that such agreement does not limit or restrict the Company's ability to fulfill the Global Access Commitments, and the Foundation's consent will not be required for such an agreement. In order to confirm that CureVac's agreements with third parties relating to any Target Disease and Condition do not limit or restrict the Foundation's rights, CureVac agrees that it will include language substantially similar to the following in such agreements:

> The Company and [third party] acknowledge that the Company and the Bill & Melinda Gates Foundation (the "Foundation") have entered into a Global Access Commitments Agreement (the "Global Access Agreement") pursuant to which the Company has agreed to work together with the Foundation on vaccine and drug development for certain Target Diseases and Conditions pursuant to the terms of the Global Access Agreement and any subsequent agreements entered into by the Company with respect to a particular project (each, a "Project Agreement"). The Company and [third party] agree that this [third party agreement] shall be subject to the terms of the Global Access Agreement and in no way shall this [third party agreement] limit or restrict the Foundation's rights or the Company's obligations pursuant to the Global Access Agreement or any existing Project Agreement. The Company and [third party] agree that the Foundation is a third party beneficiary of this provision and will have the right to enforce this provision in order to protect the Foundation's rights pursuant to the Global Access Agreement and any applicable Project Agreements. For the avoidance of doubt, unless otherwise agreed with the [third party], the Foundation has no claims to the results generated and to the intellectual property rights and know how Controlled by [third party]; provided that nothing in this [third party agreement] will limit or restrict the Global Access Commitments.

In the event the Company collaborates with a third party with respect to any Target Disease and Condition that becomes the subject matter of a Project hereunder, the Foundation and the Company will negotiate in good faith with such third party to attempt to combine the development efforts and align the respective project plans; provided that if the Foundation and the third party cannot reach agreement, the Foundation and the Company can proceed with such Project in accordance with the terms of this Agreement and the applicable Project Agreement.

(h) The Company and BMGF will mutually use reasonable and diligent efforts to execute and cause [*****] to execute an amendment substantially in the form attached hereto as Appendix 5, to the Option Agreement dated as of [*****] by and between the Company and [*****] as soon as reasonably possible.

4. Representations, Warranties, Covenants of the Company

The Company hereby represents, warrants and covenants to the Foundation:

(a) **Project Diligence and Necessary Skill**. The Company will use all reasonable and diligent efforts to perform its obligations under a Project Agreement and to complete each Project and the Company has, and will maintain, the necessary expertise, personnel, facilities and equipment to perform each Project and its obligations under the Investment Documents.

(b) **Continuation of Business**. The Company will continue activity in those lines of business or in comparable new lines of business that are necessary to complete the Projects and to fulfill the Global Access Commitments for the Projects.

(c) **Compliance with Applicable Laws & Regulations**. The Company is in compliance and will remain in compliance in all material respects with all applicable laws and regulations (including all laws and regulations related to clinical trials, human health and safety, the protection of the environment, research, development and manufacture of vaccines and drugs intended for human use) necessary to enable the Company to perform its obligations under the Investment Documents and in connection with each Project, and as of the Effective Date the Company is not aware of any action filed or commenced against the Company alleging any failure to comply. The Company is and will remain in compliance with all applicable cGMPs, Good Clinical Practices, Good Laboratory Practices and Good Industry Practices. The Company is not aware of facts that (with or without notice or lapse of time, or both) could reasonably be expected to result in the Company being in violation in any material respect of any law materially applicable to the Company's performance of its obligations under the Investment Documents and in connection with each Project. The Company has in place and shall continue to maintain for the duration of its obligations under this Agreement and each Project, a compliance program reasonably designed to identify, prevent, and address any compliance issues.

(d) **Licenses and Permits**. The Company currently holds and will continue to hold all necessary foreign, federal, state, local and other governmental licenses, approvals and permits necessary to perform its obligations under the Investment Documents and in connection with each Project.

(e) **Records Compliance**. The Company will maintain, in accordance with and for the period required under cGMPs and applicable laws, complete and adequate records of the Funded Development pertaining to the methods, and the facilities, manufacture, procedures, testing and the like, related to each Project.

(f) **IP Due Diligence**. On the Effective Date, the Company has conducted commercially reasonable due diligence with respect to the Project Agreements, including intellectual property and freedom to operate analyses related to the Project Agreements. To the Company's knowledge on the Effective Date it owns or possesses sufficient legal rights to all trademarks, service marks, tradenames, copyrights, trade secrets, licenses, information and proprietary rights and processes and all patents necessary for its current business without any conflict with, or infringement of, the rights of others. On the Effective Date, the Company has not received any communications alleging that the Company has violated or, by conducting its business, would violate any of the patents, trademarks, service marks, tradenames, copyrights, trade secrets or other proprietary rights or processes of any other Person.

(g) **Product Modification**. In the event of any injunction or prohibition against the Company's manufacture, licensure, import, export, sale, offer-for-sale, distribution, or use of any Product by reason of infringement of a patent, proprietary, or intellectual property right, or if in Company's opinion any Product is likely to become the subject of a claim of infringement of a patent, proprietary, or intellectual property right the Company and the Foundation and/or the Foundation-supported Entity will, either: (a) procure (such as by licensing or otherwise) the right to continue to make, have made, import, export, sell, offer-for-sale, distribute, and use such Product, or (b) replace or modify such Product so it becomes non-infringing, but is equivalent or superior in terms of efficacy, quality and safety.

(h) **No Disputes**. The Company agrees to notify the Foundation of any claims with regard to any third party intellectual property or disputes with a third party with regard to a Product which arise during the term of this Agreement (including its commercialization, manufacture, sale, offer for sale, distribution, import, export and use as contemplated by the applicable Project).

(i) **Disqualification and Debarment**. On the Effective Date, the Company, its employees or contractors or agents are not and the Company will undertake reasonable efforts not to be, at the time of performance of any activity contemplated by this Agreement or in connection with any Project, (a) disqualified or debarred by any Governmental Authority for any purpose pursuant to applicable law or regulation or threatened with any such disqualification or debarment or (b) charged or convicted for conduct relating to the development or approval of, or otherwise relating to the regulation of, any Product under any applicable law or regulation.

(j) **Warranty**. Each Product is or will be manufactured by the Company (and/or its CMOs or partners) in conformity in all material respects with all applicable requirements of a vaccine or drug for human use, including all express and implied warranties related thereto.

(k) **Company is Sponsor**. In no event shall the Foundation be a sponsor of any trial, study, Product, registration, or marketing authorization or the like. Except as may be required by law, the Company shall not include the Foundation on any document relating to the foregoing or in any communication with any governmental or regulatory body without the express prior written consent of the Foundation. Any input, consultation, or communication to the Company by the Foundation or any Foundation-supported Entity shall not diminish the foregoing.

(l) **Insurance**. The Company will maintain liability, property, casualty, flood, and other insurance coverage (including product liability, clinical trial insurance) by such insurers and in such forms and amounts and against such risks as are generally consistent with the insurance coverage maintained by similarly-situated companies in like industries, including to address any risks applicable to the Projects.

(m) **Compliance with Confidentiality Obligations; No Infringement**. The Company shall perform its activities under this Agreement and in connection with each Project using reasonable efforts to prevent violation of any of its confidentiality obligations to any third party and violation or infringement of any third party trade secrets, patent rights or other intellectual property rights.

(n) **Full Power**. The Company has the full and unrestricted power and authority to enter into this Agreement, to perform its activities under this Agreement and in connection with each Project, and to disclose any information which it makes available to the Foundation under this Agreement or in connection with any Project.

5. **Representations, Warranties, Covenants of the Foundation**

The Foundation hereby represents, warrants and covenants to the Company:

(a) **Full Power**. The Foundation has the full and unrestricted power and authority to enter into this Agreement, to perform its activities under this Agreement and in connection with each Project, and to disclose any information which it makes available to the Company under this Agreement or in connection with any Project.

(b) **Compliance with Confidentiality Obligations; No Infringement**. The Foundation shall perform its activities under this Agreement and in connection with each Project using reasonable efforts to prevent violation of any of its confidentiality obligations to any third party and violation or infringement of any third party trade secrets, patent rights or other intellectual property rights.

(c) Use of Product in Access Countries Only. The Foundation acknowledges that the Company intends to take reasonable and diligent efforts to ensure that the Products intended for use in the Access Countries will be utilized in Access Countries only and to prevent parallel imports of such Products into non-Access Countries, which efforts may include the Company placing an indication on the packaging of the Products that they are for use in Access Countries only and are not to be exported into any other countries. If the Company reasonably believes that parallel imports of such Products outside the Access Countries are occurring, the Company will notify the Foundation and the Parties will cooperate in good faith to verify the circumstances and take such reasonable action as they mutually agree is necessary; provided that the Foundation will not be responsible for the actions of any third party or any actions outside of its control. For the avoidance of doubt and unless otherwise agreed, the Company is not required to arrange for the commercialization of Products in the Access Countries.

6. Indemnification

The Company will indemnify, hold harmless, and defend the Foundation and its co-chairs, trustees, directors, officers, employees, agents, representatives, consultants and grantees (collectively, the "**Indemnitees**") from and against any and all third party causes of action, claims, suits, legal proceedings, judgments, settlements, damages, penalties, losses, liabilities and costs (including reasonable attorneys' fees and costs) (each a "**Claim**") arising out of or relating to: (a) negligence or wilful misconduct of the Company (including its officers, agents, employees, subgrantees, contractors or subcontractors) in connection with any Project; (b) bodily injury, death or property damage caused by any Project or Product; or (c) a material breach by the Company of any of its obligations, representations, warranties, or covenants under this Agreement or a Project Agreement, except, in each of the foregoing cases, the Company will have no obligation to indemnify, defend, or hold harmless the Foundation for any liability, loss, or expense to the extent resulting from the gross negligence or willful misconduct on the part of the Foundation.

The Company will have control over the defense and settlement of each Claim, with counsel of its own choosing; provided that the Company conducts the defense actively and diligently at the sole cost and expense of the Company and provided further that the Company will not enter into any settlement that adversely affects any Indemnitee without the applicable Indemnitee's prior written consent, such consent not to be unreasonably withheld or delayed. The Foundation will provide the Company, upon request and at no charge, with reasonable cooperation in connection with the defense and settlement of the Claim. Subject to the Company's rights above to control the defense and settlement of Claims, the Foundation and any Indemnitee may, at its own expense, employ separate counsel to monitor the defense of any Claim.

7. Survival of Rights

As a condition of any acquisition of the Platform Technology or the Company's manufacturing facilities directly, or through a Change in Control, the Global Access Commitments described above will survive and be assumed by the acquirer to the extent required to carry out the Global Access Commitments, and the Foundation shall have the right to review such provisions of the written agreement with such third party that relate to the assumption of the Global Access Commitments to confirm that the Global Access Commitments will survive and be assumed by the acquirer to the extent required to carry out the Global Access Commitments, and the Company will not grant to a third-party any rights to, or enter into any arrangements with respect to, the Platform Technology or its manufacturing facilities to the extent such rights or arrangements would prevent the Company (or any acquirer of the Platform Technology or manufacturing facilities) from fulfilling the above stated Global Access Commitments.

In order to confirm the Global Access Commitments will survive and be assumed by the acquirer, the Company will add language substantially similar to the following to its acquisition agreements with third parties:

The Company and [third party] acknowledge that the Company and the Bill & Melinda Gates Foundation (the "Foundation") have entered into a Global Access Commitments Agreement (the "Global Access Agreement") pursuant to which the Company has agreed to certain Global Access Commitments pursuant to the terms of the Global Access Agreement and subsequent agreements entered into by the Company with respect to particular projects (each, a "Project Agreement").

[Third party] agrees that the Global Access Agreement will continue in full force and effect following consummation of the transactions contemplated by this [acquisition agreement] and [third party] will ensure performance of the terms of the Global Access Agreement and that in no way shall this [third party agreement] limit or restrict the Foundation's rights or the Company's obligations pursuant to the Global Access Agreement or any existing Project Agreement. The Company and [third party] agree that the Foundation is a third party beneficiary of this [third party agreement] with respect to the Global Access Commitments and will have the right to enforce this provision in order to protect the Foundation's rights pursuant to the Global Access Agreement and any applicable Project Agreements.

8. Withdrawal Right, Termination for Good Cause

(a) Charitability Default. Each Party agrees that if it becomes aware of a Charitability Default it will promptly notify the other Party, and the Company shall thereafter provide to the Foundation a proposed strategy to remedy the Charitability Default, such strategy to be provided within [*****] of notification. Notwithstanding anything in this Agreement to the contrary, the Foundation will not lose any rights or remedies solely as a result of a failure to notify the Company after it becomes aware of a Charitability Default. In addition, the Company agrees to promptly notify the Foundation of any facts and circumstances it becomes aware of which - in its reasonable opinion - could reasonably cause a Charitability Default hereunder. If the Company fails to cure the Charitability Default within [*****] of notice of a Charitability Default (provided that such [*****] period will be extended by an additional [*****] if at the end of the [*****] period the Company demonstrates to the Foundation's reasonable satisfaction that despite the Company's reasonable and diligent efforts to cure the Charitability Default during the initial cure period, additional time is necessary) (the "**Cure Period**"), then, in addition to all other rights and remedies available at law or in equity, including the Global Access License set forth above and all other applicable remedies in the Investment Documents, the Foundation will have the withdrawal rights (the "**Withdrawal Right**") set forth in the Shareholders' Agreement.

(b) Withdrawal Right.

(i) The Company agrees that if for any reason the Withdrawal Right is removed from the Shareholders' Agreement or the Shareholders' Agreement is amended or terminated while this Agreement remains in effect, the terms of the Withdrawal Right will continue in full force and effect as if contained in this Agreement.

(ii) Notwithstanding any exercise of the Withdrawal Right, the Foundation will continue to be entitled to enforce its rights under the Global Access Commitments and in relation to any agreed Projects.

(iii) Irrespective of the Project Commencement Period, the Company has the right to terminate this Agreement without any survival of any provision of this Agreement for good cause if the Foundation does not make an initial investment in the Company (by payment into the capital reserves and the nominal capital of the Company) in the amount set forth in the definition of Financing Round I in the Shareholders' Agreement (the "**Initial Investment**") by [*****] and the default on payment of the Initial Investment is not cured within [*****] after the Foundation receives a respective payment request from the Company.

9. Required Reporting

In addition to any and all reports required to be delivered to the Foundation under the Investment Documents, the Company shall furnish, or cause to be furnished, to the Foundation the following reports and certifications:

(a) Within [*****] after the end of the Company's fiscal year during which the Foundation owns any shares of stock of the Company, a certificate from the Company signed by an officer or director of the Company and substantially in the form attached to this Agreement as Appendix 6, certifying that the requirements of the Foundation Investment were met during the immediately preceding fiscal year, describing the use of the proceeds of the Foundation Investment and evaluating the Company's development of the Platform Technology and use of the Platform Technology to advance drug and vaccine candidates in support of the Foundation's Charitable Purpose, and progress on the New Facility, and the Projects including, specifically, information regarding progress against the Global Access Commitments;

(b) Within [*****] after the end of the Company's fiscal year during which the Foundation ceases to own any shares of stock of the Company, a certificate from the Company signed by an officer or director of the Company and substantially in the form attached to this Agreement as Appendix 7, certifying that the requirements of the Foundation Investment were met during the term of the Foundation Investment, describing the use of proceeds of the Foundation Investment and evaluating the Company's development of the Platform Technology and use of the Platform Technology to advance drug and vaccine candidates in support of the Foundation's Charitable Purpose, and progress on the New Facility, and the Projects including, specifically, information regarding progress against the Global Access Commitments;

For the avoidance of doubt, if the Company has provided timely reports pursuant to Sections 9(a) and 9(b) that contain information sufficient to enable the Foundation to discharge any expenditure responsibility of the Foundation, within the meaning of Sections 4945(d)(4) and 4945(h) of the Code, with respect to the Foundation Investment, the Company will not be liable for a Charitability Default pursuant to Sections 9(a) or 9(b).

(c) Any other information respecting the operations, activities and financial condition of the Company as the Foundation may from time to time request to discharge any expenditure responsibility of the Foundation, within the meaning of Sections 4945(d)(4) and 4945(h) of the Code, with respect to the Foundation Investment, and to otherwise monitor the charitable benefits intended to be served by the Foundation Investment (the Foundation will pay the reasonable costs associated with preparing such information at its request);

(d) At least [*****], full and complete financial reports of the type ordinarily required by commercial investors under similar circumstances; and

(e) During the Project Commencement Period, within [*****] of the end of each calendar quarter, Company will (A) provide the Foundation with written reports in form and detail reasonably satisfactory to the Foundation and confer with the Foundation (by teleconference or in scheduled site visits as appropriate) regarding progress with respect to the Projects including information regarding progress against the Global Access Commitments and (B) coordinate with the Foundation to determine reasonable times for the Foundation's representatives to make site visits to the Company's facilities and to conduct any inspections with respect to the Projects. Such site visits may be conducted in [*****] by a consultant selected by the Foundation and approved by the Company (such approval not to be unreasonably withheld or delayed) who is subject to a confidentiality agreement that is reasonably acceptable to the Company and the Foundation.

10. Assignment by Foundation

Notwithstanding anything in this Agreement to the contrary, the Foundation will have the right to assign this Agreement to (a) any successor charitable organization of the Foundation from time to time that is a tax-exempt organization as described in Section 50l(c)(3) of the Code, or (b) any tax-exempt organization as described in Section 50l(c)(3) of the Code controlled by one or more trustees of the Foundation. The Foundation will notify the Company of any such assignment, including the identity of the assignee, in a timely manner. For the avoidance of doubt, if the Foundation transfers the Shares as permitted by this section, the Foundation may assign to any such transferee all of its rights attached to such Shares, including the Withdrawal Right.

11. Access to Records

The Company shall maintain books and records adequate to provide information ordinarily required by commercial investors under similar circumstances. The Company shall provide the Foundation or its designee(s) access at reasonable times to such books and records pertaining to the period during which the Foundation owned any shares of stock of the Company and continuing for a period of [*****] after the later of: (a) the date on which the Foundation no longer owns any shares of stock of the Company or (b) the date on which this Agreement is no longer in effect. Notwithstanding the foregoing, as long as the funds from the Foundation Investment are fully expended prior to the [*****] anniversary of the Effective Date, the Company shall not be required to maintain or provide the Foundation access to such books and records for more than [*****] from generation of the individual information. For the avoidance of doubt, the Foundation's access to records under this Section shall not be dependent upon the Foundation's percentage ownership in the Company.

12. Public Reports

The Foundation may include information about the Company in its periodic public reports to the extent such information is not confidential, except as otherwise may be required by applicable law.

13. Prohibited Uses

The Company shall not expend any proceeds of the Foundation Investment to carry on propaganda or otherwise to attempt to influence legislation, to influence the outcome of any specific public election or to carry on, directly or indirectly, any voter registration drive, or to participate or intervene in any political campaign on behalf of or in opposition to any candidate for public office within the meaning of Section 4945(d) of the Code. The proceeds of the Foundation Investment shall not (a) be earmarked to be used for any activity, appearance or communication associated with the activities described in the foregoing sentence, nor (b) be intended for benefit, and will not benefit, any Person having a personal or private interest in the Foundation, including descendants of the founders of the Foundation, or Persons related to or controlled by, directly or indirectly, such private interests.

14. Disqualified Person

To the knowledge of each of the Foundation and the Company: (1) the Company is not a "disqualified person" with respect to the Foundation (as the term "disqualified person" is defined in Section 4946(a) of the Code), and (2) no disqualified person with respect to the Foundation owns any of the Company's outstanding stock, and (3) the Foundation does not, and one or more disqualified persons with respect to the Foundation do not, directly or indirectly, control Company.

15. Compliance with Anti-Corruption, Anti-Bribery and Anti-Terrorism Laws

The Company will not offer or provide money, gifts or any other thing of value, directly or indirectly, to anyone in order to improperly influence any act or decision relating to the sale of the Company's products and services or the other matters contemplated by this Agreement, including by assisting any party to secure an improper advantage. Training and information on anti-bribery act compliance requirements is available here: www.learnfoundationlaw.org.

The Company will not use any proceeds of the Foundation Investment, directly or indirectly, in support of activities (i) prohibited by US laws related to combatting terrorism; (ii) with any Person on the List of Specially Designated Nationals (www.treasury.gov/sdn) (a "Listed Person") or any Person that is, directly or indirectly, controlled by a Listed Person or in which a Listed Person, directly or indirectly, holds a significant ownership interest; or (iii) with or related to countries against which the US maintains a comprehensive embargo (currently, Cuba, Iran, (North) Sudan, Syria, and North Korea), unless such activities are fully authorized by the US government under applicable law and specifically approved by the Foundation in its sole discretion.

16. Use of Name

Each of the Foundation and the Company may include information on this investment in its periodic public reports or other documents required to be filed with governmental authorities, if any. In addition, the Foundation and the Company may make the investment public at any time on their web pages and as part of press releases, public reports, speeches, newsletters and other public documents. Any announcement of the Foundation Investment by any other Person, will require the Company's and Foundation's prior written approval. Any other use of the Foundation's or the Company's name or logo in any respect depends upon their respective pre-approval in writing. Notwithstanding the foregoing, the Foundation's name and logo will not be used by any Person in any manner to market, sell or otherwise promote the Company, its products, services and/or business.

17. Entire Agreement; Modification

This Agreement and the other Investment Documents, including all exhibits hereto and thereto, the Confidentiality Agreement executed between the Parties on June 6, 2012, and the Project Agreements set forth all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties with respect to the subject matter of the Investment Documents, and supersede and terminate all prior agreements, negotiation and understandings between the Parties, whether oral or written, with respect to such subject matter. No subsequent alteration, modification, amendment, change or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by the respective authorized officers of the Parties. For the avoidance of doubt, to the extent any other Investment Document conflicts with any provisions of this Agreement that are required by the Code, the provisions of this Agreement shall control.

18. Confidentiality

(a) During the course of this Agreement and the Project Agreements each Party (as a "**Disclosing Party**") may disclose certain Confidential Information owned or rightfully possessed by it to the other Party (as the "**Receiving Party"**). For the purposes of this Agreement, "**Confidential Information**" means all information, including data, communicated by the Disclosing Party to the Receiving Party in either (i) a documentary or written form, marked as confidential, or (ii) in an oral form, in which case a written record, marked as confidential, shall be provided to the Receiving Party within [*****] of the oral disclosure for the information to be considered as Confidential Information; provided that a written record of an oral disclosure will not be required if based on the nature of the information or circumstances surrounding its disclosure, the Receiving Party should reasonably regard such information as Confidential Information.

(b) Each Party, as a Receiving Party, agrees that it will (i) use the Confidential Information received from a Disclosing Party solely for the purposes contemplated by this Agreement and the Project Agreements and (ii) treat the Confidential Information of the Disclosing Party as it would treat its own confidential information but in no event less than reasonable care to avoid disclosure of the Confidential Information to any third party (which, for the avoidance of doubt, includes any Foundation-supported Entities), person, firm or corporation that is not bound by confidentiality and restricted use obligations at least as strict as those set out herein or as otherwise expressly stated herein.

(c) Notwithstanding anything to the contrary in this Agreement, the Receiving Party shall have no obligation with respect to the Confidential Information received from a Disclosing Party to the extent such information is and which the Receiving Party is clearly able to demonstrate: (i) already known by the Receiving Party at the time of disclosure as evidenced by written documentation; (ii) publicly known, or subsequently becomes publicly known, without the wrongful act or breach of this Agreement by the Receiving Party; (iii) rightfully received by the Receiving Party from a third party having the lawful right to make such a disclosure, where said disclosure is rightfully made without any obligation of confidence to the Disclosing Party; (d) approved for release or disclosure by written authorization of the Disclosing Party; (e) independently developed by or for the employees or agents of the Receiving Party or its Affiliates without the use or knowledge of the Confidential Information provided by the Disclosing Party; or (f) required to be disclosed pursuant to any competent judicial or government request, requirement or order, provided that the Receiving Party so disclosing takes reasonable steps to provide the Disclosing Party with sufficient prior notice in order to allow the Disclosing Party to contest such request, requirement or order, and provided further that such Confidential Information is disclosed only subject to reasonably available restrictions on further disclosure and use, and otherwise remains subject to the obligations of confidentiality and restricted use set forth in this Agreement.

(d) Each Receiving Party shall be entitled to disclose the Disclosing Party's Confidential Information to its employees, board members as well as its agents and consultants who are bound by confidentiality and restricted use obligations no less strict than those set out herein.

(e) Subject to exemptions and limitations elsewhere in this Agreement, the obligations of confidentiality of Confidential Information shall remain in effect for a period of seven years from the date the Confidential Information is communicated to the Receiving Party; provided that this period is extended to [*****] with regard to any Confidential Information disclosed pursuant to the DARPA-agreements, which information the Company has identified as being subject to such longer confidentiality period pursuant to the DARPA agreements.

(f) For the avoidance of doubt, the Confidential Disclosure Agreement entered into by the Parties effective as of June 6, 2012 (the "**Initial Confidentiality Agreement**"), and Article 6 ("Confidentiality") of the Framework Agreement for Cooperation entered into between the Parties effective December 11, 2013 (the "**Framework Agreement**") are terminated as of the Effective Date. All Confidential Information (as defined in either the Initial Confidentiality Agreement or the Framework Agreement) that was disclosed by a Disclosing Party to a Receiving Party prior to the Effective Date, is deemed to be Confidential Information as defined in and for purposes of this Agreement and is subject to the protections and terms set forth herein for the term specified in this Agreement.

19. Specific Performance

The Company acknowledges and agrees that the Foundation would be damaged irreparably in the event any of the provisions of this Agreement are not performed in accordance with their specific terms or otherwise are breached or violated. Accordingly, the Company agrees that the Foundation will be entitled to seek an injunction or injunctions to prevent breaches or violations of the provisions of this Agreement and to enforce specifically this Agreement and the terms and provisions hereof in any action instituted in any court having jurisdiction over the Parties and the matter in addition to any other remedy to which it may be entitled, at law or in equity. The Company further agrees that, in the event of any action for specific performance in respect of such breach or violation, it will not assert the defense that a remedy at law would be adequate.

20. Authority

Each of the Company and the Foundation covenants, represents and warrants with respect to itself that it has all authority necessary to execute this Agreement and that, on execution, this Agreement will be fully binding and enforceable in accordance with its terms, and that no other consents or approvals of any other Person or third parties are required or necessary for this Agreement to be so binding.

21. Governing Law

This Agreement is made pursuant to, and shall be construed and enforced in accordance with, the laws of the State of New York, U.S.A. irrespective of the principal place of business, residence or domicile of the Parties hereto and without giving effect to otherwise applicable principles of conflicts of law that would give effect to the laws of another jurisdiction.

22. Expenses

Each of the Parties shall bear and pay for all of its own costs, fees and expenses (including legal, accounting and other professional or advisory fees and expenses) incurred or to be incurred by it, in each case, in negotiating and preparing this Agreement.

23. Dispute Resolution

The Parties will resolve any dispute, controversy or claim arising out of or relating to this Agreement, or the breach, termination or invalidity hereof ("**Dispute**") in accordance with this Section 23.

(a) [*****]

(b) [*****]

[*****]

(c) [*****]

(d) [*****]

24. Waiver

Failure or delay by either Party in exercising or enforcing any provision, right, or remedy under this Agreement, or waiver of any remedy hereunder, in whole or in part, shall not be deemed a waiver thereof, or prevent the subsequent exercise of that or any other rights or remedy.

25. Further Assurances

From time to time after the Effective Date, each Party shall execute, acknowledge and deliver to each other any further documents, assurances, and other matters, and will take any other action consistent with the terms and conditions of this Agreement, that may reasonably be requested by a Party and necessary or desirable to carry out the purpose of this Agreement.

26. Interpretation

The headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement. Whenever the words “include,” “includes” or “including” are used in this Agreement, they shall be deemed to be followed by the words “without limitation.”

27. Counterparts

This Agreement may be executed in one or more counterparts, including by signatures delivered by facsimile or pdfs, each of which shall be deemed an original, but all of which shall be deemed to be and constitute one and the same instrument.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Global Access Commitments Agreement to be executed by their duly authorized representatives as of the date first written above.

CUREVAC GMBH

By: /s/ Ingmar Hoerr
Name: Ingmar Hoerr
Title: CEO

BILL & MELINDA GATES FOUNDATION

By: /s/ Jim Bromley
Name: /s/ Jim Bromley
Title: CFO

Appendix 1

New Facility

Appendix 2

Access Countries

[*****]

Appendix 3

COGS Methodology

Appendix 4

Existing Agreements

Appendix 5

Form of Amendment to Option Agreement

Appendix 6

[OFFICER'S/DIRECTOR'S] CERTIFICATE

CUREVAC GMBH

[DATE]

This certificate is being delivered by CureVac GmbH is a private, for-profit company having its business address at Paul-Ehrlich-Str. 15, 72076 Tübingen (the "Company"), pursuant to Section 9(a) of the Global Access Commitments Agreement between the Company and the Bill & Melinda Gates Foundation dated as of [ ] (the "Agreement"). Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Agreement.

The Company certifies as follows:

1. During the fiscal year ended [DATE], the Company met the requirements of the Foundation Investment as set forth in the Agreement that were required to be complied with or performed by the Company during such time period.

2. Attached as Exhibit A to this certificate is a description of the Company's use of proceeds of the Foundation Investment during the fiscal year ended [DATE].

3. Attached as Exhibit B to this certificate is the Company's evaluation of the Company's development of the Platform Technology and use of the Platform Technology to advance drug and vaccine candidates in support of the Foundation's Charitable Purpose, and progress with respect to the New Facility and Projects, including information regarding progress against the Global Access Commitments (as set forth in the Investment Documents) during the fiscal year ended [DATE].

IN WITNESS WHEREOF, the undersigned has executed this certificate and has caused this certificate to be delivered on the date first above written.

CureVac GmbH

By: _____
Name:
Title:

Appendix 7

[OFFICER'S/DIRECTOR'S] CERTIFICATE

CUREVAC GMBH

[DATE]

This certificate is being delivered by CureVac GmbH is a private, for-profit company having its business address at Paul-Ehrlich-Str. 15, 72076 Tübingen (the "Company"), pursuant to Section 9(b) of the Global Access Commitments Agreement between the Company and the Bill & Melinda Gates Foundation dated as of [ ] (the "Agreement"). Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Agreement.

The Company certifies as follows:

1. During the term of the Foundation Investment, the Company met the requirements of the Foundation Investment as set forth in the Agreement that were required to be complied with or performed by the Company during such time period.

2. Attached as Exhibit A to this certificate is a description of the Company's use of proceeds of the Foundation Investment during the term of the Foundation Investment.

3. Attached as Exhibit B to this certificate is the Company's evaluation of the Company's development of the Platform Technology and use of the Platform Technology to advance drug and vaccine candidates in support of the Foundation's Charitable Purpose, and progress with respect to the New Facility and Projects, including information regarding progress against the Global Access Commitments (as set forth in the Investment Documents) during the term of the Foundation Investment.

IN WITNESS WHEREOF, the undersigned has executed this certificate and has caused this certificate to be delivered on the date first above written.

CureVac GmbH

By: _____
Name:
Title:

AMENDMENT NO. 2 TO THE
OPTION AGREEMENT

[*****]

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

Definitive Agreement and Project Collaboration Plan for
Assessment of RNA Vaccine Technology for Non-live Rotavirus Vaccines
in Pre-clinical Models

This Project Agreement (the "*Agreement*") is entered into by and between:

(a) Bill & Melinda Gates Foundation (the "*Foundation*"), an independent, privately-endowed charity; and

(b) CureVac GmbH ("*CUREVAC*"), a private, for-profit company having its business address at Paul-Ehrlich-Str. 15, 72076 Tübingen,

Each entity may be referred to individually as a "*Party*" and together as the "*Parties*".

This Agreement is effective as of May 15, 2014 (the "*Effective Date*") and will end on [*****] (the "*End Date*").

WHEREAS,

- CUREVAC and the Foundation have entered into a Framework Agreement for Cooperation having an effective date of December 11 2013 ("*Framework Agreement*");
- Under the Framework Agreement, CUREVAC and the Foundation agreed to cooperate to establish projects to pursue R&D of new candidate vaccines in the preclinical and, if appropriate, clinical phases up to and including [*****] clinical trials, acting at all times in accordance with all applicable laws, regulations and other legal standards;
- Article 2 of the Framework Agreement requires the Parties to establish a definitive binding agreement, which agreement will reflect the intent of the Framework Agreement including such terms and conditions as may be agreed in good faith between the Parties;
- Moreover, that Article 2 states that once the Parties agree to pursue a given project, they will agree in writing on a project plan ("*Project Collaboration Plan*"), including work to be undertaken, responsibilities, participation by other parties, timelines and milestones, project management, contributions in-kind and funding requirements;
- This Agreement embodies the definitive binding agreement referred to in Article 2 of the Framework Agreement and contains, in Appendix 1, a Project Collaboration Plan, also as referred to in that Article 2;
- The Parties contemplate that as and when the Parties agree to additional projects, such projects will be documented and agreed in written and signed agreements. Such agreements may take the form, as applicable and agreed by the Parties, of either (a) grant agreements, or (b) other agreements that to the extent appropriate and possible, retain the text of the body of this Agreement to the fullest extent consistent with the work to be undertaken and necessary changes to the Appendix1 to reflect the different work to be undertaken under such new projects.

1. Project Collaboration Plan

1.1 During the term of this Agreement, CUREVAC agrees to undertake activities as agreed in the Project Collaboration Plan contained in Appendix 1 (the "*Activities*"). CUREVAC will perform the Activities described in the Project Collaboration Plan in accordance with the terms of the Project Collaboration Plan and this Agreement. Unless Appendix 1 expressly provides otherwise, the terms in the body of this Agreement will prevail over any conflicting terms contained in Appendix 1.

1.2 The Foundation will pay CUREVAC in accordance with the terms of Appendix 1 and this Agreement. The Foundation will not be obligated to pay CUREVAC for work performed or expenses incurred prior to the Effective Date of this Agreement.

2. Independent Contractor and Work Authorization

2.1 In performing the Activities, CUREVAC will not represent itself as an employee or agent of the Foundation. CUREVAC has no authority to obligate the Foundation by contract or otherwise. CUREVAC is not entitled to receive any employee benefits of the Foundation. Neither Party may include the name or mark of the other Party in business cards, letterhead, or email signatures.

2.2 CUREVAC is fully responsible for securing work authorization, as required, for all jurisdictions in which CUREVAC performs the Activities. CUREVAC's failure to secure required work authorization may result in the Foundation's immediate termination of this Agreement, at the discretion of the Foundation.

2.3 When requested, CUREVAC will provide the Foundation with a copy of any required work authorization (*e.g.*, Form I-9 for U.S. work).

3. Taxes

3.1 The Foundation will withhold and remit applicable taxes due as a result of the Foundation providing funding for the Activities carried out by CUREVAC under this Agreement (*e.g.*, India Tax Deducted at Source and U.S. Internal Revenue Code §1441). CUREVAC is responsible for remitting all other taxes related to: (a) the performance of the Activities or retailing of goods (*e.g.*, business & occupation tax, employment-related taxes, sales tax, country-specific service tax, and country-specific VAT); and (b) CUREVAC's receipt of payments under this Agreement (*e.g.*, income tax). Upon request, CUREVAC will provide the Foundation documentation verifying the remittance of such taxes. The Foundation will not withhold any amounts for employment-related taxes, but in certain circumstances as required by applicable law, the Foundation may withhold income tax. If applicable, this withholding will be addressed in Appendix 1.

3.2 CUREVAC will provide the Foundation with the requisite tax documentation, as requested by the Foundation (*e.g.*, Form W-9, Form W-8BEN).

4. Subcontractors. CUREVAC will not use subcontractors ("*Subcontractor*") to perform any Activities without the Foundation's prior approval other than those Subcontractors specified in Appendix 1, to be updated according to the following process. Foundation shall not unreasonably withhold approval for CUREVAC' s use of Subcontractors, provided that CUREVAC provides the Foundation with the name and contact information for each Subcontractor prior to its engagement and permits the Foundation reasonable time so that it can conduct any required due diligence and conflict checks. Notwithstanding the forgoing, the Foundation reserves the right to reject any Subcontractor as a result of Foundation's due diligence or conflicts checks or due to a Subcontractor's inability or unwillingness to abide by the terms of this Agreement or any failure to comply with applicable laws, regulations or rules. CUREVAC will be responsible to the Foundation for all acts and omissions of CUREVAC's Subcontractors and their compliance with the terms of this Agreement. CUREVAC will pay all Subcontractor fees and expenses directly.

5. Security. To the extent CUREVAC is permitted physical or electronic access to the Foundation's facilities or systems, or is provided a Foundation email address, CUREVAC will comply with all Foundation security, facility, IT, and other applicable policies and procedures, as made available by the Foundation and updated from time to time, including but not limited to any policies on required background screening.

6. Confidentiality and Publicity

6.1 "*Confidential Information*" whether written, oral, or observed is defined as: (a) the terms and conditions of this Agreement and the Appendices; (b) Project Materials as defined in Section 7 of this Agreement; (c) information relating to the Foundation's strategy, finances, investments, grant agreements, contracts, existing or prospective grantees, non-publicized or prospective grants, co-chairs, property, guests, or internal events; and (d) any other information the Foundation or CUREVAC label or indicate should be treated as confidential and/or proprietary. For the purposes of this Agreement this Section 6 substitutes in its entirety Article 6 of the Framework Agreement on "Confidentiality" including, in particular, how Confidential Information is defined and treated in connection with performance of the Activities described in the Project Collaboration Plan.

6.2 Each Party will use Confidential Information disclosed by the other Party only to perform the Activities and, except as otherwise provided in this Agreement or the Appendices, a Party receiving Confidential Information from a disclosing Party will not disclose such Confidential Information of the disclosing Party to any third party without the disclosing Party's prior written consent. A receiving Party may disclose Confidential Information of a disclosing Party: (a) on a "need-to-know-basis" to its employees, board members, consultants, agents, representatives, trustees, officers and Subcontractors performing the Activities under this Agreement, provided the employees, board members, consultants, agents, representatives, trustees, officers and Subcontractors have agreed to comply with the requirements of this Section; and (b) to the extent required by law, regulation, or court order, provided that, in such event, the receiving Party provides the disclosing Party with as much advance notice as is feasible and permitted by law.

The obligations of this Section will survive for a period of [*****] following the expiration or termination of the Agreement.

6.3 The provisions of this Section will not apply to information or material that: (a) is generally available as part of the public domain prior to disclosure by or on behalf of a disclosing Party, or becomes so available through no fault of the receiving Party; (b) is developed independently by the receiving Party or is received by a receiving Party from a third party (with no breach of any duty owed by the third party to the disclosing Party) independent of performing the Activities, (c) is required to be disclosed under an applicable law, regulation or court order; or (d) is agreed in writing by the Party owning or controlling such information or materials.

6.4 Neither Party may use the other Party's name or marks for any promotional purpose or otherwise, nor will it refer to this Agreement or its Appendices or use the other Party's name or marks in any publicly available materials, including any news release or public announcement, without the other Party's prior written consent. Notwithstanding the foregoing the Parties agree that either Party may use the name or the mark of the other Party for stating the existing collaboration between the Parties based on this Agreement.

6.5 Each Party acknowledges that the other Party will have no adequate remedy at law if the Party breaches the terms of this Section. In such event, the non-breaching Party will have the right, in addition to any other available rights, to seek in any court of competent jurisdiction, injunctive or other relief to restrain any breach or threatened breach of this Section.

6.6 The Parties agree that each Party may, following the Effective Date, issue a press release describing this Agreement in general terms, provided that the content of any such press release shall first be approved by the other Party; such approval shall not be unreasonably be withheld or delayed.

6.7 As provided in Section 9.5, the provisions of this Section will remain in force after completion or termination of this Agreement and the Appendices.

7. Intellectual Property

7.1. For the purposes of this Section and the Agreement as a whole, the following definitions apply:

a. "*IPR*" means any patent, registered design, copyright, database right, design right, topography right, trade mark, service mark, application to register any of the aforementioned rights, trade secret, right in unpatented know-how, right of confidence and any other intellectual or industrial property right of any nature whatsoever (including in inventions) in any part of the world;
b. "*Background IPR*" means IPR owned by any of the Parties prior to the Effective Date or developed independently of the Activities under this Agreement used for the Activities and CUREVAC Background IPR shall be construed accordingly and is listed in Appendix 5;
c. "*Project IPR*" means IPR created in the course of the performance of the Activities.

7.2. All Background IPRs disclosed or used in the performance of the Activities by CUREVAC are and shall remain the exclusive property of CUREVAC (or where applicable the third party from whom CUREVAC derives the right to use such IPRs).

7.3. Appendix 1 to this Agreement includes a Global Access plan that describes the principles of Global Access undertaken by the Parties. To enable the appended Global Access plan to be fully enabled, CUREVAC shall promptly disclose to the Foundation all materials, processes, techniques, works of authorship, and data, ("*Project Materials*") and Project IPRs created by CUREVAC, either alone or jointly with others, as a direct result of performing the Activities. If Project Materials and/or Project IPRs (including inventions) are created by or under the direction of one of the Parties to this Agreement during the course of the Activities that Party shall promptly make a disclosure of such Project Materials and Project IPRs to the other Party and such disclosure shall, unless otherwise defined in this Agreement, be the Confidential Information of the disclosing Party.

7.4. Unless agreed by both CUREVAC and the Foundation to the contrary with any third party involved in the Activities, all Project Materials and Project IPRs created during performance of the Activities shall belong to CUREVAC.

7.5. Any and all decisions relating to the filing, prosecution and maintenance of patents that disclose and claim inventions that are Project IPRs, shall be at the discretion of CUREVAC. The Foundation shall, however, during the course of this Agreement have the right to review and provide comments on patent filing strategy - including whether Project IPR should be the subject of a patent application or should be dedicated to the public domain - and all draft patent applications. The Foundation may provide such comments either directly or through a representative of its choice and such comments shall be provided no later than [*****] after notification by CUREVAC and at its own expense. CUREVAC shall reasonably take into consideration all the Foundation's comments. All costs associated with the drafting, filing and prosecution of patent applications directed to Project IPRs shall be borne by CUREVAC, provided that CUREVAC shall be under no obligation to seek patent protection and/or maintain patents. If during this Agreement, CUREVAC determines not to continue to prosecute and/or maintain patent protection for Project IPR, CUREVAC shall inform the Foundation and allow the Foundation not less than [*****] to take over responsibility for the prosecution and maintenance of such applications and patents, in which case the responsibility, costs related to the assignment of the Project IPR as well as any future costs and rights relating to the relevant inventions and ownership thereof shall vest in the Foundation. In the event that the Foundation takes over the responsibility for such patent applications and patents, CUREVAC shall retain a non-exclusive, sublicensable, world-wide, perpetual, fully paid-up, royalty-free license for any and all purposes under Project IPRs disclosed and claimed therein.

8. Indemnification.

8.1 CUREVAC will indemnify, hold harmless, and defend the Foundation and its trustees, officers, employees, representatives and agents from and against any and all third party causes of action, claims, suits, legal proceedings, judgments, settlements, damages, penalties, losses, liabilities and costs (including reasonable attorneys' fees and costs) (each a "*Claim*") arising out of or caused by: (a) CUREVAC's breach of this Agreement; (b) CUREVAC's willful misconduct, or negligent act or omission, (c) CUREVAC's conduct of Activities; (d) CUREVAC's violation of any applicable laws or regulations, including failure to comply with any applicable taxing authority; (e) CUREVAC's infringement, misappropriation, or violation of the valid intellectual property rights of any third party; (f) any and all employment related claims whatsoever made in connection with the performance of Activities under this Agreement and the Appendix 1; and (g) personal injury or unemployment compensation Claims made by CUREVAC's employees or any Subcontractors, notwithstanding any protections CUREVAC might otherwise have under applicable workers' compensation or unemployment insurance law The Foundation may, at its own expense, employ separate counsel to monitor and participate in the defense of any Claim under this Section.

8.2 In any case of liability according to Section 8.1 and to any other provision of this Agreement CUREVAC will only be liable for willful conduct or gross negligence. Under no circumstances CUREVAC shall be liable for punitive, incidental, consequential or indirect damages.

9. Term and Termination

9.1 This Agreement will commence on the Effective Date and will remain in effect until terminated by either Party as provided in this Section.

9.2 Either Party may terminate the Agreement (a) upon [*****] prior written notice, with or without cause; (b) if a Party fails to cure a material breach of the Agreement within [*****] of written notice of such breach; (c) in the event that performance of the Activities infringes or otherwise violates the intellectual property rights of any third party; or (d) as otherwise mutually agreed by the Parties.

9.3 CUREVAC will be entitled to compensation (pursuant to the compensation terms stated in Appendix 1) for Activities performed or expenses incurred in compliance with this Agreement through the effective date of termination. However, CUREVAC must use commercially reasonable efforts to stop performing Activities or incurring expenses under this Agreement and its Appendix 1 as soon as possible after receiving notice of termination. Within [*****] of the effective date of termination, CUREVAC will provide a final invoice reflecting any and all un-billed compensation and expenses for Activities performed pursuant to the Appendix 1 through the effective date of termination. The Foundation's payment of CUREVAC's final invoice will represent satisfaction in full of any and all fees, expenses, and other obligations by the Foundation to CUREVAC with regard to the Activities performed pursuant to Appendix 1. CUREVAC will promptly refund to the Foundation any payment made to CUREVAC and not applicable to initiated activities as of the effective date of termination. The Foundation will incur no liability to CUREVAC or its subcontractors for damages of any kind resulting solely from terminating this Agreement in accordance with its terms.

9.4 Upon the expiration or early termination of this Agreement, if requested by the disclosing Party, the receiving Party will promptly return to the disclosing Party all Confidential Information of the disclosing Party and copies of Project Materials (final or in process) specifically requested by the disclosing Party provided however that such disclosed Confidential Information or Material belongs to the receiving Party and CUREVAC shall be entitled to retain the original Project Materials.

9.5 Sections 3, 4, 5, 6, 7, 8, 9, and 11-17 will survive the termination of this Agreement for any reason.

10. Insurance. CUREVAC will maintain (and upon request provide evidence of) insurance necessary to meet its liability obligations under this Agreement and the Appendix 1, provided that the amounts of coverage will be no less than that specified in the commercial general liability insurance held by CUREAVAC shortly before the Effective Date and as set out in Appendix 3; and (b) statutory workers' compensation in the amount required by law. CUREVAC will be solely responsible for the payment of all premiums and deductibles under any such policy and will notify the Foundation of any material change in the type or the amount of coverage provided under each policy.

11. Warranties. CUREVAC warrants that: (a) the Activities will be performed faithfully, diligently, to the best of its ability and in a professional and workmanlike manner; (b) the Activities will be performed in compliance with all applicable laws and regulations; (c) to the best of its knowledge, the Project Materials and Activities provided by CureVac will not infringe, misappropriate or violate the rights of any third party (CUREVAC notes that the disclosures in the attached Appendix 3 are or may be subject to third party disputes, such Appendix 3 might be amended from time to time); (d) it has full power and authority to enter into this Agreement, and by signing this Agreement, to bind CUREVAC and its affiliates, successors and assigns; and (e) that it has the right to perform the Activities in accordance with this Agreement.

Each Party warrants that: (a) it will perform its obligations under this Agreement in compliance with all applicable laws and regulations; (b) it has full power and authority to enter into this Agreement, and by signing this Agreement, to bind itself, and its successors and assigns; and (c) entering into this Agreement will not cause a breach of any of the its obligations towards any third party.

12. Anti-Corruption, Anti-Bribery and Terrorist Financing

12.1 Anti-Corruption and Anti-Bribery: In connection with this Agreement, CUREVAC will ensure that no payments, gifts or other items of value have been or will be offered, received, provided or authorized by or on behalf of CUREVAC to or from any individual in violation of the UK Bribery Act, the US Foreign Corrupt Practices Act or any similar anti-bribery legislation applicable to this Agreement, the Parties, or the jurisdiction in which the Activities are performed or business is transacted.

12.2 Terrorist Financing: CUREVAC will not transact business with, or provide material support or resources directly or indirectly to, or permit Foundation payments to be transferred directly or indirectly to any individual, corporation or other entity that the CUREVAC knows, or has reason to know, supports, advocates, facilitates, or participates in any terrorist activity (including without limitation to any individual or organization identified by the U.S. government as a Foreign Terrorist Organization, a Specially Designated Terrorist, or a Specially Designated Global Terrorist).

12.3 In addition to other remedies available under this Agreement, the Foundation may recover from CUREVAC the amount or value of any prohibited payment described in Section 12.1 or 12.2, as well as the amount of any loss resulting from termination of this Agreement under Section 9.2(b) for reason of any prohibited payment described in Section 12.1 or 12.2.

13. Affiliates. With the exception of Activities performed by a Subcontractor in accordance with Section 4, all Activities performed under this Agreement and Appendix 1 will be performed by CUREVAC or one of its affiliates. With respect to either Party, the term "affiliates" means any entity or entities that directly or indirectly control, are controlled by, or are under the same control as such Party, or any other entities that are formally part of CUREVAC's affiliate network. Each affiliate has the authority to perform Activities under this Agreement. CUREVAC and its affiliates will be governed in all respects by the terms of this Agreement and the Appendix 1.

14. Governing Law. This Agreement will be governed and construed in accordance with the laws of the State of Washington, excluding that body of law known as conflicts of law. Venue for all purposes under this Agreement will be in the state or federal courts located in Seattle, Washington, U.S.A. and each Party hereby submits to the jurisdiction of those courts.

15. Severability and Non-Waiver. If any provision of this Agreement is held to be invalid or unenforceable to any extent, this Agreement will continue in full force and effect and such provision will be amended to the least extent necessary to conform to applicable laws and to accomplish the Parties' intentions. No waiver of any provision of this Agreement will be effective unless it is in writing and signed by both Parties, and no such waiver will result in the waiver of any other provision of this Agreement. Failure of either Party at any time to enforce any of the provisions of this Agreement or Appendix 1 will not be construed as a waiver of such provisions or in any way affect the validity of this Agreement Appendix 1 or parts thereof.

16. Notices. Any notice under this Agreement (including Appendix 1) must be in writing and will be deemed delivered: (a) three days after being mailed by certified mail; (b) one day after delivery by one-day courier to the other Party at the address set forth above, or at such other address as may be notified in writing by the other Party from time to time; or (c) upon transmission by email or facsimile, if the receiving Party confirms receipt in writing.

17. Entire Agreement; Amendments; Assignment. This Agreement is the Parties' final, exclusive and complete understanding and agreement, and supersedes all prior and contemporaneous understandings and agreements relating to the subject matter of this Agreement. This Agreement may be amended only by a subsequent written instrument signed by both Parties other than the Framework Agreement.

Subject to the other terms of this Agreement, neither Party shall have the right to assign any of its rights or obligations under this Agreement without the prior written consent of the other Party, such written authorization not to be unreasonably withheld or delayed; provided, however, that the prior written authorization of the Foundation shall not be required for CUREVAC to assign any of its rights, or delegate the performance of any of its obligations hereunder to an affiliate or to a third party which acquires all or substantially all of the assets related to this Agreement. Any permitted assignment hereunder by either Party pursuant to this Section 17 shall not relieve such Party of any of its obligations under this Agreement. Subject to the foregoing, this Agreement will bind and benefit the successors and assigns of the Parties.

18. Counterparts; Original. This Agreement, including Appendix 1 or amendments, may be executed in counterparts which, when taken together, will constitute one Agreement. Copies of this Agreement will be equally binding as originals and faxed or scanned and emailed counterpart signatures will be sufficient to evidence execution, though the Foundation or CUREVAC may require the other Party to deliver original signed documents.

19. Headings. The headings of this Agreement are intended solely for convenience and will not be deemed to constitute part of this Agreement or to affect the construction or interpretation hereof.

20. Shipping & Handling. CUREVAC will comply with all laws, rules and regulations in interstate or foreign commerce regarding the use, exporting, shipping and handling and disposal of samples, materials, and/or biologics.

21. Management of the Project. CUREVAC acknowledges and agrees that the Foundation's activities in connection with this project, including its review of any study design, documents and plans and providing feedback and input, do not modify CUREVAC's obligation to obtain all applicable legal, regulatory and ethical approval for the activities being conducted. Any potential product CUREVAC is seeking to develop and all related activities are CUREVAC's responsibility, regardless of any input or feedback provided by the Foundation. Under this Agreement, at no point will CUREVAC use any of the Project Materials in humans or in clinical studies or trials.

22. Use of Animals in Research.

22.1 CUREVAC will be responsible for the humane care and treatment of animals under this Agreement and to adhere to the official guidelines for animal research applicable in the country and locality where the trial is being conducted. *CUREVAC may not commence* studies involving animals until all requisite approvals are in place and notification to that effect has been provided to the Foundation. For purposes of this provision, an "animal" is defined as any live, vertebrate animal used or intended for use in research, research training, experimentation, biological testing or for related purposes. In the case of multi-national collaborations, the standards of each country may be followed, as long as (a) differences do not interfere with the design and analysis of the Activities and (b) regulations in CUREVAC and the host country do not conflict with the management of the Activities.

22.2 CUREVAC agrees to take responsibility for compliance of all Subcontractors (if any) with the appropriate animal welfare laws, rules and regulations. CUREVAC must report annually as a part of its progress report that the activities are being conducted in accordance with applicable laws in each respective venue (e.g., U.S. *entities* must use the U.S. Public Health Service standards. Non-U.S. *entities* may cite national laws or the CIOMS International Guiding Principles for Biomedical Research Involving Animals (see www.cioms.ch/publications/guidelines frame guidelines.htm) if there is no relevant national standard.

23. Coverage for All Sites. CUREVAC agrees that for each venue in which any part of the Activities is conducted (either by CUREVAC or a Subcontractor) all legal and regulatory approvals for the activities being conducted will be obtained in advance of commencing the regulated activity. CUREVAC further specifically agrees that *it will not* enroll human subjects under this Agreement.

24. Regulated Research. The coverage requirements set forth in the preceding paragraph include but are not limited to regulations relating to: research involving human subjects; clinical trials, including management of data confidentiality; research involving animals; research using substances or organisms classified as Select Agents by the U.S. Government; use or release of genetically modified organisms; research use of recombinant DNA; and/or use of any organism, substance or material considered to be a biohazard, including adherence to all applicable standards for transport of specimens, both locally and internationally, as appropriate. As applicable, regulated activities and their documentation are to be conducted under the applicable international, national, and local standards. Documentation of research results should be consistent with regulations and the need to establish corroborated dates of invention and reduction to practice with respect to inventions where this is relevant.

25. Institutional Review Board (IRB) and Other Ethical Committee Approval. CUREVAC agrees to obtain the review and approval of all final protocols by the appropriate Institutional Animal Care and Use Committee (or equivalent competent institution) approval of studies involving animals, and Institutional Biosafety Committee for biohazards and recombinant DNA. CUREVAC agrees to provide prompt notice to the Foundation if the facts and circumstances change regarding the approval status of such committees for any final protocol(s).

The Parties agree to the terms of this Agreement.

CUREVAC

Signature	/s/ Dr. Ingmar Hoerr
Name	Dr. Ingmar Hoerr
Title	Chief Executive Office

Bill & Melinda Gates Foundation

Signature	/s/ Chris Wilson
Name	Chris Wilson
Title	Director, Discovery & Tran Sciences

APPENDIX 1

Project Collaboration Plan
for
Assessment of RNA Vaccine Technology for Non-live Rotavirus Vaccines
in Pre-clinical Models

(Including Budget and Global Access Plan)

[*****]

II. Budget and Payment

1. Over All Cost Estimates

Outcome	[*****]	[*****]	[*****]	**Total**
[*****]	[*****]	[*****]	[*****]	[*****]
[*****]	[*****]	[*****]	[*****]	[*****]
[*****]	[*****]	[*****]	[*****]	[*****]
[*****]	[*****]	[*****]	[*****]	[*****]
[*****]	[*****]	[*****]	[*****]	[*****]
TOTAL	[*****]	[*****]	[*****]	**$2,522,006**

a. The overall estimates of costs for the activities planned under this Agreement are as described in the budget previously provided covering both fees and expenses. The Parties agree to quarterly invoicing and payments based on an actual time and materials basis of both fees and expenses.

b. The Foundation and CUREVAC have agreed that the Foundation will fully fund the related costs and shall reimburse CUREVAC accordingly.

c. Any material change in scope of work from what is described in this Appendix will be evaluated as a potential amendment to this Agreement for its effect on time and budget estimates and then a joint decision will be made by the Parties as to whether to incorporate the Amendment and how to manage the associated expenses.

2. Reimbursement by Foundation and Invoicing by CUREVAC

   a. The Foundation will fully reimburse CUREVAC for the cost for reasonable third-party expenses included in the table above, previously approved by Foundation, that are actually incurred by CUREVAC in connection with the activities contemplated under this Agreement. With each invoice, CUREVAC will provide: (a) a detailed itemized listing of all expenses incurred under this Agreement; and (b) receipts for any individual expenses that exceed [*****]. CUREVAC may provide either an original or a copy of receipts. The receipt requirements do not apply to subcontractor fees and expenses.

   b. The Foundation will only reimburse expenses in accordance with Foundation ‘s Consultant Travel and Expense Reimbursement Policy (the “***Consultant Travel and Expense Reimbursement Policy”)*** located at http://www.gatesfoundation.org/Documents/expense.pdf, as may be updated from time to time. The Foundation will fully reimburse CUREVAC for travel (airfare, lodging, meals, and ground transportation).

   c. In incurring expenses that will be submitted to the Foundation for reimbursement, CUREVAC will have discretion and control over selection of providers, and such selection will be made independently of the Foundation, except as otherwise provided in the Consultant Travel and Expense Reimbursement Policy.

   d. CUREVAC will submit invoices to the Foundation for any amounts owing under this Agreement. Each invoice will contain enough detail of expenses incurred by CUREVAC to enable the Foundation to determine the accuracy of the amount(s) invoiced and include the contract number for this Agreement.

   e. CUREVAC will deliver each invoice to the Foundation within [*****] of the period during which the expenses were incurred by CUREVAC or upon the execution of this Agreement at the discretion of CUREVAC. Upon completion of activities under this Agreement, CUREVAC will identify the “final invoice” and will not invoice the Foundation any further amounts unless the Parties execute an amendment to this Agreement. The Foundation’s payment to CUREVAC of each properly-submitted invoice will be due [*****] after the Foundation receives that invoice.

   f. CUREVAC will maintain complete and accurate records to support all invoiced amounts, including but not limited to those factors that comprise or affect direct and subcontracted labor hours, labor rates, and expenses. Such records will be made available to the Foundation at a mutually agreed-upon location for the Foundation’s examination and audit once every 12 months during reasonable business hours, upon thirty (30) days’ advance written notice, from the Effective Date of this Agreement until eighteen (18) months after its expiration. CUREVAC will also provide reasonable assistance to interpret such records if requested by the Foundation.

   g. [*****].

III. Global Access Plan

1. CUREVAC and the Foundation agree that the overarching goal of the projects under the Framework Agreement and this Agreement is to improve the processes and technologies for the development, manufacture and delivery of CUREVAC vaccines and other products with the aim of making them more available and more accessible in terms of cost, quantity, and quality to people most in need in the Developing Countries. This is a critical aspect of the Global Access objective of the Foundation. A related aspect of Global Access is to ensure that information and data resulting from activities under the Framework Agreement are promptly and broadly disseminated without jeopardizing intellectual property protection to the. relevant scientific and educational communities, since the Foundation's and CUREVAC's support may result in incremental technological advancees, discoveries, data and information which could be critical to advancing the Foundation's charitable objectives.

2. The Foundation recognizes that intellectual property protection for the result of work connected with or arising from the Framework Agreement and related projects could be important to realizing these Global Access objectives in Developing Countries[1], whilst promoting sustainability of R&D and commercialization of CUREVAC's vaccines or technologies in emerging or developed economies. CUREVAC commits to manage Project IPR to best achieve these Global Access objectives in the Developing Countries, through the sub licensing thereof or the supply of CUREVAC's vaccines, adjuvants or other products (at CUREVAC's entire discretion).

3. In the event the success criteria for this Project have been met, the Parties will meet and determine, in good faith, whether to take the resulting vaccine candidate(s) forward.

4. In the event that CUREVAC elects not to participate in further development and trials of the resulting vaccine candidate(s) in accordance with the previous paragraph and the Foundation wishes to proceed, CUREVAC and the Foundation will enter into good faith negotiations to conclude an agreement whereby the Foundation and one or more of its partners or grantees reasonably agreed-to by CUREVAC will proceed with such development and trials. For the purpose of clarity, nothing in this Agreement obligates CUREVAC to participate in or proceed with such development and trials even if the success criteria for this Agreement have been met.

5. The negotiations contemplated in the previous paragraph will address any necessary licenses to Background and Project IPR as well as access and permissions to use data generated by CUREVAC under this Agreement for the purpose of enabling the Foundation and its partner(s) or grantee(s) to proceed with the development and trials.

[*****]

[1] "Developing Countries" means the countries that are eligible for GAVI support based on a Gross National Income (GNI) per capita below or equal to US$ 1,520. These countries are identified at http:///www._____ countries_eligible_for_support/.

REDACTED

Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

DATED: 15 February 2019

FRAMEWORK PARTNERING AGREEMENT

BETWEEN

COALITION FOR EPIDEMIC

PREPAREDNESS INNOVATIONS

AND

CUREVAC AG

Award Ref:

(Award Ref:)

CONTENTS

THIS AGREEMENT is made the 15th day of February 2019 (the "**Effective Date**"),

BETWEEN:

1. **COALITION FOR EPIDEMIC PREPAREDNESS INNOVATIONS**, a not-for-profit international association existing under Norwegian law with address at Marcus Thranesgate 2, PO Box 123 Torshov, N-0412 Oslo, Norway ("**CEPI**"); and

2. **CUREVAC AG**, a German corporation with address at Paul-Ehrlich-Strasse 15, 72076 Tübingen (the "**Partner**").

WHEREAS:

A. CEPI is a public-private not-for-profit coalition including civil and philanthropic organizations, established: (i) to finance, coordinate and support the development of new vaccine platform technologies and new vaccines to prevent and contain infectious disease epidemics; (ii) working with its partners and relevant government agencies to ensure that vaccines developed are provided on an equitable basis to all populations who need them; and (iii) to ensure adequate stockpiles and manufacturing capacity of vaccines and vaccine platforms developed for epidemic situations.

B. The Partner has applied to CEPI under call "CfP2: Platform Technologies to enable rapid vaccine development for epidemic prone infections" for funding to undertake a project entitled "Rapid Response mRNA Vaccine Platform for Epidemic Preparedness" led by [*****], of the Partner.

C. Partner is a biopharmaceutical company that is a pioneer and technology leader in messenger ribonucleic acid ("mRNA") based vaccination approaches. Partner Controls intellectual property rights regarding the development and manufacture of mRNA based products, including manufacturing know-how licensed from Tesla Grohmann Automation GmbH ("**TGA**"). The manufacturing know-how licensed from TGA is targeted at establishing an automated manufacturing platform. Partner is interested to make its intellectual property available to further develop under this Agreement, including the TGA know-how for an automated manufacturing platform for the manufacture of mRNA-based products (the Platform, as defined below).

D. This Agreement sets out the terms and conditions governing the performance of the project, funding of the project and how the results of the project will be used to further CEPI's mission.

IT IS AGREED as follows:

1. **DEFINITIONS AND INTERPRETATION**

1.1 In this Agreement the following words have the meaning given below or given to them in relevant Clauses of this Agreement:

1.1.1. "**Additional Work Package**" means a Work Package of work under the Project to be agreed between the Parties from time to time in addition to those agreed upon on the Effective Date, and funded by CEPI which may be related to Products;

1.1.2. "**Additional Work Package Statements**" means the statement of activities, timeline, Partner Contribution, Milestones, Milestone Dates, Additional Work Package budget and payment schedule for a particular Additional Work Package agreed between the Parties. The template for Work Package Statements is the same as that for Additional Work Package Statements and is attached at Schedule 1;

1.1.3. "**Affiliate**" means any corporation or other business entity controlled by, controlling or under common control with the relevant Party. "control", "controlled" and "controlling" for purposes of this definition shall mean: (i) direct or indirect beneficial ownership of fifty percent (50%) or more of the voting interest in an entity; or (ii) possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of that entity (whether through ownership of securities or other ownership interests, by contract or otherwise). Regarding the Partner, Affiliate shall not include Mr. Hopp and dievini Hopp BioTech holding GmbH & Co. KG and/or any other entity controlled by Mr. Hopp and/or dievini Hopp Bio Tech holding GmbH & Co. KG;

1.1.3. "**Affected Territory**" means the geographic area of any country where there is an Outbreak or that is at risk of an Outbreak taking into account epidemiological data, travel and migration patterns and the lack of availability of other products or product candidates;

1.1.4. "**Agreement**" means this agreement including any Schedules attached hereto and any Work Package Statements and Additional Work Package Statements;

1.1.5. "**Approved Regulatory Authority**" means the EU European Medicines Agency, the US Food and Drug Administration, SwissMedic, Japanese PMDA, Australian Therapeutic Goods Agency, South Korean Ministry of Drug Safety, Health Canada, the United Kingdom Medicines and Healthcare Products Regulatory Agency (MHRA) or Singapore Health Sciences Authority and, in each case, any successor authority and any other regulatory authority agreed to by the Parties as being an Approved Regulatory Authority;

1.1.6. "**Assessors**" as defined in Clause 9.3

1.1.7. "**Background Technology**" means the Technology in the Field Controlled by Partner on the Effective Date, excluding, however, the Technology that Partner has licensed from Acuitas Therapeutics, Inc. (subject only to the limited license set forth below), and only to the extent such Technology is required for:

(i) undertaking any Work Packages or Additional Work Packages;

(ii) the protection or exploitation of Project Technology;

(iii) Developing the Platform;

(iv) Manufacturing Products; and

(v) the Technology Transfer of the Platform to Trusted Manufacturer(s).

1.1.8. In accordance with and subject to the terms and conditions of this Agreement, included in the Background Technology will be a license from Acuitas Therapeutics, Inc. for the Project Vaccine, for a term of [*****] years after the Effective Date. Partner agrees to use its Reasonable Efforts to secure an extension of the [*****] years license on behalf of CEPI to cover use of this Background Technology for Project Vaccine in the Field for the term of this Agreement. The Background Technology is described in Schedule 3;

1.1.9. "**Business Day**" means a day on which banks are normally open for business and which is not a Saturday or Sunday, or a bank or public holiday in Norway, England and Wales or Germany;

1.1.10. "**CEPI Group**" means CEPI, including its offices in Norway, UK, India and the United States and its Affiliates;

1.1.11. "**CEPI Production Timeframe**" means CEPI's timeframe for the Development and Manufacture of the Project Vaccine for use in the Field in the Affected Territory:

(i) release of Project Vaccine for use in clinical trials and commencement of clinical trial(s) in humans within [*****] weeks of the identification of the antigen with Outbreak Potential;

(ii) demonstration of the achievement of clinical benefit (i.e. an immune response likely to result in clinical benefit in humans) within [*****] weeks of the administration of the first dose of the Project Vaccine in humans in the clinical trial(s); and

(iii) Manufacture, fill, finish, release and distribution in the Affected Territory of [*****] doses of Project Vaccine within [*****] weeks of demonstration of clinical benefit;

1.1.12. "**CEPI Policies**" means the CEPI policies and procedures in effect as of the date of this Agreement as listed below and attached hereto as Schedule 10, together with any amendments thereto and any new policies and procedures acceded to by the Parties pursuant to Clause 4.2:

(i) Animals in Research Policy;

(ii) Clinical Trials Policy;

(iii) Equitable Access Policy;

(iv) Shared Risks/Shared Benefits Policy;

(v) Management of Technology;

(vi) Scientific Integrity;

(vii) Anti-Corruption Policy;

(viii) International Sanctions Policy;

(ix) Policy for Managing Conflict of Interest;

(x) Procurement Policy and Procedures;

(xi) Transparency and Confidentiality Policy; and

(xii) Travel Policy.

For the avoidance of doubt, the terms and conditions of this Agreement shall have precedents over the CEPI Policies.

1.1.13. "**Commercial Benefits**" means any financial and non-financial benefits, rewards and/or results generated from or arising from the exploitation of the Project Technology in the Field, resulting in any way from the CEPI funding and/or Partner Contribution or to which CEPI funding or the Partner Contribution have contributed in any way whatsoever, including any government-paid incentives such as Priority Review Vouchers ("PRV") and other derivative or follow-on products (including antibodies and assays);

1.1.14. "**Commercial Use**" means the exploitation of the Project Technology in the Field;

1.1.15. "**Condition(s) Precedent**" as defined in Clause 12.1

1.1.16. "**Confidential Information**" means any and all non-public data, results, Know-How, software (including non-open source code), plans, details of research work, discoveries, inventions, intended publications, intended or pending patent applications, designs, technical information, business plans, budgets and strategies, business or financial information or other information in any medium and in any form, and any physical items, prototypes, compounds, samples, components, non-public Regulatory Filings, non-public submissions to Regulatory Authorities or other articles or Materials disclosed on or after the Effective Date of this Agreement by one Party to the other Party whether orally or in writing or in any other form;

1.1.17. "**Contractor Result**" means any tangible or intangible goods or services produced as a result of any work conducted by Sub-Contracting by a Partner pursuant to this Agreement and which is listed as a Contractor Result in the relevant Work Package Statement or is agreed to be a Contractor Result by the JMAG;

1.1.18. "**Control**" and "**Controlled**" shall mean with respect to the subject item, the possession (whether by ownership or license, other than pursuant to this Agreement) by a Party of the right to grant to the other Party access or a license as provided herein under such item or right without violating the terms of any agreement or other arrangement with any Third Party;

1.1.19. "**Cost of Goods**" means the formula for calculating the cost of goods set by Gates attached as Schedule 7 but excluding all CEPI funding for work included in the Work Packages or Additional Work Packages and other non-repayable public or philanthropic funding received by the Partner and used to Develop the Background Technology and the Project Technology and to Manufacture and market the Product for use in the Field in the Affected Territory;

1.1.20. "**Data**" means any and all scientific, technical or test data including Know-How, research data, clinical pharmacology data, immunogenicity data, CMC data (including analytical and quality control data and stability data), pre-clinical data, clinical data, information concerning clinical trials, pharmacoeconomic data and data in publications, Regulatory Filings, submissions to Regulatory Authorities, Platform Confirmations, marketing approvals and Master Files related thereto;

1.1.21. "**Defaulting Party**" as defined in Clause 19.2

1.1.22. "**Deliverables**" means those tangible and/or intangible works or services which are to be delivered in accordance with the respective Work Package Statement or Additional Work Package Statement;

1.1.23. "**Develop**" or "**Development**" means those development activities that are required (i) to perform the Work Packages or Additional Work Packages with respect to the Project Vaccine; and (ii) to obtain Platform Confirmation from at least one Approved Regulatory Authority. Development of the Project Vaccine may include stability testing, toxicology, formulation and process development, CMC development, manufacturing process validation, statistical analysis, pre-clinical and clinical studies, as further defined in the applicable Work Package or Additional Work Package; and "**Developing**" shall be construed accordingly. For the avoidance of doubt, where this Agreement refers to "development" in the lower case, the same kinds of activities are contemplated; however, such activities will not occur pursuant to a Work Package between the Parties;

1.1.24. "**Disclosure Letter**" means the letter from the Partner to CEPI attached hereto as Schedule 12, setting out disclosures known by the Partner against the Warranties;

1.1.25. "**Documents**" means reports, research notes, charts, graphs, comments, computations, analyses, recordings, photographs, paper, notebooks, books, files, ledgers, records, tapes, discs, diskettes, CD-ROMs, computer programs and documents thereof, computer information storage means, samples of material, other graphic or written data and any other media on which Know-How can be permanently stored;

1.1.26. "**Effective Date**" means the date of final execution of this Agreement;

1.1.27. "**Field**" means the diagnosis, prevention and treatment of infections caused by:

(i) the pathogens listed in the WHO R&D blueprint priority (December 2015 or January 2017) as updated from time to time (including: Arenaviral hemorrhagic fevers (including Lassa Fever), Crimean Congo Haemorrhagic Fever (CCHF), Filoviral diseases (including Ebola and Marburg), Middle East Respiratory Syndrome Coronavirus (MERS-CoV) (or other highly pathogenic coronaviral diseases, such as SARS), Nipah and related henipaviral diseases, Rift Valley Fever (RVF), Severe Fever with Thrombocytopenia Syndrome (SFTS) and Zika unless, at the time of CEPI's request to work with Partner, Partner is already committed to working with Gates based on a proposal according to the Global Access Commitments Agreement dated February 13, 2015;

(ii) Chikungunya;

(iii) Lassa Fever; and

(iv) novel or previously unrecognized pathogens likely to result in an Outbreak or risk of an Outbreak unless, at the time of CEPI's request to work with Partner, Partner is already committed to working with Gates based on a proposal according to the Global Access Commitments Agreement dated February 13, 2015 or unless products to treat such infections are already commercialized, commercialization has failed, or Partner has a commercial interest in such products. Such commercial interest of Partner is assumed for the following pathogens: [*****]. If CEPI is interested to develop a product with respect to such novel or previously unrecognized pathogen under this Agreement, it shall notify Partner hereof and Partner shall respond within [*****] business days as of the notification whether the product is within or outside the Field, and with respect to any such pathogen other than the ones listed above for which the commercial interest is assumed, Partner shall provide information on its commercial interest. With respect to pathogens which fall under this (iv), for which the Partner has previously declared commercial interest, and for which the commercial interest is not assumed, CEPI may after six (6) months as from Partner's providing the aforementioned information reasonably request from Partner a confirmation including appropriate information, that Partner's commercial interest continues and consequently such pathogen remains to be outside the Field.

1.1.28. "**Financial Documents**" means:

(i) the Financial Summary and Reporting Form; and

(ii) the most recent audited financial statement of the Partner, auditor's report for such financial statement and management letter to the auditors for such financial statement, and

(iii) where requested by CEPI pursuant to Clause 3.13, the most recent audited Project statements;

1.1.29. "**Financial Summary and Reporting Form**" means a report by the Partner to CEPI in the prescribed form (a template which is attached as Schedule 8) providing up-to-date details of actual and forecast costs for each current Work Package or Additional Work Package;

1.1.30. "**Gates**" means the Bill & Melinda Gates Foundation of P.O. Box 23350, Seattle WA 98102, USA;

1.1.31. "**Improvements**" means any improvement, modification, enhancement and update and includes all Technology related thereto;

1.1.32. "**Initial Project Term**" means [*****] years as from the Effective Date;

1.1.33. "**IPDP**" means the Integrated Product Development Plan setting out the studies and other activities to be performed in a Work Package or Additional Work Package, using the CEPI funding attached as Schedule 6;

1.1.34. "**JMAG**" has the meaning set forth in Clause 5.3;

1.1.35. "**Know-How**" means any technical and other information which is not in the public domain, including information comprising or relating to concepts, discoveries, data, designs, formulae, ideas, inventions, methods, models, assays, research plans, procedures, designs for experiments and tests and results of experimentation and testing (including results of research or development), processes (including manufacturing processes, specifications, and techniques), laboratory records, chemical, pharmacological, toxicological, clinical, analytical and quality control data, trial data, case report forms, data analyses, reports, manufacturing data or summaries and information contained in submissions to and information from ethical committees and Regulatory Authorities (including the Master File) and computer programs or algorithms including those relating to manufacturing and source code for manufacturing processes. Know-How includes Documents containing Know-How, including any rights such as trade secrets, copyright, database or design rights protecting such Know-How. The fact that an item is known to the public shall not be taken to preclude the possibility that a compilation including the item, or a development relating to the item, is not known to the public;

1.1.36. "**Manufacturing**" or "**Manufacture**" means subject to GMP, production on the Platform of Project Vaccine and Products or constituents thereof, including active ingredients, excipients, adjuvants, preservatives or other additives;

1.1.37. "**Master File**" means all drug master files relating to Product that may be filed with any Regulatory Authority;

1.1.38. "**Material**" means any chemical or biological substance including any: organic or inorganic element; nucleotide or nucleotide sequence including DNA and RNA sequences; gene; vector or construct including plasmids, phages or viruses; host organism including bacteria, fungi, algae, protozoan; hybridomas; eukaryotic or prokaryotic cell line or expression system or any development strain or product of that cell line or expression system; protein including any peptide or amino acid sequence, enzyme, antibody or protein conferring targeting properties and any fragment of a protein or a peptide enzyme or antibody; drug or pro-drug including bulk drug substance, filled product and any manufacturing intermediates; assay or reagent; any other genetic or biological material or micro-organism; transgenic animals, clinical samples and up to date pathogen samples;

1.1.39. "**Milestone"** has the meaning as set forth in Clause 3.6;

1.1.40. "**Milestone Criteria**" means the criteria described in the relevant Work Package Statement which the Parties target to achieve by agreed dates (the "**Milestone Dates**"). The Milestone Criteria and Milestone Date(s) for each Work Package/Additional Work Package are set out in the relevant Work Package Statement or Additional Work Package Statement;

1.1.41. "**Outbreak**" means:

(i) the occurrence in a community or region of cases of an illness with a frequency in excess of normal expectancy;

(ii) a public health emergency of international concern declared by WHO; and/or

(iii) a public health emergency on a national or regional scale declared by the relevant national or regional government;

1.1.42. "**Parties**" means the parties to this Agreement and "**Party**" shall be interpreted accordingly;

1.1.43. "**Partner Contribution**" means the financial and in-kind contributions to be made by the Partner to any Work Package/Additional Work Package as set out in Schedule 2 and individual Work Package Statements/Additional Work Package Statements, but excluding any of the Partner's sunk costs as of the Effective Date in the Platform and/or the Project Vaccines to be developed under the Project as of the Effective Date;

1.1.44. "**Partner Financial Records**" means accounting and other financial records relating to the CEPI funding, Partner Contribution and the activities funded by the foregoing, income and expenditure associated with the Project, the Platform, and the systems used by the Partner to administer the Project financially and otherwise;

1.1.45. "**Partner's Right of First Refusal**" shall have the meaning given to it in Clause 8.3.3;

1.1.46. "**Payment Schedule**" means the schedule setting out the proposed dates for payments of CEPI funding and/or payments or contributions comprising the Partner Contribution set out in the relevant Work Package Statement/Additional Work Package Statement;

1.1.47. "**Platform**" means the automation solution for Partner's processes of RNA manufacturing developed by Partner and Tesla Grohmann Automation Solution GmbH ("TGA") under the Development and Intellectual Property Agreement dated December 22, 2017, including the Know-How licensed from TGA thereunder;

1.1.48. "**Platform Confirmation**" means the approval of the Platform by Regulatory Authorities, taking into account that currently Regulatory Authorities do not in general have the legal power to grant marketing approval for vaccine production platforms, obtaining confirmation from Regulatory Authorities that applications for approval of clinical trials may rely on existing Data prepared in conjunction with the application for prior vaccines developed on the Platform;

1.1.49. "**Product**" means any form or dosage of pharmaceutical composition or preparation for use in humans which is intended to prevent, diagnose or treat diseases within the Field and in an Affected Territory, and which incorporates, comprises or relies on the Background Technology and/or the Project Technology, and/or is Manufactured on the Platform. Product may be a Project Vaccine. For the avoidance of doubt, a Product may be developed or Manufactured outside of the Affected Territory, but exclusively for marketing within the Affected Territory;

1.1.50. "**Project Lead**" means [*****] of the Partner;

1.1.51. "**Project**" means the activities set out in the Work Package Statements/Additional Work Package Statements;

1.1.52. "**Project Standards**" shall have the meaning given to it in Clause 4;

1.1.53. "**Project Technology**" means Technology that is created, devised or arises out of the undertaking and performance of any Work Package/Additional Work Package, the activities set out in the IPDP and any other activities undertaken and performed pursuant to this Agreement;

1.1.54. "**Project Term**" shall have the meaning set forth in Clause 19.1;

1.1.55. "**Project Vaccine**" means vaccines targeting Lassa, to be Developed and Manufactured, pursuant to this Agreement;

1.1.56. "**Public Health License**" has the meaning given to it at Clause 11.1;

1.1.57. "**Quarterly Report**" means a written report to CEPI in the form of the template in Schedule 9 outlining Work Package/Additional Work Package progress, key risks and risk mitigation strategies and up to date financial details relating to the Project;

1.1.58. "**Reasonable Efforts**" means:

(i) with respect to the Partner, in good faith making no less commercially reasonable effort and committing no less resources than those commonly used by the Partner or, if greater, a company of similar size and with similar resources to the Partner and its Affiliates in the vaccine industry when applied to platforms, compounds, vaccines and products at a similar stage of development, life cycle and healthcare potential to the Platform and Product being developed, taking into account (a) all relevant factors including issues of safety and efficacy, product profile, difficulty in Developing or Manufacturing, sourcing raw materials necessary therefor, regulatory approvals, the patent or other proprietary position of the Platform or Project Vaccine and the regulatory requirements involved; and (b) the Parties' joint aim of developing the Platform and Project Vaccine in a diligent and timely manner as indicated by the Milestones and Milestone Dates;

(ii) with respect to the CEPI Group, the use of reasonable efforts and resources, in good faith, in the exercise of prudent legal, medical, scientific judgement (as applicable) considering CEPI's mission and the healthcare potential of the applicable Platform and Product;

1.1.59. "**Regulatory Authority**" means any governmental authority whose review or approval is necessary or useful for the development and/or marketing activities of the Product in a given country in the Affected Territory including the Approved Regulatory Authorities;

1.1.60. "**Regulatory Filing**" means all approvals, licenses, registrations, variations applications, submissions and authorizations made to or received from a Regulatory Authority necessary for the development and/or marketing activities of Product including INDs, and the Master File relating to the Product;

1.1.61. "**RNA Optimizer Toolkit**" shall mean the methodology used and processes applied at Partner at the date of CEPI's request according to Clause 8.3.3 to provide optimized nucleotide sequences;

1.1.62. "**Safety Issues**" shall have the meaning given to it in Clause 7.11.6;

1.1.63. "**Stage Gate**" means a point of control where the Parties determine as to whether a Work Package/Additional Work Package has been completed or a Milestone Criterion has been achieved;

1.1.64. "**Stage Gate Criteria**" means the criteria described in the relevant agreed Work Package Statement/Additional Work Package Statement that CEPI requires to be satisfied, including the dates specified in the Work Package Statement/Additional Work Package Statement for satisfaction of the Stage Gate Criteria (the **"Stage Gate Dates"**) for CEPI to advance the Project;

1.1.65. "**Sub-Contract(s)**" contracts concluded between Partner and Sub-Contractor;

1.1.66. "**Sub-Contractor",** shall have the meaning set forth in Clause 10.1.1;

1.1.67. "**Team Charter**" means the Team Charter attached as Schedule 11, which includes, for example, the composition of the JMAG and the procedures on how the JMAG renders decisions;

1.1.68. "**Technology**" means any Know-How together with all intellectual property rights and similar or equivalent rights anywhere in the world which currently exist or are recognized in the future (whether or not registered) covering such Know-How; and applications, extension and renewals in respect of the foregoing including patent applications, patents resulting from any such applications, utility certificates, improvement patents and models, certificates of addition and all foreign counterparts in all countries, including any divisional applications and divisional patents, refiling, renewals, continuations, continuations-in-part, patents of addition, extensions (including patent term extensions), reissues, substitutions, confirmations, registrations, re-validations, pipeline and administrative protections and additions, supplementary protection certificates and equivalent protection, designs, trademarks and trade names, copyright and related rights, and database rights;

1.1.69. "**Technology Transfer Materials"** means the materials required to be made available to a Trusted Manufacturer to enable such Trusted Manufacture to (i) adapt, develop and use the Platform for the Manufacture of Products for use in the Field and in the Affected Territories (ii) develop, formulate, recreate and show equivalence (where relevant) to Products developed by Partner under an Additional Work Package. For the avoidance of doubt, Technology Transfer Materials do not include RNA Optimizer Toolkit technology.

1.1.70. "**Terminating Party**" as defined in Clause 19.2;

1.1.71. "**Termination Date**" shall have the meaning set forth in Clause 20.1;

1.1.72. "**Third Party**" means a legal entity other than a Party and a Party's Affiliates;

1.1.73. "**Transfer Agent**" as defined in Clause 9.3.

1.1.74. "**Trusted Manufacturer**" means a Third Party nominated by the Partner and appointed by CEPI, or nominated by CEPI and appointed by the Partner if so agreed in Additional Work Package Statements;

1.1.75. "**Underspend**" means any CEPI funding paid to the Partner for a given Work Package/Additional Work Package that is unspent (as reflected by the Partner's actual expenditure in the Partner's Financial Summary and Reporting Form) following completion of the work specified in a Work Package Statement/Additional Work Package Statement or at the date of termination of expiration of this Agreement;

1.1.76. "**Wellcome**" means The Wellcome Trust Limited as trustee of the Wellcome Trust of 215 Euston Road, London NW1 2BE;

1.1.77. "**Work Package**" means the activities to be done under the Project agreed between the Parties as of the Effective Date, including Work Packages 3 and 5 which need to be refined and agreed upon at a later stage, and any future activities agreed by the Parties to be described in an "Additional Work Package";

1.1.78. "**Work Package Budget**" means the maximum amount of funding to be provided by CEPI to the Partner for the relevant Work Package as set out in the Work Package Statement; and

1.1.79. "**Work Package Statement**" means the statement of activities, timeline, Partner Contribution, Milestones, Milestone Dates, Work Package Budget and Payment Schedule for a particular Work Package agreed between the Parties. The template for Work Package Statements is attached as Schedule 1 and the Work Package Statements for Work Packages 1, 2 and 4 are attached as Schedule 5 (with Work Packages 3 and 5 to be finalized and signed later).

1.2 Any phrase introduced by the terms "including", "include", "in particular" or any similar expression shall be construed as illustrative and shall not limit the sense of the words preceding those terms.

1.3 Any provision in this Agreement referring to "Project Vaccine" will apply respectively to any Product which the Parties will agree to develop under an Additional Work Package.

1.4 Where reference is made in this Agreement to any Party's prior written consent being required in respect of any matter, the respective other Party shall give not less than [*****] written notice to such Party of the matter for which such consent is required or a different period of time mutually agreed in writing by the Parties.

2. **PROJECT OBJECTIVES**

2.1 CEPI is entering into this Agreement to further CEPI's mission by developing a vaccine platform technology that can be available for use in outbreaks of infectious diseases with epidemic potential to enable rapid vaccine development, manufacture, scale up and clinical benefit at a cost of goods in line with the methodology to determine pricing obligations set out in the CEPI Equitable Access Policy and the Cost of Goods to address global health concerns.

2.2 Partner is supporting CEPI to fulfill its mission, while it is interested to advance the Platform for the manufacture of mRNA based products.

3. **PROJECT FUNDING**

3.1 **Project Funding.** CEPI agrees to contribute funding for the Project of up to a maximum amount of US $ 34,022,694 United States Dollars subject to the terms and conditions of this Agreement. The budget for the Project (excluding the Partner Contribution) as of the Effective Date is set out in Schedule 4.

3.2 **Payment Administration**. CEPI shall make all payments to the Partner in United States Dollars (USD ($)) unless otherwise agreed between the Parties by electronic wire transfer of immediately available funds directly to the Partner's bank account designated below:

Account Name: [*****]

Account No.: [*****]

Bank: [*****]

Sort code: [*****]

Swift code: [*****]

Branch: [*****]

Account Currency: USD

Partner shall ensure that the bank account designated above is a separate bank account with a bank with credit rating A, is in the name of the Partner, is described as a CEPI funding account and that the bank account does not go into debit during the Project Term.

3.3 **Work Packages.** The Project to be funded under this Agreement comprises a number of Work Packages. The Work Package Statements and Work Package Budgets agreed between the Parties for the Work Packages are set out in Schedule 5. The undertakings in those documents setting forth the undertakings hereunder (like to Develop, Manufacture and mmarket) shall prevail the undertakings set forth in general terms hereunder. This shall also apply to parameters set forth in those Work Packages that deal with or modify the CEPI Production Timeframe. As of the Effective Date, the Parties have agreed upon three (3) Work Packages which form an integral part of this Agreement, subject to the terms and conditions of this Agreement. [*****] further Work Packages [*****] will be finalized and signed between the Parties after the Effective Date subject to a successful Stage Gate Review.

3.4 **First Payment.** CEPI's practice is to make biannual funding payments in advance for the work planned to take place in the next [*****] period. CEPI will pay the [*****] tranche of CEPI funding for the Work Packages to the Partner within [*****] of the latter of receipt by CEPI of a payment request for the relevant amount or execution of this Agreement by the last of the Parties hereto.

3.5 **Subsequent payments.** Partner must request payment of subsequent tranches of CEPI funding by providing CEPI with:

3.5.1. a payment request for the relevant amount on or prior to the date set out in the relevant payment schedule;

3.5.2. Quarterly Reports for two calendar quarters immediately prior to the payment request; and

3.5.3. up to date, true, complete and accurate Financial Documents.

CEPI will pay subsequent tranches of CEPI funding for the relevant Work Package(s) within [*****] of receipt of the documents referred to above. CEPI may reschedule or adjust future payments of CEPI funding to address any Underspend that is not returned to CEPI and is carried over by notice in writing to the Partner.

3.6 **Milestones.** Each Work Package Statement sets out one or more milestones (each a "**Milestone**") for that Work Package together with Milestone Criteria and the Milestone Dates for the Milestone(s). When the Partner considers that a Milestone has been completed, the Partner shall promptly notify CEPI and as soon as reasonably practicable provide the JMAG with a report setting out evidence of the achievement of the Milestone Criteria by the relevant Milestone Date.

3.7 **Stage Gates**. On the completion of each Work Package, CEPI will conduct a review of Project progress ("Stage Gate Review") by convening a CEPI-selected "Stage Gate Committee." The Partner agrees to participate in the Stage Gate Review and to provide reasonably requested information and hold face-to-face meetings with the Stage Gate Committee and CEPI in a timely fashion to avoid disruption and delay between Work Packages. When the Partner considers that a Work Package has been completed, the Partner shall promptly notify CEPI and, as soon as reasonably practicable, provide CEPI with a report setting out evidence of the achievement of the Stage Gate Criteria by the relevant Stage Gate Date or, where any Stage Gate Criteria or Stage Gate Date have not been achieved, a detailed explanation with supporting evidence as to why this was the case. If the Stage Gate Committee has concerns in relation to the documents referred to above, CEPI shall provide reasonable details of the concerns to Partner and may request additional information. CEPI shall, as soon as reasonably practicable, notify the Partner whether CEPI is willing in principle to fund Work Package 4.3, Work Packages 3 and 5 or the next planned Additional Work Package(s) or declines to fund the next planned Additional Work Package(s). Where CEPI is willing to fund the next planned Additional Work Package(s), the Partner promptly shall provide CEPI with a draft Additional Work Package Statement(s) and the Parties shall agree and sign the Additional Work Package Statement(s) in good faith within [*****] to ensure smooth transition for activities to be pursued in any such Additional Work Packages.

3.8 **No obligation to fund.** CEPI is not obliged to make any payment of CEPI funding to the Partner under this Agreement where:

3.8.1. CEPI and/or the Partner have not agreed and/or signed the applicable Work Package Statement; and/or

3.8.2. the Partner has breached a material obligation set out in this Agreement that is incapable of remedy or has not been remedied within the applicable cure period;

3.9 **Use of CEPI funding.** Partner agrees to use CEPI funding and Partner Contribution in accordance with the Work Package Budgets for the purposes described in the relevant Work Package Statements unless otherwise agreed in writing by CEPI in advance.

3.10 **Amendment of Work Package Statements.** During the course of a given Work Package, circumstances may arise, which necessitate amendment of a Work Package Statement. The Partner shall notify CEPI promptly of the need for amendment of a Work Package Statement and provide suggested amendments and written justification for same to CEPI. The Parties agree to use reasonable endeavors to negotiate and agree in good faith necessary amendments within [*****] to ensure the continuity of the Project and the Work Package.

3.11 **Third Party funding or support for the Project.** The Partner may seek other funding or support (whether in kind or otherwise) for the Project or any Work Package, whether commercial or non-commercial but undertakes not to accept such funding without CEPI's prior written consent.

3.12 **Expenditure of CEPI funding**. The Partner shall ensure that the control of expenditure of the CEPI funding and the Partner Contribution are governed by the normal standards, procedures and formal audit arrangements that exist in the Partner. CEPI shall have the right to ask for confirmation from the Partner's external auditors that the external auditors have signed their opinion on the Partner's annual accounts of the Partner without qualification and the management letter from the auditors raises no matters that did or could significantly affect the administration of grants awarded by CEPI. If the auditors have raised any such matters in their management letter, CEPI may require the Partner to provide it with relevant extracts from the letter and/or other information.

3.13 **Project Audit**. On CEPI's reasonable request, and no more often than once every [*****] the Partner shall procure the Partner's external auditors to conduct a Project audit and to provide CEPI with audited Project statements (in accordance with ISA800) at CEPI's cost and expense.

3.14 **Terrorism**. Partner will use all Reasonable Efforts to ensure that no CEPI funding will be used to fund individuals or entities associated with terrorism.

3.15 **Partner Financial Records.** The Partner shall maintain and retain the Partner Financial Records for [*****] from the end of the financial year the records relate to.

3.16 **Audit by CEPI.** The Partner shall provide access to the Partner Financial Records to auditors and other personnel from or appointed by CEPI: (i) annually at a mutually agreeable time and location, (ii) on request from CEPI, where CEPI has reasonable grounds indicating that the Partner is in breach of a material obligation under this Agreement, has misapplied CEPI funding or misstated the Partner Contribution; and (iii) on request from CEPI where CEPI is subject to a financial review or audit required by law or by one or more of CEPI's funders. Such access shall include the right to reasonably inspect during regular business hours at times coordinated with the Partner any equipment or facilities acquired or funded under the CEPI funding or Partner Contribution. CEPI shall bear the cost of the audit unless the Partner is shown to have breached a material obligation of this Agreement, have misapplied CEPI funding or overstated the Partner Contribution. In these circumstances the Partner shall bear the reasonable costs of CEPI's auditors.

3.17 **Specific Project cost code**. The Partner shall maintain a separate accounting cost code specific to the Project, and all costs and income properly relating to the Project (including the Partner Contribution) shall be accounted for through that cost code. The Partner shall ensure that appropriate records are kept supporting the entries made on the cost code.

The provisions in this Clause 3 shall apply mutatis mutandis to Additional Work Packages and Additional Work Package Statements.

4. **PROJECT, STANDARDS AND RECORDS MANAGEMENT**

4.1 **Project Standards.** In performing its obligations under this Agreement, the Partner shall comply with all applicable laws and requirements (including those of Regulatory Authorities), the terms and conditions of this Agreement and the CEPI Policies (the "**Project Standards**"). The Partner is responsible for the management, monitoring and control of all work undertaken by or on behalf of the Partner under any Work Package and compliance with the Project Standards.

4.2 **New CEPI Policies and amendments to CEPI Policies.** CEPI shall give the Partner at least [*****] advance notice of the introduction of any new CEPI policy or amendment, update or withdrawal of a CEPI Policy together with a copy of the new or amended CEPI Policy. Where the new CEPI policy or update, amendment or withdrawal will, or is likely to have, a material impact on this Agreement, the Parties shall consult and agree in good faith how to proceed and CEPI shall consider in good faith any reasonable suggestions, comments or concerns raised by the Partner. Subject to agreement by the Partner, any updated or amended CEPI Policy shall replace the equivalent existing CEPI Policy and Schedule 10 shall be updated accordingly.

4.3 **Animals in Research**. Where any Work Package includes work involving animals, the Partner must ensure that such work complies with both the Wellcome policy on the use of animals in research and the principles set out in the document "Responsibility in the use of animals in bioscience research: Expectations of the major research council and charitable funding bodies" (http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTD040129.htm). If procedures regulated under the UK Animals (Scientific Procedures) Act 1986 are to be used in any Work Package, the research must comply with such Act (regardless of where the work is carried out), be approved by the local ethical review process and be conducted with due consideration for the principles of the 3Rs (replacement, reduction and refinement of the use of animals in research).

4.4 **Research involving human participants**. Where any Work Package includes work involving human subjects, the Partner must ensure that such work complies with requirements of Clause 9 and:

(i) The Wellcome Trust's Policy on Clinical Trials (https://wellcome.ac.uk/funding/guidance/wellcome-trust-policy-position-clinical-trials),

(ii) the Wellcome Trust's Policy on Research involving human participants (https://wellcome.ac.uk/funding/guidance/wellcome-trust-policy-position-research-involving-human-participants);

(iii) the Wellcome Trust's Policy on the use of personal information in research (https://wellcome.ac.uk/funding/guidance/policy-use-personal-information-research), and

(iv) the Wellcome Trust's guidance notes on research involving people in low- and middle- income countries (https://wellcome.ac.uk/funding/guidance/guidance-notes-research-involving-people-low-and-middle-income-countries).

4.5 **Project Records.** The Partner shall ensure that all staff and Sub-Contractors working on the Project keep full, detailed and accurate records of all of their activities and results obtained in connection with each Work Package of the Project; including scientific records of all research, development and other work carried out in respect of each Work Package of the Project and the results of such research, development and other work is performed in accordance with GLP, GCP and GMP as applicable and in a way which is appropriate for patenting and regulatory purposes.

4.6 **Access to records**. Upon CEPI's request, the Partner shall make available (and shall procure that its Sub-Contractors make available) to CEPI all records generated in connection with any Work Package of the Project (except for any records which at the time of the request should remain blinded to CEPI in the interests of the integrity of a clinical trial).

4.7 **Accuracy of data**. The Partner shall use Reasonable Effort to ensure that the Data it maintains and reports to CEPI and the JMAG, are complete, reliable, accurate and not misleading.

The provisions in this Clause 4 shall apply mutatis mutandis to Additional Work Packages and Additional Work Package Statements.

5. **PROJECT MANAGEMENT AND OVERSIGHT**

5.1 **Project Lead.** The Partner shall ensure that the Project is managed and operated in accordance with the Team Charter set out in Schedule 11 and shall ensure that the Project Lead has sufficient Project management support to ensure efficient co-ordination of each Work Package on a day-to-day basis.

5.2 **Project Lead replacement**. If the Project Lead ceases to be involved with the Project, ceases to be employed by or provide services to the Partner, ceases to carry out research at premises controlled by the Partner, is prevented from working on the Project through illness or injury for a period of over [*****] or dies, the Partner shall promptly notify CEPI and the Parties will agree on a suitable replacement Project Lead as soon as possible, such agreement not be unreasonably withheld, delayed or conditioned by CEPI.

5.3 **Joint Monitoring and Advisory Group**. The Parties shall establish and operate a joint monitoring and advisory group (the "**JMAG**") in accordance with the Team Charter.

5.4 **Project oversight.** CEPI may appoint a site visit group made up of a small team of independent experts together with some CEPI observers (including representatives of CEPI's funders) to consult with the Partner's staff working on the Project, to evaluate progress, performance and key issues and to report back to CEPI and the JMAG on its findings. The Stage Gate Committee (described above) also will be involved in Project oversight. The site visit group shall be bound by confidentiality obligations towards the Partner, no less strict than CEPI's confidentiality obligations towards the Partner. CEPI shall notify Partner in advance of any independent expert who is an employee or contractor of Third Parties who develop, manufacture and/or otherwise use competitive mRNA technologies. Partner shall have a right to object to the appointment of such independent expert if it has reasonable grounds to believe that such independent expert may get access to Confidential Information. Partner agrees that the site visit group shall have reasonable access during normal working hours and at mutually agreed times to visit the premises where any Work Package activities are being conducted. The site visit group will report back to CEPI on the progress, management and conduct of the then-current Work Package and Project. CEPI will share information from the site visit group with the JMAG.

The provisions in this Clause 5 shall apply mutatis mutandis to Additional Work Packages and Additional Work Package Statements.

6. **IPDP**

6.1 **Current IPDP.** Schedule 6 sets out the IPDP agreed between the Parties as of the Effective Date.

6.2 **Amendment of IPDP.** The Parties recognize that the IPDP will need to be amended and refined over time as more information becomes available. The Partner is responsible for keeping the IPDP up to date and amending, expanding, altering and refining the IPDP. Where CEPI funding or the Partner Contribution is used to fund specific Development activities as part of the Project, any amendment, expansion, alteration or refinement to the IPDP affecting the Work Packages must be agreed in writing by the JMAG and any corresponding amendments to any Work Package Statement must also be agreed in writing by the Parties.

The provisions in this Clause 6 shall apply mutatis mutandis to Additional Work Packages and Additional Work Package Statements.

7. **PARTNER OBLIGATIONS**

7.1 **Project.** The Partner agrees to use Reasonable Efforts during the Project to:

7.1.1. perform and complete the activities detailed in the Work Package Statements for each Work Package funded by the CEPI funding and/or the Partner Contribution in accordance with the agreed timeframe for such Work Package and within the agreed budget for such Work Package;

7.1.2. achieve the Milestone Criteria and Stage Gate Criteria for each Work Package by the applicable Milestone Dates and Stage Gate Dates; provided that if the performance of criteria under a Work Package Statement is delayed or otherwise not achieved, but likely to be achieved in due course, the Parties may agree for the Milestone Criteria and/or Stage Gate Criteria to be met, or the Milestone and/or Stage Gate Dates to be extended; and

7.1.3. complete the Project by [*****]

7.2 **Regulatory**. Subject to specific Work Packages, the Partner agrees to use Reasonable Efforts develop the regulatory strategy for the Platform for use in the Field and the Project Vaccine for use in the Field, in both cases in accordance with the relevant Work Package Statement for review and approval by JMAG. Such strategy shall include the strategy with respect to any data, market or other regulatory exclusivity periods that may be applicable in the Affected Territory or a territory which may be served by an Approved Regulatory Authority.

7.3 **IND or CTA.** Subject to specific Work Packages, the Partner agrees to use Reasonable Efforts to file for, obtain and maintain an IND or a CTA for Project Vaccine Developed by Partner for use in the Field in both a territory served by an Approved Regulatory Agency and the Affected Territory.

7.4 **Master Files for the Platform, and for the commercial use of Project Vaccine.** At the request and cost of CEPI pursuant to a specific request from a Regulatory Agency, the Partner agrees to provide copies of Master Files and existing Data for Products to Regulatory Authorities that request such information to support Regulatory Filings and submissions for the Platform and/or for Project Vaccines for use in the Field.

7.5 **Meetings with Regulatory Authorities.** The Partner shall invite a CEPI nominee to observe relevant interactions between the Partner and Regulatory Authorities relating to the Platform and Project Vaccines for use in the Field. At CEPI's reasonable request, the Partner will request a meeting with Regulatory Authorities to deal with any significant unresolved issues. The Parties acknowledge and agree that CEPI is bound by confidentiality obligations to the Partner pursuant to Clause 17 of this Agreement and that confidentiality concerns will not prevent the Partner and the Regulatory Authorities from having open and frank discussions in CEPI's presence.

7.6 **Trusted Manufacturers**. Subject to the undertakings to be defined in the Additional Work Packages and - upon Partner's request, subject to a separate confidentiality agreement to be concluded between the Partner and the Trusted Manufacturer - the Partner will support CEPI in appointing one or more Trusted Manufacturers that are technically and operationally capable of and willing to rapidly Manufacture Product for use in the Field in the Affected Territory on an ongoing basis both during and after completion of the Project, in accordance with CEPI's requirements, as set forth herein.

7.6.1. Subject to the undertakings in the Additional Work Packages the Partner shall:

(i) grant appointed Trusted Manufacturers all necessary rights to use (on a non-exclusive, royalty-free and license-fee free basis) the Background Technology and Project Technology to further Develop the Platform, and to Manufacture Products for use in the Field in the Affected Territory in accordance with the CEPI Production Timescale and in the quantities reasonably likely to be necessary in the event of an Outbreak or risk of Outbreak in the Field and at a cost of goods in line with the methodology to determine pricing obligations set out in the CEPI Equitable Access Policy;

(ii) provide the Technology Transfer Materials to the Trusted Manufacturers and ensure that such Technology Transfer Materials are kept up to date, in particular, at each date on which the Partner requests any payment from CEPI, on the occurrence of one or more Conditions Precedent and on termination or expiration (for whatever reason) of this Agreement;

(iii) at the request of CEPI, enable Trusted Manufacturers to establish a warm base for the further Development of the Platform, and Manufacturing of Products for use in the Field in the Affected Territory;

(iv) collaborate with public sector agencies to use the Platform to Manufacture Products for use in the Field in the Affected Territory in accordance with the CEPI Production Timeframe in the quantities reasonably likely to be necessary and at a cost of goods in line with the methodology to determine pricing obligations set out in the CEPI Equitable Access Policy, in particular before any Outbreak or when there is Risk of Outbreak; and

(v) provide all necessary commercially reasonable support to the Trusted Manufacturers to facilitate the foregoing.

7.7 **Partner nominees for Trusted Manufacturers.** Upon CEPI's request, Partner will use Reasonable Efforts to notify CEPI of suitable Trusted Manufacturers for appointment by CEPI.

7.8 **CEPI nominees for Trusted Manufacturers.**CEPI may nominate by notice in writing to Partner Third Parties as suggested Trusted Manufacturers. The Partner shall consider any Third Parties nominated by CEPI as potential Trusted Manufacturers in good faith. Where a Third Party nominated by CEPI is not acceptable to the Partner on reasonable grounds (including commercial grounds), the Partner shall notify CEPI promptly of its decision and the reasonable grounds and CEPI shall not appoint such Third Party as a Trusted Manufacturer.

7.9 **Additional Trusted Manufacturers.** Subject to specific Additional Work Packages, CEPI has the right during the Project Term to pursue the appointment of additional Trusted Manufacturers where such additional capacity is necessary or useful to:

7.9.1. develop and/or increase Manufacturing capacity for Products for use in the Field in the Affected Territory to satisfy demand or likely demand;

7.9.2. develop and provide warm base Manufacturing capacity for emergency planning and contingency planning;

7.9.3. Manufacture emergency stockpiles of Products for use in the Field in the Affected Territory.

Partner shall consider CEPI's requests for additional Trusted Manufacturers in good faith and shall within [*****] of receipt of such request notify CEPI in writing whether the Partner agrees or declines to support the appointment of additional Trusted Manufacturers by CEPI together with the grounds for its decision.

7.10 **Disputes as to Trusted Manufacturers.** In the event that the Parties are unable to reach agreement on the identity, number and/or necessary aggregate capacity of Trusted Manufacturers, the matter shall be resolved in accordance with the dispute resolution procedure set out in Clause 22.

7.11 **Partner reporting and compliance**: Subject to specific Work Packages,Partner shall provide the following reports, notifications and samples to CEPI:

7.11.1. **Financial reports**. The Partner shall make the reports required under Clause 3 in accordance with the terms thereof.

7.11.2. **Project Technology**. The Partner shall ensure that the Project Lead promptly notifies JMAG and CEPI in writing of all Project Technology, and if required by CEPI, provides any assay or animal model for testing by a neutral Third Party acceptable to both CEPI and the Partner. The Partner shall share all Data and results with CEPI and the JMAG in as close to real-time as possible.

7.11.3. **Patents**. Partner shall inform the JMAG about patent applications filed for Project Technology.

7.11.4. **Epidemiology**. Partner agrees to make data generated pursuant to clinical trials in the Field that are relevant to the epidemiology of any disease in the Field publicly available within [*****] of the generation of such data.

7.11.5. **Quarterly Reports**. Partner shall provide Quarterly Reports to CEPI within [*****] of the end of each Project quarter.

7.11.6. **Safety Issues**. The Partner shall notify CEPI and relevant JMAG members immediately by email (with receipt acknowledgement) as well as in writing in accordance with Clause 21.9:

(i) on receipt of any information that raises any material concerns regarding safety or efficacy of Product or the Platform;

(ii) where any data relating to a Product discloses a serious adverse event;

(iii) where a serious adverse event is suspected;

(iv) on the occurrence of a serious adverse event, serious adverse reaction, or any other material safety signal;

(v) of any Product recalls; and

(vi) of any recommendations from the data safety monitoring board for a clinical trial of a Product to end a clinical trial;

(together, the "**Safety Issues**").

7.11.7. **Pharmacovigilance**. The Partner shall notify CEPI promptly in writing of any relevant event under any pharmacovigilance activities;

7.11.8. **Insurance**. The Partner shall:

(i) provide CEPI with a copy of each insurance policy and certificate referred to in Clause 18.9 annually on renewal; and

(ii) notify CEPI of any claims made under the insurance policies referred to in Clause 18.9 during the Project Term and for at least the duration of any applicable statutory period of limitation afterwards.

7.11.9. **Equitable Access**. Subject to Work Packages, Partner shall provide the following to CEPI to the extent not already included in the reports and information provided by the Partner to CEPI:

(i) progress report on the scale-up of the Platform for Manufacturing and a good faith estimate of the cost of the scale-up where such scale-up is necessary;

(ii) progress report on the scale-up of Manufacturing of Project Vaccine for use in the Field to fulfill any requirements of an Approved Regulatory Authority for the grant of marketing approval for such Project Vaccine for use in the Field in the Affected Territory;

(iii) progress reports on submissions to Regulatory Authorities for a Platform Confirmation or plans to do the same;

(iv) a good faith estimate of the number of doses of each Project Vaccine for use in the Field the Partner and/or Trusted Manufacturers are capable of producing, using the Platform and dates by when Partner estimates such volume will be achieved;

(v) a good faith estimate of Cost of Goods of doses of each Project Vaccine for use in the Field for both the investigational stockpile and any additional doses; and

(vi) the documents and information any estimates are based on together with any information on any factors that may impact the cost of each Project Vaccine use in the Field.

7.11.10. **Partner Funder Requirements**. The Partner shall notify CEPI promptly of any commitments made by Partner to other funders, such as Gates, for example, that arise or otherwise become applicable after the Effective Date and may have an impact on CEPI's ability to utilize Project Technology in the event of an Outbreak or risk of an Outbreak and provide an informational copy of such commitments to CEPI.

7.11.11. **Publication of details of clinical trials under the Project**. The Partner shall publish details of any clinical trial under the Project on a publicly accessible clinical trials register as required under law and, as applicable, prior to the commencement of patient recruitment for such clinical trial, and shall provide to CEPI evidence of such publication within [*****] of the same.

7.11.12. **Publications**. The Partner shall ensure that the Project Lead furnishes CEPI with a copy of any proposed publication or presentation which relates to Project Technology at least [*****] in advance of the submission of such proposed publication or presentation to a journal, editor or publication.

7.11.13. **Open Access**. A copy of the final manuscript of all research publications, journal articles, scholarly monologues and book chapters that relate to any Work Package of the Project must be deposited into PubMed Central (or Europe PubMed Central) or otherwise made freely available upon acceptance for publication or immediately after the publisher's official date of final publication. All peer-reviewed published research funded, in whole or in part, by CEPI shall be published in accordance with the following requirements of Gates: https://www.gatesfoundation.org/How-We-Work/General-Information/Open-Access-Policy.

7.11.14. **Open Data**. The Partner shall publicly share Data and results (including negative results) arising from the CEPI funding as close to real time as possible in accordance with CEPI's Transparency Policy and customary research publication norms. The Partner shall share its Data through an easily discoverable public route (website or system) which includes a metadata description, where patient privacy is upheld, and the system follows a request-for-information approach (where requests are fulfilled subject to an independent review and approval step). If, according to a CEPI policy, Partner Know-How is to be published such shall only occur, provided such Partner Know-How does not contain any Background Technology of the Partner, or Improvements to Background Technology of the Partner, and provided the JMAG has made a decision on this beforehand, taking the Partner's reasonable concerns into account.

7.11.15. **Regulatory Filings**. Subject to specific Work Packages the Partner shall regularly update the JMAG on Regulatory Filings and submissions relating to the Platform and the Project Vaccine for use in the Field and put copies of the following on the JMAG electronic archiving service in a timely manner:

(i) all submissions to Regulatory Authorities and Regulatory Filings in respect of the Platform and Project Vaccine for use in the Field together with all Data included or referenced therein (other than ministerial submissions that do not involve safety or efficacy issues);

(ii) documents and information exchanged between any Regulatory Authority and the Partner relating to the Platform and/or Project Vaccine for use in the Field;

(iii) Master Files for Product Vaccines for use in the Field; and

(iv) the equivalent of a Master File in relation to the Platform.

The provisions in this Clause 7 shall apply mutatis mutandis to Additional Work Packages and Additional Work Package Statements.

8. **OUTBREAK AND RISK OF OUTBREAK IN THE FIELD**

8.1 **Notification of Outbreak or Outbreak risk.** CEPI shall notify Partner if there is an Outbreak in the Field or risk of an Outbreak in the Field.

8.2 **During or after the Project where Outbreak or risk of an Outbreak can be addressed by a Project Vaccine:** On receipt of such notice, subject to the respective Work Packages, the Work Package Statements and the Work Package Budgets the Partner agrees to make Reasonable Efforts to:

8.2.1. continue the Development, and Manufacturing the Project Vaccine for use in the Field in the Affected Territory in accordance with the existing or mutually agreed upon IPDP and Work Package Statements;

8.2.2. Manufacture the Project Vaccine for use in the Field in the Affected Territory in accordance with the CEPI Production Timeframe and in the quantities reasonably likely to be necessary and at a Cost of Goods in line with the methodology to determine pricing obligations set out in the CEPI Equitable Access Policy;

8.2.3. establish directly or to enter into an agreement with CEPI, a public sector agency or another Third Party, for the supply of Project Vaccine for use in the Affected Territory;

8.2.4. at the request of CEPI, agree in good faith with CEPI how the Development, and Manufacturing of the Project Vaccine can be accelerated and the amount of any additional funding necessary for such acceleration; and

8.2.5. make the Partner Contribution in accordance with the Work Package Statements.

8.3 **When an Outbreak or risk of an Outbreak Cannot be Addressed by a Project Vaccine:** During the Initial Project Term and for [*****] thereafter where an Outbreak or risk of Outbreak in the Field cannot be addressed by a Project Vaccine or other Product Developed subject to an Additional Work Package, CEPI may notify Partner of its interest to develop such other Product, and CEPI and Partner may agree that Partner either develops such Product, or utilizes the RNA Optimizer Toolkit to assist CEPI to develop a candidate vaccine against that pathogen in the Field and to produce a vaccine stockpile, in each case pursuant to an Additional Work Package to be negotiated in good faith and agreed upon.

8.3.1. If Partner declines to enter into such agreement to develop Product, and subject to Partner's obligations under Clause 8.3.2 below, then CEPI has the right to develop and stockpile such Products for potential use in the Field and to have such Product Manufactured by a Third Party in accordance with the Public Health License under Clause 11 below.

8.3.2. Upon CEPI's notice in accordance with this Clause 8.3.2, Partner agrees to use Reasonable Efforts to submit optimized antigen nucleotide sequences utilizing the RNA Optimizer Toolkit for up to [*****] specified pathogens (based on amino acid sequences of such antigens provided by CEPI) under Additional Work Packages within the Field and during the Initial Project Term and for [*****] thereafter in order for CEPI to start its own product development. Partner agrees to provide up to [*****] optimized antigen nucleotide sequences per specified pathogen. If Partner agrees to develop another Product, such Product shall count against such [*****] pathogens above. For the avoidance of doubt regarding the scope of these activities, the Parties shall prepare an Additional Work Package that clarifies the specifications of these activities. For clarity, Partner will not be required to undertake any further development activities with respect to a Product, and CEPI with other partners will solely be responsible to advance the candidate Product for emergency use authorization or other marketing approval, such as, for example, pre-clinical studies.

8.3.3 CEPI will give Partner a Partner Right of First Refusal to Manufacture a Product developed pursuant to the foregoing Clause 8.3.2 on the Platform, subject to an Additional Work Package to be negotiated between the Parties in good faith and agreed upon setting out the activities to be conducted, Milestone Criteria, Milestone Dates, Work Package Budget, CEPI funding and the Partner Contribution. If the Partner declines to carry out such activities:

(i) CEPI may exercise the Public Health License and the activities shall be carried out by Trusted Manufacturers; and

(ii) the Partner shall comply with the provisions of Clause 12.

If the Partner agrees to carry out the activities, but the Parties are unable to reach agreement by the deadline, or are unable to agree the Additional Work Package Statement within [*****] of CEPI's receipt of the Partner's written notice referred to above, the terms submitted by CEPI will apply.

9. **CLINICAL TRIALS.**

9.1 **Clinical trials under the Project.** Subject to specific Work Packages where any Work Package includes a clinical trial, the Partner must:

9.1.1. be the sponsor of the clinical trial (unless CEPI and the Partner otherwise agree in writing);

9.1.2. ensure that the clinical trial is conducted in accordance with GCP;

9.1.3. be responsible for obtaining and maintaining all Regulatory Approvals (including ethical committee approvals) necessary or reasonably useful for the conduct of the clinical trial and appropriate clinical trial insurance cover;

9.1.4. establish a trial steering committee (TSC) comprised solely of members who are independent of the Partner and who are not involved in the clinical trial. The TSC shall approve the clinical trial protocol and monitor the progress of the clinical trial, including any changes to the protocol;

9.1.5. notify CEPI in writing immediately of the occurrence of any Safety Issues;

9.1.6. obtain or have obtained from each subject in the clinical trial, prior to enrollment and in accordance with all applicable laws and regulations, and as a condition of that clinical trial subject's participation in the clinical trial, his or her informed consent to;

9.1.7. to the extent legally permitted, give direct access to his or her medical records;

9.1.8. to the extent legally permitted, process Data relating to him or her and to the movement of that Data to other countries, including countries outside of the European Economic Area; and

9.1.9. to the extent legally permitted, transfer such Data to the Partner, CEPI and/or Trusted Manufacturer(s) and the use of such Data in obtaining marketing approval and/or Platform Confirmation.

9.2 **Clinical trial data.** Subject to specific Work Packages with respect to each clinical trial under the Project:

9.2.1. the Partner shall procure that the Data is complete and include all completed case report forms and all other clinical trial documentation required to be in the possession of a clinical trial sponsor by Article 15(5) of Directive 2001/20/EC, Article 16 of Directive 2005/28/EC or other relevant applicable law;

9.2.2. a CEPI representative or nominee shall have the right (except for any matters which should remain blinded to CEPI in the interests of the integrity of the clinical trial) to:

- attend meetings of the TSC and the data safety monitoring board (DSMB) for the clinical trial as an observer;

- receive all papers that a member of the TSC or DSMB would be entitled to receive; and

- attend TSC or DSMB meetings by telephone or other electronic means rather than in person.

9.3 **Samples.** CEPI may engage one or more neutral external Third Party laboratories or Third Party collaborators ("Assessors") to perform additional testing (at CEPI's cost) on biological samples in order to provide CEPI with directly comparable evaluations of similar vaccines produced by CEPI's portfolio of vaccine platforms. In order to maintain appropriate blinding, CEPI may, in its sole discretion and at its own cost, also engage certain neutral Third Party entities to transport the samples from Partner to the Assessor as well as other services, for example, addressing import/export issues or documentation for biological samples (the "Transfer Agent"). The results of the testing, analysis, meta-analysis or other assessments will be subject to the confidentiality obligations under this Agreement. Upon request, CEPI will provide Partner with data or other assessments it receives from the Assessors regarding Partner's own Project Vaccines, Products and/or Platforms. To enable CEPI to conduct such testing to the extent available, Partner agrees to:

- provide CEPI's designated Assessor an agreed number of doses of the Project Vaccines, representative of the final drug product, for animal immunogenicity studies;

- provide CEPI's designated Assessor an agreed number of doses of the Project Vaccines, representative of the final drug product, for animal challenge studies;

- provide CEPI's designated Assessors (either directly or through the Transfer Agent) with agreed volumes of biological samples (e.g. serum, PBMCs) from human subjects vaccinated with the Project Vaccines in Phase 1 clinical trials at specified timepoints agreed with CEPI for immunology testing;

- provide CEPI's designated Assessors (either directly or through the Transfer Agent) with an agreed number of samples from clinical studies under the Project for use in future research carried out by or on behalf of CEPI in the Field;

- include language in the informed consent forms used in connection with the collection of the biological samples described herein, granting permission for such samples and any associated data (both duly anonymized) to be used for the purposes indicated in this Clause 9 and also that all such informed consent forms have been approved by any and all appropriate ethical committees or institutional review boards; and

- obtain informed consent from the human subjects vaccinated with the Project Vaccines in clinical trials that gives permission for the collection and use of such samples and associated data (duly anonymized and, upon CEPI's request, blinded) for the purposes indicated in this Clause 9, and also that all such informed consents satisfy the requirements of any and all appropriate ethical committees or institutional review boards.

Any samples to be transferred or exported by or on behalf of the Partner (either directly to the Assessor or via a Transfer Agent) from a clinical trial site or an Affected Territory must be transferred and/or exported pursuant to the terms and conditions of a suitable to-be-agreed-upon material transfer agreement (for example, the Draft WHO Blueprint MTA or similar) to be entered into between the Partner and the Assessor (and the Transfer Agent if appropriate) in addition to any other applicable laws and regulations. Partner undertakes to ensure that all requisite informed consent documentation allowing the provision, transportation, use and analysis of relevant samples have been obtained; furthermore, Partner will have obtained any and all ethical committee or institutional review board approvals necessary prior to its undertakings pursuant to this Clause 9.

9.4 **Data.** CEPI may engage one or more Assessors to perform certain assessments and/or meta-analyses of data (at CEPI's cost) to provide CEPI with directly comparable assessments of equivalent vaccines produced by CEPI's portfolio of vaccine platforms. The results of the data analysis or other assessments will be subject to the confidentiality and data protection obligations and the limitations of the Public Health License under this Agreement. Upon request, CEPI will provide the results of such data analysis as regards their own data to the Partner. To enable CEPI or its Assessors to conduct such analyses, subject to specific Work Packages, the Partner agrees to take Reasonable Efforts as follows:

9.4.1. to provide data or other information generated by Partner under this Agreement to CEPI's designated Assessor as CEPI shall request, including without limitation, data regarding CMC, formulation or the results of any of its pre-clinical or clinical trials (duly anonymized and, upon CEPI's request, blinded);

9.4.2. to provide CEPI's designated Assessor with other data (duly de-identified and, upon CEPI's request, blinded) from the Development as CEPI may reasonably request in order to conduct comparative assessments and meta-analyses thereof;

9.4.3. to include language in the informed consent forms used in connection with the use of data or the collection of samples from which such data is derived, granting permissions for such data (duly de-identified) to be used for the purposes indicated in this Clause 9,and also that all such informed consent forms have been approved by any and all appropriate ethical committees or institutional review boards; and

9.4.4. to obtain informed consent from the human subjects vaccinated with the Project Vaccines in clinical trials that gives permission for the use of data (duly de-identified and, at CEPI's request, blinded) and for the collection of samples from which data is derived (ensure that all requisite informed consent documentation allowing the provision, transportation, use and analysis of data by CEPI or its designated Assessors as indicated in this Clause 9; and also that all such informed consents satisfy the requirements of any and all appropriate ethical committees or institutional review boards.

The provisions in this Clause 9 shall apply mutatis mutandis to Additional Work Packages and Additional Work Package Statements.

10. **COLLABORATORS AND SUB-CONTRACTORS.**

10.1 **Contractors and Sub-Contractors.** Where the Partner wishes to use a Third Party collaborator or Sub-Contractor to conduct any specific part of the Project or a Work Package assigned to the Partner and to be delegated to such party (hereinafter the "Sub-Contractor"), it shall seek the consent of the JMAG which shall not be unreasonably withheld, conditioned or delayed, prior to entering into any agreement with such Sub-Contractor(s), unless (x) Partner has a standing contractual relationship with such Sub-Contractor, such Sub-Contractor is providing services for Partner also in the context of other projects; or (y) such Sub-Contractor is explicitly named, with full identification details provided, including registered address and, where relevant, company number, along with a clear explanation of the role such Sub-Contractor shall perform and what Contractor Results and Deliverables they shall produce in the Work Package Statement; and shall ensure that:

10.1.1. the Sub-Contractor grant rights to the Partner to use any Contractor Results and Deliverables generated by the Sub-Contractor;

10.1.2. a suitable written Sub-Contract agreement is put in place between the Partner and the Sub-Contractor. For the avoidance of doubt, CEPI must approve all Sub-Contractors that:
(i) will be allocated CEPI funds in an amount greater than USD $ [*****] per year to conduct any part of the Project;
(ii) will conduct a clinical trial; or
(iii) will have rights to Manufacture, distribute or otherwise commercialize a Product;

10.1.3. the agreement with the Sub-Contractor is consistent with both the Work Package approach to the Project and the Milestones, Milestone Criteria, Milestone Dates, Stage Gate Criteria and Stage Gate Dates for the applicable Work Package(s), and - with respect to agreements or work orders with Sub-Contractors, which are concluded specifically to perform the Work Packages, - the termination provisions are consistent with this Agreement so that such subcontracting agreement or work order automatically terminates or is capable of termination on termination of this Agreement or termination of any Work Package, and prohibits the Sub-Contractor from sub-contracting its obligations; and

10.1.4. the agreement with the Sub-Contractor complies with the provisions of this Agreement required to be imposed on Sub-Contractors or contains provisions that enable the Partner to comply with its obligations under this Agreement including this Clause 10, Clause 3 (Financial Records and audit requirements) Clause 4 (*Project Standards, Records and Management*), Clause 5 (*Project Management and Oversight*), and Clause 17 (*Confidentiality*).

10.2 **Partner Affiliates**. The Partner may perform its obligations under this Agreement through an Affiliate. The Partner shall be responsible for the acts and omissions of the Affiliate as if they were the Partner's own acts and omissions.

The provisions in this Clause 10 shall apply mutatis mutandis to Additional Work Packages and Additional Work Package Statements.

11. **PUBLIC HEALTH LICENSE**

11.1 The Partner hereby grants to CEPI with effect from the Effective Date, a non-exclusive, worldwide, royalty-free and license-fee free license (except in respect of the sharing of Commercial Benefits pursuant to Clause 13) under the Background Technology and Project Technology to:

11.1.1. develop the Platform for use in the Field via Trusted Manufacturers;

11.1.2. Manufacture and market Product for use in the Field in the Affected Territory via Trusted Manufacturers;

11.1.3. Develop the Project Vaccine;

11.1.4. compare and contrast the relative advantages and disadvantages of the Platform and alternative platforms for use in the Field; and

11.1.5. compare and contrast the relative advantages and disadvantages of Product for use in the Field in the Affected Territory against the advantages and disadvantages of alternative equivalent products for use in the Field in the Affected Territory;

(together, the "**Public Health License**"); provided however that CEPI may not exercise the rights granted under the Public Health License unless and until the occurrence of one or more Conditions Precedent.

11.2 **Covenant not to sue.** During the term of the Public Health License under this Clause 11, Partner shall not sue CEPI, or any Third Party which holds a permitted sublicense to the Background Technology from CEPI or a sublicensee of CEPI, for infringement of any Technology Controlled by the Partner, by developing Products in the Field and for the Affected Territory, even if such Technology is not part of the Background Technology.

11.3 **Third Party license fees.** To the extent the Public Health License triggers payments to Third Parties, including license fees and royalty payments, CEPI shall assume these payment obligations, and reimburse any payments made by Partner for such use.

11.4 **No implied licenses**. Except for the rights and licenses granted to CEPI, the Partner retains all rights under its Technology.

12. **CONDITIONS PRECEDENT AND EXERCISE OF THE PUBLIC HEALTH LICENSE**

12.1 **Exercise of Public Health License**. CEPI may exercise the Public Health License by notice in writing to the Partner on the occurrence of one or more of the events set out below (each a "**Condition Precedent**" and together the "**Conditions Precedent**"):

12.1.1. except where failure is due to reasonable scientific, safety or regulatory issues, the Partner:

(i) materially fails to Develop the Platform and/or the Project Vaccines in accordance with the Work Package Statements or Additional Work Package Statements as they relate to Products and/or the IPDP; or

(ii) fails to use Reasonable Efforts to satisfy any Milestone Criteria or Stage Gate Criteria by the relevant Milestone Date or Stage Gate Date; and in each case, fails to remedy the situation within [*****] of the receipt by Partner of notice from CEPI identifying the failure and requiring its remedy (or as otherwise as agreed in writing by the Parties);

12.1.2. CEPI terminates the Agreement in accordance with Clause 19.2 below.

12.1.3. in the event of an Outbreak or Outbreak risk:

(i) the Partner does not exercise the Partner Right of First Refusal or declines to enter into an agreement under Clause 8.3.1;

(ii) the Partner informs CEPI that it will not be able to Develop and Manufacture Project Vaccine in accordance with the CEPI Production Timeframe, in sufficient quantities and at an appropriate cost given the nature and health implications of the Outbreak or Outbreak risk;

(iii) the Partner's Development and Manufacture of Project Vaccine for use in the Field does not achieve the CEPI Production Timeframe, in appropriate quantities and/or at an appropriate cost given the nature and health implications of the Outbreak or Outbreak risk; or

(iv) CEPI, in good faith, based on actual non-performance or late performance has reason to assume that the Partner is unable or unwilling to Develop or Manufacture Project Vaccine for use in the Field in sufficient quantities in accordance with the CEPI Production Timeframe and at an appropriate cost given the nature and health implications of the Outbreak or Outbreak risk;

12.1.4. if by the date [*****] following successful completion of the Project the Cost of Goods for the Project Vaccines for use in the Field exceeds the level public service agencies agree is affordable based on objective economic criteria to be determined between the Parties for use in the Affected Territory;

12.1.5. if by the date [*****] following successful completion of the Project, the Cost of Goods for a specific Project Vaccine for use in the Field exceeds the level public service agencies agree is affordable based on objective economic criteria to be determined between the Parties for use in the Affected Territories;

12.1.6. where one or more Project Vaccine becomes subject to a pattern of serious adverse events (as defined in the ICH Guidelines) or either Party receives notice from a Regulatory Authority, independent review committee, a data safety monitoring board or another similar clinical trial or post-marketing body alleging significant concern regarding a patient safety issue, in each case in which CEPI, in good faith, reasonably believes would seriously impact the long-term viability of one or more of the Project Vaccines for use in the Field;

12.1.7. there are material Safety Issues and/or quality issues in relation to use of the Platform that will seriously impact the long-term viability of the Platform; and

12.1.8. on termination of the Agreement where the Partner is the Defaulting Party.

12.2 **Disputes relating to the occurrence of a Conditions Precedent.** In the event that the Parties dispute the occurrence one or more of the Conditions Precedents, the matter shall be resolved in accordance with the dispute resolution procedure set out at Clause 22 provided however that any arbitration decision shall be made within [*****] of the date of the reference to arbitration. Whilst the dispute is subject to arbitration, on the occurrence of an Outbreak in the Field and/or risk of an Outbreak in the Field, CEPI shall be entitled to exercise the Public Health License solely to have Developed Project Vaccines, and to have Manufactured and marketed Product via the Trusted Manufacturer for use in the Field in the Affected Territory to address the Outbreak or Outbreak risk. In such event, the Partner shall use all reasonable endeavors to give assistance to CEPI and/or the Trusted Manufacturer(s) including: (i) transferring to the Trusted Manufacturer(s) all Data, Materials, Confidential Information and Regulatory Filings (including the Master File) necessary or desirable for CEPI to conduct such Development of Products including Project Vaccines, Manufacturing and marketing; and (ii) executing any necessary documents.

12.3 **Effects of exercise of the Public Health License.** On exercise of the Public Health License, CEPI, after consultation with Partner, shall have the discretion to make any reasonable decisions in relation to the Development of the Platform for use in the Field, the Development of Products including Project Vaccine, Manufacturing and marketing of the Product for use in the Field in the Affected Territory by the Trusted Manufacturer(s). The Partner shall use all reasonable endeavors to give assistance to CEPI and/or the Trusted Manufacturer(s) in relation to such Manufacturing for use in the Field in the Affected Territory including executing any necessary documents.

12.4 **Rights of action.** Following exercise of the Public Health License, CEPI shall have the right to take all such action as it shall consider necessary or appropriate at its discretion and expense to bring or defend an action on behalf of the Partner in relation to Project Vaccine for use in the Field and use of the Platform in the Field. The Partner shall (at CEPI's cost) provide all reasonable assistance to CEPI as CEPI may request in relation to such action, including granting CEPI the right to bring an action in the name of the Partner (if necessary).

12.5 **Release of Technology Transfer Materials.** On the exercise of the Public Health License, the Partner shall release immediately the Technology Transfer Materials.

12.6 **Contracts.** Subject to applicable confidentiality obligations, the Partner shall provide CEPI with copies of all Sub-Contracts which relate to the Development of the Platform for use in the Field, the Development of Project Vaccine, and the Manufacturing of Product in the Field and access to which is required for the Third Party Manufacture within [*****] of exercise of the Public Health License. Provided that exercise of the Public Health License was not caused directly or indirectly by the Sub-Contractor and that Sub-Contractor is not then in breach, the Partner shall use all Reasonable Efforts, at CEPI's reasonable request, to facilitate the conclusion of a direct contractual relationship between the Sub-Contractor and CEPI or Trusted Manufacturer to the extent required for CEPI or its nominee.

12.7 **Clinical trials after exercise of Public Health License.** Where CEPI has exercised the Public Health License and a clinical trial of Project Vaccines/ Products for use in the Field is to be conducted, CEPI shall:

12.7.1. ensure that the clinical trial has an appropriate Sponsor;

12.7.2. comply with CEPI's insurance obligations pursuant to Clause 18.10 and ensure appropriate clinical trial liability insurance cover for the clinical trial is in place;

12.7.3. ensure that the clinical trial is conducted in accordance with GCP;

12.7.4. ensure that all Regulatory Approvals (including ethical committee approvals) necessary or reasonably useful for the conduct of the clinical trial are obtained;

12.7.5. ensure that a trial steering committee (TSC) is established which shall approve the clinical trial protocol and monitor the progress of the clinical trial, including any changes to the protocol. The TSC shall only include members who are independent of CEPI and who are not otherwise involved in the clinical trial;

12.7.6. communicate to Partner in writing immediately the occurrence of any Safety Issues; and

12.7.7. ensure that, to the extent possible, prior to enrolment and in accordance with all applicable laws and regulations, and as a condition of that clinical trial subject's participation in the clinical trial, each subject provides his or her informed consent -to the extent legally permitted - to:

(i) direct access to his or her medical records;

(ii) process Data relating to him or her and to the movement of that Data to other countries, including countries outside of the European Economic Area;

(iii) transfer of such Data to the Partner, CEPI and/or Trusted Manufacturer(s) and the use of such Data in obtaining marketing approval and/or Platform Confirmation; and

(iv) use of samples in accordance with Clause 9.3.

13. **COMMERCIAL BENEFITS ARISING FROM COMMERCIAL USE**

13.1 **Commercial Use**. In the event of any Commercial Use by Partner of Products, which are developed, Manufactured or commercialized by or on behalf of CEPI in the Field in an Affected Territory using Project Technology, the Partner shall:

13.1.1. notify CEPI promptly of such Commercial Use; and

13.1.2. comply with the CEPI Equitable Access Policy set out in the relevant CEPI Policy at Schedule 10 with respect to such Products, and subject to Section 13.2 below.

13.2 **Commercial Benefits sharing agreement.**The Parties shall agree in good faith how such Commercial Benefits (if any) are to be managed in a fair, equitable and proportionate manner, taking account the financial contribution of each of the Parties to the Background Technology and Project Technology being exploited, the public and philanthropic nature of the CEPI funding, any other non-repayable public or philanthropic financial contribution to the foregoing, the public benefit derived from the Commercial Use, and any private or ancillary benefit that may arise. The Parties shall execute a separate agreement implementing their good faith agreement on how such Commercial Benefits are to be managed in a fair, equitable and proportionate manner as of the Effective Date of this Agreement. For the avoidance of doubt, Commercial Benefits generated outside the Field and/or outside the scope of Clause 13.1 will not be shared between the Parties.

13.3 **Use of Product in Affected Territory Only.** CEPI intends to take Reasonable Efforts to ensure that the Products will be utilized in the Affected Territory only and to prevent parallel imports of such Products into other countries, which efforts may include CEPI or its contractor or licensee placing an indication on the packaging of the Products that they are for use in countries of the Affected Territory only and are not to be exported into any other countries. If either Party becomes aware that parallel imports of such Products outside the Affected Territory are occurring, the Parties will inform each other and will cooperate in good faith to verify the circumstances and take such reasonable action as they mutually agree is necessary.

14. **BACKGROUND TECHNOLOGY AND PROJECT TECHNOLOGY**

14.1 **Background Technology**. Partner shall have the right but not the obligation to prosecute, maintain and defend the patent rights which are part of the Background Technology.

14.2 **Ownership of Project Technology.** Except as expressly provided below and to the extent feasible and legally possible, all Project Technology shall be either the property of the Partner or be licensed from Third Parties, and any patents in respect of Project Technology shall be applied for in the name of the Partner. The Partner shall procure that:

14.2.1. any Affiliate, Third Party collaborator, Third Party funder, co-owner or Sub-Contractor of the Partner shall assign all its right, title and interest in Project Technology promptly to the Partner to the extent Controlled and shall retain rights in the same to the extent stipulated under the agreement between Partner and Sub-Contractor

14.2.2. it shall have in place contracts with those working on or funding all Work Packages of the Project to ensure that the Project Technology shall vest in the Partner and not with any members of staff individually. Where by local applicable law such rights do vest in individual members of staff, the Partner shall ensure that it has all rights to take assignment of all right title and interest in the same and the Partner shall bear the costs of any necessary contribution to such individual or other costs of assignment; and

14.2.3. where a Partner has appointed NIH or another government entity or university as a Third Party Sub-Contractor and such government entity is required by law or otherwise to retain ownership of Contractor Results they have generated in the conduct of activities described in a Work Package Statement ("**Government Results**"), the Partner shall ensure that the government entity provides Partner with sufficient rights and license (including via option to license where the government entity is unable to provide licenses in advance of generation) to any such Government Results in order to enable the Partner or CEPI to further Develop the Platform and Develop and Manufacture Project Vaccines and Manufacture Products in accordance with the terms and conditions of this Agreement.

14.3 **Patent protection and Project Technology.** The Partner has the rights but no obligation to take responsibility for seeking and maintaining protection for Project Technology at its sole cost, including the filing, prosecution, maintenance, extension and defense of any patent applications or patents in respect of Project Technology

14.4 **Infringement**. The Partner shall immediately give notice to CEPI if it becomes aware of:

14.4.1. any infringement or suspected infringement or misappropriation of the Background Technology and/or Project Technology; and

14.4.2. any claim by a Third Party that an action carried out under the Project infringes the intellectual property or other rights of any Third Party.

14.5 **Rights of Action.** Prior to the exercise of the Public Health License, the provisions of Clause 14.3 will apply and Partner will consult with CEPI about what action it should take. Where CEPI has exercised the Public Health License the provisions of Clause 12.3 shall apply.

14.6 **Platform Improvements and/or Product Improvements.** To the extent it is contractually able to do so, Partner shall ensure that it has the right to grant the Public Health License to CEPI in respect of future Platform Improvements and/or Improvements of the Product comprising Background Technology. To the extent that CEPI is contractually able to do so, CEPI hereby grants to Partner, and Partner hereby accepts, a non-exclusive, irrevocable, perpetual, worldwide license, sublicensable in multiple ties, to use the Improvements made by or on behalf of CEPI to the Product or to the Platform for any purposes inside and outside the Field. The undertakings herein shall be in force during the Project Term and for [*****] thereafter,

15. **PROJECT TECHNOLOGY – EXPLOITATION**

15.1 **Partner's Undertakings**. To the extent it is contractually able to do so, Partner shall obtain CEPI's prior written consent before exploiting, or allowing a Third Party to exploit any of the Project Technology within the Field, provided the exploitation is in conflict with or goes against CEPI's mission, the CEPI Policies or the provisions of this Clause.

15.2 **Right of Reference.** The Parties grant each other a right of reference to the regulatory materials relating to the Platform and the Product for use in their respective fields of use.

16. **ANNOUNCEMENTS AND PUBLICATIONS**

16.1 **Announcements**

16.1.1. Except for announcements required by law or any competent regulatory authority, the Parties shall consult on and agree in writing upon the form of all press releases, publications and public announcements concerning this Agreement, the Project and the CEPI funding.

16.1.2. The Partner must include an acknowledgement of CEPI funding in a form approved by CEPI in advance in all press releases, publications or public announcements relating to the Project and the Platform and/or Product.

16.1.3. In accordance with the CEPI policies, a summary of the progress and outcomes of the Project, the terms and conditions of this Agreement, the name of the Partner and the Project Lead, and the amount of the CEPI funding and Partner Contribution will be published or otherwise disseminated to the public in an appropriate form.

16.1.4. **Patent publications**. Following publication of any patent in respect of the Project Technology, the Partner shall have the right to publish and reproduce any such publication freely with due acknowledgement of the sources including, where appropriate, sources of funding and the individuals and communities from whom data has been collected.

17. **CONFIDENTIALITY**

17.1 **Confidentiality Obligations.** Subject to the provisions of this Clause 17, each Party undertakes that both during the Project Term and for a period of [*****] after its termination, it shall keep confidential and not disclose to any person any Confidential Information of the Party disclosed to or obtained by it in connection with this Agreement. Each Party shall take all reasonable security precautions in relation to the Confidential Information under its control. Where the Partner engages any Sub-Contractor, the Partner shall ensure that such Sub-CContractor is bound by confidentiality and non-use obligations which are at least as onerous as those set out in this Agreement. Each Party shall ensure that all staff and third parties to whom Confidential Information of the other Party is disclosed are:

17.1.1. informed of the provisions of Clause 17 of this Agreement; and

17.1.2. bound by confidentiality and non-use obligations at least as onerous as those herein.

17.2 **Exceptions**. Clause 17.1 shall not apply to:

17.2.1. information which is or was already known to the receiving Party at the time of disclosure under this Agreement, as shown by the receiving Party's written records, without any obligation to keep it confidential;

17.2.2. information which is independently developed by employees of the receiving Party who have not had access to the Confidential Information of the disclosing Party as evidenced by the receiving Party's written records;

17.2.3. information which at the time of being disclosed or obtained by the receiving Party under this Agreement or at any time thereafter, is published or otherwise generally available to the public other than due to default by the receiving Party of its obligations hereunder;

17.2.4. the disclosure of Confidential Information to a Party's Affiliates officers, employees, staff, consultants or professional advisors on a need-to-know basis and in the case of the Partner, to collaborators and contractors pursuant to Clause 17.1 who are bound by confidentiality and non-use obligations at least as onerous as those herein;

17.2.5. the disclosure of information by either Party to the JMAG, Stage Gate Committee or any site visit group is permitted but is subject to the confidentiality obligations under this Clause 17;

17.2.6. the disclosure of information which is required to be disclosed by a competent Court or regulatory authority or otherwise by applicable law (including any requirements for disclosure under the Freedom of Information Act 2000), provided that where it is free to do so, the receiving Party shall give notice of such disclosure to the disclosing Party as soon as reasonably practicable; and/or

17.2.7. the disclosure of Partner's Confidential Information by CEPI where such disclosure is expressly provided for in the terms of this Agreement (including where CEPI has exercised the Public Health License) and disclosure to any member of the CEPI Group and CEPI's funders including but not be limited to the Financial Documents and the records referred to in Clauses 3 and 4 above.

17.3 In recognition of CEPI's mission, nothing in this Clause 17 shall prevent CEPI from using the Confidential Information, or comparing the Confidential Information to information already in its possession, in each case solely to inform its assessment of applications made to it for funding in furtherance of CEPI's mission and other projects funded by it in furtherance of CEPI's mission.

18. **WARRANTIES, LIABILITY AND INSURANCE**

18.1 **Warranties**. On the Effective Date the Partner warrants to CEPI (subject to any matters disclosed in the Disclosure Letter that the warranties set out below (the "**Warranties**") are true and correct and that the Partner is in compliance with the Warranties:

18.1.1. it has the requisite authority to enter into this Agreement;

18.1.2. it has full power and authority to assume all of its obligations and commitments under this Agreement;

18.1.3. to its present knowledge and belief, it is the legal and beneficial owner and/or licensee of all right, title and interest in and to all Background Technology used in the Project at the time they are used;

18.1.4. save as disclosed in the Disclosure Letter, it does not, to its present knowledge, infringe, misappropriate or violate the intellectual property, privacy or publicity rights of any Third Party;

18.1.5. it has not granted any Third Party any right in respect of any Project Technology (other than in accordance with the terms of this Agreement), and has not charged or encumbered any of the same;

18.1.6. save as disclosed in the Disclosure Letter, to its present knowledge, the Background Technology and Project Technology are not subject to any claim, opposition, attack, assertion or other arrangements of whatever nature which may impugn upon the use, validity, enforceability or ownership of any such Technology, and there are no grounds or other circumstances which may give rise to the same;

18.1.7. save as disclosed in the Disclosure Letter, ownership of any equipment or Deliverables developed with CEPI funding, shall vest in the Partner;

18.1.8. it has not itself or through any of its staff, collaborators or Sub-Contractors, disclosed to any Third Party (other than under appropriate confidentiality obligations) any Confidential Information relating to the Project, nor is it obliged so to do;

18.1.9. to its present knowledge, other than under the Global Access Commitments Agreement with Gates dated February 13, 2015, no person has the right to call for the assignment of, grant of a license to it of or the right to any lien or encumbrance over any Background Technology or Project Technology under any option, grant or other agreement for use in the Field, nor is there any conditional or unconditional agreement or circumstance whereby such a right may arise;

18.1.10. to its present knowledge, no person has any right or claim to any payment or other compensation in respect of the use or exploitation of the Background Technology or Project Technology under this Agreement, except as set forth in pre-existing license agreements with Third Parties, reasonably redacted copies of which license agreements have been delivered to CEPI prior to the Effective Date or as set forth in license agreements under negotiation at the Effective Date that contemplate the execution of this Agreement, copies of the drafts of which have been delivered to CEPI prior to the Effective Date;

18.1.11. the Partner was the sponsor of all clinical trials from which Data was obtained;

18.1.12. the Partner will disclose to CEPI all relevant Safety Issues and adverse information in relation to the safety and efficacy of the Platform and Project Vaccine that come to its attention;

18.1.13. to its present knowledge the Partner has disclosed to CEPI all material communications with Regulatory Authorities, any ethical committee refusal to grant approval for a clinical trial, any suspension of a clinical trial, whether initiated by the sponsor, an ethical committee, a Regulatory Authority or an investigator, any action or recommendation of a data safety monitoring board to suspend the clinical trial, and all findings of any audit for a clinical trial for compliance with GCP relating to the Platform and Project Vaccine;

18.1.14. to its present knowledge none of the Partner, its Affiliates, Sub-Contractors, nor any officer or employee of the foregoing has been debarred or is subject to debarment by a Regulatory Authority anywhere;

18.1.15. to its present knowledge, all Financial Documents were true, complete and accurate at the date of such document; and

18.1.16. all CEPI funding has been deposited in the designated bank account in the currency of US dollars in the name of the Partner and into which only the CEPI funding and interest earned on that money has been deposited.

18.2 **No implied warranties.** Except as expressly provided in this Agreement, neither Party gives any warranties or makes any representations with respect to any of the Background Technology, the Project Technology, the Platform or any Products derived from them, or their fitness for any purpose.

18.3 **Obligation to inform.** The Partner will use Reasonable Efforts to inform CEPI of any matter which it becomes aware of during the Project Term and which would have been subject of a disclosure under the Disclosure Letter, if it had been known on the Effective Date.

18.4 **Liability cap**. Either Party's maximum liability in aggregate to the respective other Party arising out of this Agreement shall not exceed the aggregate of the Work Package Budgets for the Work Packages comprising the Project.

18.5 **Exclusions**. Except as provided by Clause 18.6, neither Party shall be liable to the other Party for indirect loss of profits, incidental or consequential damages, whether in contract, warranty, negligence, tort, strict liability or otherwise, arising out of any breach of or failure to perform any of the provisions of this Agreement.

18.6 **Exclusions from liability cap.** Nothing in this Agreement shall limit the liability of either Party for:

18.6.1. personal injury or death arising out of that Party's negligence or willful misconduct; or

18.6.2. fraud or fraudulent misrepresentation or willful misconduct.

18.7 **Third Party Claims.** The Partner agrees to indemnify CEPI and hold CEPI harmless from and against any and all claims, damages, and liabilities asserted by Third Parties (including claims for negligence) which arise directly or indirectly from a material breach of Partner or its grossly negligent conduct under this Agreement except to the extent such claims are in connection with the negligence or willful conduct by CEPI. And CEPI agrees to indemnify Partner and hold Partner harmless from and against any and all claims, damages, and liabilities asserted by Third Parties (including claims for negligence) which arise directly or indirectly from a material breach of CEPI or its grossly negligent conduct under this Agreement except to the extent such claims are in connection with the negligence or willful conduct by the Partner.

18.8 **Conduct of Third Party claims**. The Parties shall use reasonable endeavors to avoid, dispute, resist, appeal, compromise or defend any Third Party claims brought against it and to minimize its losses, claims, liabilities, costs, charges and expenses and give the other Party prompt written notice of any Third Party claim for which it requires indemnification under this Clause 18 together with copies of all relevant papers and official documents. The Parties shall agree how to respond to and handle the Third Party claim in an efficient manner. The Parties agree not to take any material action in respect of any Third Party claim without the consent of the other Party (such consent not to be unreasonably withheld, conditioned or delayed), including settlement of any such Third Party claim.

18.9 **Partner insurance obligations.** The Partner will obtain and continuously maintain the insurance on a claims arising basis with an insurance company of a credit rating of A or better as set out below and CEPI will bear such costs to the extent modifications of the insurance coverage are triggered by the collaboration hereunder:

18.9.1. **During the period covered by the IPDP**. clinical trials insurance as follows:

(i) the Partner (to the extent the Partner is the sponsor of a clinical trial of Project Vaccine) shall obtain and shall ensure that any Sub-Contractor that is the sponsor of a clinical trial shall obtain, clinical trial insurance on a claims arising basis of at least € [*****] per patient and € [*****] for all insured events from one study per claim including non-negligence cover, such insurance to be effective from the commencement date of the clinical trial until at least [*****] after the completion of the clinical trial or such longer period as is required by the relevant ethical committee or an applicable statutory period of limitation;

(ii) During the Project Term and for [*****] afterwards, general commercial liability insurance including contractual liability of at least € [*****] per insured event for personal injury and property damage;

(iii) The Partner shall comply with the terms of these insurance policies for the term and for at least the duration of any applicable statutory period of limitation afterwards;

(iv) The Parties acknowledge that as at the Effective Date the World Health Organization ("WHO") is considering an insurance mechanism which would provide insurance cover for the suppliers of investigational products for use in the case of a "Public Health Emergency of International Concern" declared by WHO. The Parties agree that when this mechanism is in place the Parties will discuss in good faith the impact of such arrangement on the Parties' obligations under this Agreement and how it will apply to the supply of Product in an Outbreak or Outbreak risk.

18.10 **CEPI insurance obligations.** On exercise of the Public Health License, CEPI will procure that:

18.10.1. equivalent insurance protection for the Partner to that specified at Clause 18.9 is in place in respect of the Development and Manufacturing of Project Vaccine for use in the Field in the Affected Territories conducted by or on behalf of CEPI;

18.10.2. procure that the insurer notes Partner's interest on each such insurance policy;

18.10.3. provide Partner with a copy of each such insurance policy and certificate and annually on renewal; notify Partner of any claims made under these policies relating to Project Vaccine for use in the Field in the Affected Territory for the Project Term and for at least the duration of any applicable statutory period of limitation afterwards; and

18.10.4. procure compliance with the terms of these insurance policies for the Project Term and for at least the duration of any applicable statutory period of limitation afterwards.

19. **TERM, TERMINATION AND EFFECTS OF TERMINATION**

19.1 **Term**. This Agreement shall commence on the Effective Date and, unless otherwise agreed between the Parties in a Work Package or Additional Work Package, shall continue in full force and effect for a term of three (3) years from the Effective Date and then expires or earlier if terminated pursuant to this Clause 19 (the "**Project Term**").

19.2 **Termination**. Either Party (the "**Terminating Party**") may terminate at any time by giving written notice of termination to other Party (the "**Defaulting Party**") where:

19.2.1. the Defaulting Party commits a breach of a material obligation set out in this Agreement which is not capable of remedy or, where capable of remedy, has not been remedied within [*****] of the receipt by it of a notice from the Terminating Party identifying the breach and requiring its remedy or as otherwise agreed in writing by the Parties; or

19.2.2. the Defaulting Party is unable or admits inability to pay its debts as they fall due, suspends making payments on any of its debts or, by reason of actual or anticipated financial difficulties commences negotiations with one or more of its creditors with a view to rescheduling any of its indebtedness, or has filed in any court or agency pursuant to any statute or regulation of any state or country, a petition in bankruptcy or insolvency or for reorganization or for an arrangement or for the appointment of a receiver or trustee of the Defaulting Party or of its assets, or if the Defaulting Party proposes a written agreement or composition or extension of its debts, or if the Defaulting Party is served with an involuntary petition against it, filed in any insolvency proceeding, and such petition is not dismissed within [*****] after the filing thereof, or if the Defaulting Party has proposed or is a party to any dissolution or liquidation (other than where the Defaulting Party is a creditor claiming repayment in such dissolution or liquidation), or if the Defaulting Party makes an assignment for the benefit of its creditors.

19.3 **Additional CEPI termination rights.** In addition to the termination rights above, CEPI shall be entitled to terminate this Agreement unilaterally with immediate effect by providing written notice to the Partner in the following circumstances:

19.3.1. the Partner takes any action incompatible with or which would have an adverse effect (or by omitting to take any action has or would have a similar adverse effect) on CEPI's mission or reputation or the Partner's ability to comply with its obligations under the Agreement including where the Partner is unable to achieve the next Milestone Criteria or Stage Gate Criteria by the relevant Milestone Date Stage Gate Date or by the expiry of any cure period agreed between the Parties in writing, or where the Partner fails to take corrective action within any period of time granted to the Partner by CEPI; or

19.3.2. the Parties are unable to agree a suitable replacement Project Lead within [*****] of the notification referred to in Clause 5.2;

19.3.3. the JMAG does not approve the IPDP or Marketing Activities Plan;

19.3.4. on a change of Control of the Partner without CEPI's prior written agreement, unless the Third Party in Control of the Partner: (i) has confirmed in writing to CEPI that it has sufficient capital, expertise and commitment, either itself or through the Partner, to carry on the Partner's business as a going concern and (ii) to meet the Partner's obligations under this Agreement to at least at the same level as the Partner prior to such change of Control; and

19.3.5. where there are material Safety Issues and/or quality issues in relation to one or more Project Vaccines or use of the Platform that will seriously impact the long-term viability of one or more of Project Vaccines or the Platform. In such circumstances, the Partner shall immediately cease using the Platform and cease Developing and Manufacturing a Project Vaccines directly or indirectly for use in the Field except to the extent required to identify the cause of the Safety Issue and immediately commence a Product recall.

19.4 **Dispute.** Where there is a dispute between the Parties in relation to this Clause, the matter shall be resolved in accordance with the dispute resolution procedure set out below, and the Parties shall comply with the provisions of this Agreement unless and until the dispute is settled.

20. **EFFECTS OF TERMINATION**

20.1 **CEPI's right to use the Background Technology and Project Technology, where the Partner is the Defaulting Party or where termination is pursuant to Clause 19.3.** With effect from the expiry of the Project Term ("**Termination Date**"), CEPI's licenses hereunder to the Background Technology and Project Technology in the Field and in the Affected Territories, as well as the Commercial Benefits sharing shall survive to:

20.1.1. Develop and use the Platform for use in the Field via Trusted Manufacturers; Manufacture Product for use in the Field via Trusted Manufacturers;

20.1.2. compare and contrast the relative advantages and disadvantages of the Platform and alternative platforms for use in the Field; and

20.1.3. compare and contrast the relative advantages and disadvantages of Project Vaccines for use in the Field against the advantages and disadvantages of alternative equivalent products for use in the Field.

20.2 **Provisions of Clause 8.** With effect from the Termination Date, the provisions of Clause 8 will cease to have effect.

20.3 **Partner supplies of Product.** The Partner shall have the right to exhaust supplies of Project Vaccines then in inventory in performance of its obligations under any agreement for supply with a public sector agency or if no such agreement exists at the Termination Date, immediately transfer ownership of the same to CEPI at no cost and inform any Third Party GMP storage facility of the same forthwith.

20.4 **Transfer of applications to and approvals from Regulatory Authorities.** The Partner shall use all reasonable endeavors to transfer to CEPI (or its nominee) promptly and at the Partner's cost, all submissions to Regulatory Authorities, Regulatory Filings, Platform Confirmations and Master Files related thereto.

20.5 **Materials.** To the extent not already provided, the Partner shall provide to CEPI (or its nominee) at the Partner's cost all Materials, Data, Documents and Know-how required to exercise CEPI's rights under this Clause within [*****] of CEPI requesting such Materials.

20.6 **Contracts.** Subject to applicable confidentiality obligations, the Partner shall provide CEPI with copies of all Sub-Contracts which relate to the Development of the Platform for use in the Field, the Development of Project Vaccine and the Manufacturing of Product in the Field and access to which is required for Third Party Manufacturers within [*****] of the Termination Date. Provided that the termination of this Agreement was not caused directly or indirectly by the Sub-Contractor and that Sub-Contractor is not then in breach, the Partner shall use all Reasonable Efforts, at CEPI's reasonable request, to facilitate the conclusion of a direct contractual relationship between the Sub-Contractor and CEPI or Trusted Manufacturer, to the extent required for CEPI or its nominee.

20.7 **Unspent CEPI funding.** Where termination occurs prior to the end of a Work Package and affects such Work Package, CEPI shall not be required to make any further payments of CEPI funding to the Partner under this Agreement or any Work Package Statement other than to reimburse the Partner for any non-cancellable expenses incurred in accordance with the Work Package Budget prior to the Termination Date and the Partner shall return any Work Package Budget received from CEPI under the Work Package Budget under this Agreement which is unspent at the date of termination (after deduction of costs incurred and non-cancellable commitments incurred prior to the date of termination) within [*****] after the date of the notice of termination.

20.8 **Repayment of CEPI funding by Partner.**

20.8.1. **Where termination is due to any material financial irregularity or as a consequence of fraudulent or illegal activity by the Partner**. Partner shall repay to CEPI (to the extent it is able to without triggering its insolvency, breach of another philanthropic donor's grant or contract with Partner) the amount of funds directly related to such financial irregularity or fraudulent or illegal activity within [*****] of the notice of termination. The Partner shall use its Reasonable Efforts to insert and enforce similar reimbursement provisions in its agreements with Sub-Contractors.

20.8.2. **Where termination is for failure to achieve one or more Milestones by the applicable Milestone Date and such failure constitutes a material breach by Partner** of its obligations under this Agreement, and that breach has not been remedied, Partner will return a sum equal to the CEPI funding that CEPI has paid to it for the then ongoing Work Package or Additional Work Package, as at the date of notice of termination (less the unspent funds, which are to be handled in accordance with Clause and also less funds which have been spent or reasonably committed to third parties) to CEPI within [*****] of the notice of termination.

20.9 **Use of Platform and Project Vaccines by Partner.** Consistent with other obligations in this Agreement, the Partner may at its discretion continue to use the Project Technology for any purpose.

20.10 **Effects of Termination where CEPI is the Defaulting Party.** Where termination occurs prior to the end of the Project Term, CEPI shall make all payments agreed to be made for any Work Package in regard to expenditures that have been commited by the Partner.

20.11 **Project Technology.** Subject to Clauses 13 and 20, the Partner may at its discretion use the Project Technology for any purpose.

20.12 **Survival of Clauses.**

20.12.1. Termination and expiry of this Agreement howsoever arising shall be without prejudice to the rights and duties of either Party accrued prior to termination. The Clauses in this Agreement which expressly or impliedly have effect after or notwithstanding termination (including Clauses 1, 3.12, 3.13, 3.15, 3.16, 4.6, 8 (except where Clause 20.2 applies), 11 to 17 inclusive, 18.4, 18.5, 18.6, 18.7, 18.8, 20 to *22* inclusive shall continue to be enforceable notwithstanding termination. Unless otherwise agreed, the Parties shall not enter into any further Work Package Statements after the date of termination.

20.12.2. If the Partner terminates this Agreement during or after the Project Term for cause, owing to a material and unrepaired breach by CEPI, the licenses granted under this Agreement shall terminate and the survival under this Clause 20.11 shall not apply.

20.13 **Clinical Trial Wind-down**. Where at the date of termination there is an on-going clinical trial, unless agreed otherwise by the Parties in writing, the Partner shall procure that no further trial subjects are entered into the clinical trial, and the JMAG and TSC shall work together to plan for the appropriate and ethical completion or wind-down of Development activities in an orderly fashion, with due regard for patient safety and the rights of any subjects that are participants in clinical trial and in consultation with any relevant ethical committee.

21. **GENERAL**

21.1 **Conflicts.** If there is any conflict between the provisions of:

21.1.1. the main body of this Agreement and the CEPI Policies, then the provisions of this Agreement shall prevail;

21.1.2. the main body of this Agreement and any Work Package Statement, then the provisions of the Work Package Statement shall prevail; and

21.1.3. any Work Package Statement and the CEPI Policies, then the provisions of the Work Package Statement shall prevail,

21.2 **Waiver**. Neither Party shall be deemed to have waived any of its rights or remedies under this Agreement unless the waiver is expressly made in writing and signed by a duly authorized representative of that Party. In particular, no delay or failure of either Party in exercising or enforcing any of its rights or remedies under this Agreement shall operate as a waiver of those rights or remedies nor shall any single or partial exercise or enforcement of any right or remedy by a Party preclude or impair any other exercise or enforcement of that right or remedy by that Party.

21.3 **Entire Agreement**. This Agreement, including its Schedules attached hereto, together with the Work Package Statements and the CEPI Policies constitutes the entire agreement and understanding between the Parties relating to the subject matter hereof and together they supersede and replace all prior drafts, previous understandings, arrangements, representations or agreements, whether in writing or oral, between the Parties relating to the subject matter of this Agreement. Each Work Package Statement shall be part of this Agreement and shall not form a separate contract to it.

21.4 **Variation**. No variation, amendment, modification or supplement to this Agreement shall be valid unless and until it is made in writing and signed by a duly authorized representative of each Party. Once a Work Package Statement has been signed by both Parties, no amendment shall be made to it except if the amendment is in writing, has been approved by the JMAG and has been signed by a duly authorized representative of each Party.

21.5 **Assignment**. Neither Party shall, without the prior written consent of the other Party assign, transfer, convey or declare a trust over this Agreement or make any other disposition (whether in whole or in part) of any of its rights and obligations hereunder to any Third Party, including by novation, except that CEPI may transfer its rights and obligations to Wellcome, Gates or an organization of equivalent charitable mission, if CEPI considers (in good faith) that CEPI will not be in a position to fulfil its obligations or exercise its rights in the future. Partner shall have a right to assign this Agreement to an Affiliate or a Third Party which acquires all or substantially all of the assets related to the collaboration under this Agreement. In the event that the Partner is considering any of the actions referred to above, Partner shall promptly notify CEPI and CEPI will have the right to conduct such due diligence as CEPI, in its sole discretion, deems appropriate prior to such action completing and prior to CEPI notifying the Partner of its decision.

21.6 **Severance of Terms**. If the whole or any part of this Agreement is or becomes or is declared illegal, invalid or unenforceable in any jurisdiction for any reason (including both by reason of the provisions of any legislation and also by reason of any court or competent authority which either has jurisdiction over this Agreement or has jurisdiction over either Party): in the case of the illegality, invalidity or un-enforceability of the whole of this Agreement it shall terminate only in relation to the jurisdiction in question; and in the case of the illegality, invalidity or un-enforceability of part of this Agreement that part shall be severed from this Agreement in the jurisdiction in question and that illegality, invalidity or un-enforceability shall not in any way whatsoever prejudice or affect the remaining parts of this Agreement, which shall continue in full force and effect. If in the reasonable opinion of any Party any severance under this Clause materially affects the commercial basis of this Agreement, the Parties shall discuss, in good faith, ways to eliminate the material effect.

21.7 **Costs**. Each Party shall bear its own legal costs, legal fees and other expenses incurred in the preparation, negotiation and execution of this Agreement and any Work Package Statements.

21.8 **Further Assurances**. Each Party shall perform such acts and execute such documents as may be reasonably required for securing to or vesting in the other Party the rights agreed to be granted to it under or pursuant to this Agreement.

21.9 **Notices**. Any notice to be given pursuant to this Agreement shall be in writing in the English language and shall be delivered by overnight courier, by registered, recorded delivery or certified mail (postage prepaid) to the address of the recipient Party set out below or such other address as a Party may from time to time designate by written notice to the other Party:

Address of the Partner:

Partner

CureVac AG

Paul-Ehrlich-Strasse 15

72076 Tübingen

Germany

For the attention of: CEO

With a copy to: Director Legal

CEPI

Gibbs Building, 215 Euston Road

Bloomsbury, London

NW1 2BE

United Kingdom

For the attention of: [*****] General Counsel

With a copy to: [*****] Director of Vaccine Development

Any notice given pursuant to this Clause shall be deemed to have been received on the day of receipt, provided receipt occurs on a Business Day of the recipient Party or otherwise on the next following Business Day of the recipient. The Parties agree that email and fax are not valid methods of giving notice under this Agreement except that notification of Safety Issues as required by Clause 7.6 should be communicated to the relevant JMAG Members by email (with receipt acknowledgement) in the interests of urgency as well as sent in writing in accordance with this Clause 21.9.

21.10 **Partnership**. Nothing in this Agreement shall be taken to constitute a partnership between the Parties. Except as specifically provided in this Agreement, neither Party shall by reason of this Agreement be empowered to act as agent for the other Party nor to pledge the credit of the other Party nor shall either Party be held liable for or incur liability in respect of the acts or defaults of the other Party to this Agreement.

21.11 **Counterparts**. This Agreement may be executed in any number of counterparts, including electronic counterparts, and by the Parties on separate counterparts, but shall not be effective until each Party has executed at least one counterpart. Each counterpart shall constitute an original of this Agreement, but all the counterparts shall together constitute one and the same instrument.

21.12 **Rights of Third Parties**. Except for Wellcome and Gates, a person who is not a Party has no right under the Contracts (Rights of Third Parties) Act 1999 to enforce or to enjoy the benefit of any term of this Agreement.

21.13 **Force Majeure.** Neither Party shall be deemed to have defaulted under or to be in breach of this Agreement for failure or delay in fulfilling material obligations when such failure or delay is directly caused by an event, including but not limited to war, acts of war, insurrections, acts of terrorism, acts of God (excluding the outbreak of disease) or acts, omissions or delays in acting or failure to act by any of CEPI's funders. Should any of the aforementioned occur, each Party shall inform the other in writing of such event, act, omission or delay and the Parties will discuss the situation, and acting in good faith, agree on the appropriate course of action under the circumstances. In the event of issues regarding CEPI funders, then those courses of action may include, without limitation, revised payment schedules or assignment pursuant to Clause 21.5 above.

22. DISPUTE RESOLUTION, GOVERNING LAW AND JURISDICTION

22.1 **Escalation process**. Any question, difference or dispute which may arise concerning the construction, meaning or effect of this Agreement, or concerning the rights or liabilities of the Parties hereunder, or any other matter arising out of or in connection with this Agreement shall first be submitted to the Chief Executive Officer of CEPI and the Chief Executive Officer of the Partner (the "**Senior Officers**") for resolution (each of whom may call on others to advise them as they see fit) unless this Agreement expressly provides otherwise. The Senior Officers shall discuss the matter in good faith and in a timely manner and endeavor to reach a mutually agreeable solution. If the Parties are unable to resolve such dispute through such negotiations within [*****] of such dispute being escalated to the Senior Officers, then in respect of any dispute, controversy or claim other than those that concern: the validity or infringement of Technology; anti-trust, anti-monopoly or competition law or regulation; and/or breach or threatened breach of Clauses 14, 15 and 17, the Parties irrevocably submit to arbitration in accordance with Clause 22.2. In respect of disputes relating to the validity or infringement of Technology; anti-trust, anti-monopoly or competition law or regulation; and/or breach or threatened breach of Clauses 14, 15 and 17, the Parties irrevocably submit to the exclusive jurisdiction of the Courts of England and Wales.

22.2 **Arbitration**. Any disputes to be resolved by binding arbitration shall be referred to and finally resolved by arbitration under the Rules of the London Court of International Arbitration, which Rules are deemed to be incorporated by reference into this Clause. The number of arbitrators shall be one in event of a dispute in connection with an Outbreak. Otherwise the number of arbitrators shall be three. The seat, or legal place, of arbitration shall be London, England. The language to be used in the arbitral proceedings shall be English.

22.3 **Governing Law**. This Agreement (and any dispute, controversy, proceedings or claim of whatever nature arising out of this Agreement or its formation) shall be governed by and construed in accordance with the laws of England and Wales, except for questions regarding the validity of patents, which shall be resolved in the courts having jurisdiction over the patents in question and in accordance with the laws applicable to such patents.

IN WITNESS whereof the Parties through their duly authorized representatives have executed this Agreement.

Signed for and on behalf of **CUREVAC AG** by its duly authorized signatories:

Signature: /s/ Janiez Menichezla

NAME: JANIEZ MENICHEZLA

TITLE: CEO

Date: 2/14/2019

Signature: /s/ Franz-Werner Haas

NAME: Franz-Werner Haas

TITLE: Chief Operating Officer

Date: February 14,2019

Signed for and on behalf of **COALITION FOR EPIDEMIC PREPAREDNESS INNOVATIONS** by its duly authorized signatory:

Signature:

NAME:

TITLE:

Date:

IN WITNESS whereof the Parties through their duly authorized representatives have executed this Agreement.

Signed for and on behalf of CUREVAC AG by its duly authorized signatory:

Signature:

NAME:

TITLE:

Date:

Signature:

NAME:

TITLE:

Date:

Signed for and on behalf of **COALITION FOR EPIDEMIC PREPAREDNESS INNOVATIONS** by its duly authorized signatory:

Signature:/s/ Richard Hatchett

NAME: RICHARD HATCHETT

TITLE: CEO

Date: 15 February 2019

SCHEDULE 1

TEMPLATE FOR WORK PACKAGE STATEMENTS

WORK PACKAGE STATEMENT
[Description of Work Package]

MADE ON (the "**Effective Date**")

BETWEEN:

1. **COALITION FOR EPIDEMIC PREPAREDNESS INNOVATIONS**, a not-for-profit international association existing under Norwegian law with address at Marcus Thranesgate 2, PO box 123 Torshov, N-0412 Oslo Norway ("**CEPI**"); and

2. XXXXXXXXXXX, a private company existing under XXXXX law with address at XXXXXXXXXXXXXXXXXXXXXXXX. ("XXXXXXX", or the "**Partner**").

INTRODUCTION

This document is a Work Package Statement pursuant to the Framework Partnering Agreement dated [ ] and entered into by the Parties (the "**Partnering Agreement**") and outlines the tasks and actions which take place during the execution of [*description of disease and work package]*.

NOW IT IS AGREED THAT:

1. Defined terms in this Work Package Statement shall have the meaning given to them in the Partnering Agreement unless otherwise stated.

2. The Partner shall:

    a. perform all activities set out in Schedule 1 and provide the Partner Contribution, if any, set out in Schedule 2 to deliver the Deliverables set out in Schedule 3, Part 1;

    b. use Reasonable Efforts to achieve the Milestones Criteria set out in Schedule 3, Part 2 by the applicable Milestone Date;

    c. ensure that all Contractor Results are produced on behalf of the Partner, as set out in Schedule 3, Part 3; and

    d. use Reasonable Efforts to achieve the Stage Gates set out in Schedule 4 by the applicable Stage Gate Date.

3. CEPI shall make payments to the Partner up to a maximum of the Work Package Budget set out in Schedule 5 in accordance with Clauses 3.7 – 3.12 of the Partnering Agreement.

4. The terms and provisions of the Partnering Agreement are incorporated by reference to this Work Package Statement and all rights and obligations arising under this Work Package Statement shall be governed by and construed in accordance with the terms of the Partnering Agreement.

IN WITNESS whereof the Parties through their duly authorised representatives have executed this Agreement.

Signed for and on behalf of **COALITION FOR EPIDEMIC PREPAREDNESS INNOVATIONS** by its duly authorised signatory:

Signature:

Name:

Title:

Date:

Signed for and on behalf of XXXXXXXXXXXX by its duly authorised signatory:

Signature:

Name:

Title:

Date:

SCHEDULE 2 – PARTNER CONTRIBUTION

[To be completed, or deliberately left blank]

SCHEDULE 3 – DELIVERABLES, MILESTONES & CONTRACTOR RESULTS

PART 1

DELIVERABLES LIST
The Deliverables for this work package are listed below:

Deliverable	Description	Date

PART 2

MILESTONE LIST
The specific Milestones for this work package are listed below:

Milestone Number	Milestone Criteria	Milestone Date

PART 3

CONTRACTOR RESULTS LIST

For each Contractor / Subcontractor please provide the following information:

Contractor / Subcontractor 1

Name of Contractor / Subcontractor:
Registered Address:
Location of Incorporation:
Company Number (where relevant):
Overview of the role they shall perform:

Contractor Result	Description	Date

Contractor / Subcontractor 2

Name of Contractor / Subcontractor:
Registered Address:
Location of Incorporation:
Company Number (where relevant):
Overview of the role they shall perform:

Contractor Result	Description	Date

SCHEDULE 4 – STAGE GATES

Stage Gate Criteria	Stage Gate Date

SCHEDULE 5 – WORK PACKAGE BUDGET

A summary of the Work Package Budget by cost category is set out below. A detailed budget is attached as Schedule 5.1 to this Work Package Statement.

WP [description]	Budgeted Total	Comments
Personnel		
Travel		
Consultants		
Equipment		
Other Direct Costs		
Sub-awards		
Total Direct Cost		
Indirect Cost Rate on Primary awardee's Portion		
Primary awardee's Indirect Cost Rate on Sub-award Portion		
WP [description] Total Budget		

SCHEDULE 6 – PAYMENT SCHEDULE

Quarterly Report - due each project quarter within 20 Business Days of the periods ending:	**Financial Summary & Reporting Form - due each project quarter within 20 Business Days of the periods ending:**	**Payment requests - due every 6 months with the Financial Summary & Reporting Forms for the periods ending:**
31 March	31 March	30 June
30 June	30 June	31 December
30 September	30 September	
31 December	31 December	

SCHEDULE 2

PARTNER CONTRIBUTION

[*****]

SCHEDULE 3

BACKGROUND TECHNOLOGY

[*****]

SCHEDULE 4

CEPI FUNDING AND PROJECT BUDGET

[*****]

SCHEDULE 5

WORK PACKAGE STATEMENTS

[*****]

Schedule 5

Work Package Statements
[*****]

Appendix F

[*****]

Schedule 6

IPDP
[*****]

SCHEDULE 7

COST OF GOODS SOLD FORMULA

[*****]

SCHEDULE 8

TEMPLATE FINANCIAL SUMMARY AND REPORTING FORM

This file consists of seven worksheets (in addition to this one):

1. **Cover Letter, Quarterly** should be completed, signed by an authorised representative for the awardee, and submitted to CEPI (in pdf) together with the quarterly financial report.

2. **Financial Summary**. In order to follow the disbursement cycles, the columns are divided into biannual groups (two quarters), and the rows are grouped by the work packages.

   - First, choose the relevant year and quarter by clicking the + on top of the sheet
   - Second, choose the relevant work package(s) by clicking the + on the left-hand side

   Once every six months the projected expenditure for the upcoming period should be completed. Please note that the projected expenditure cannot exceed six months.
   Please fill in the actual expenditure for the relevant quarter and the relevant sub-work package. Please include only expenditure that has actually been incurred and reimbursed during the quarterly period.

3. **Notes**. Please explain expenditure that deviates notably from the projections.

4. **Financial Narrative**. Please answer the narrative questions. We recommend that a transcript of your complete transactions for the current quarterly reporting period is provided in a separate attachment.

5. **Work-Package Statement.** For completion by CEPI only - visible for Awardee's reference.

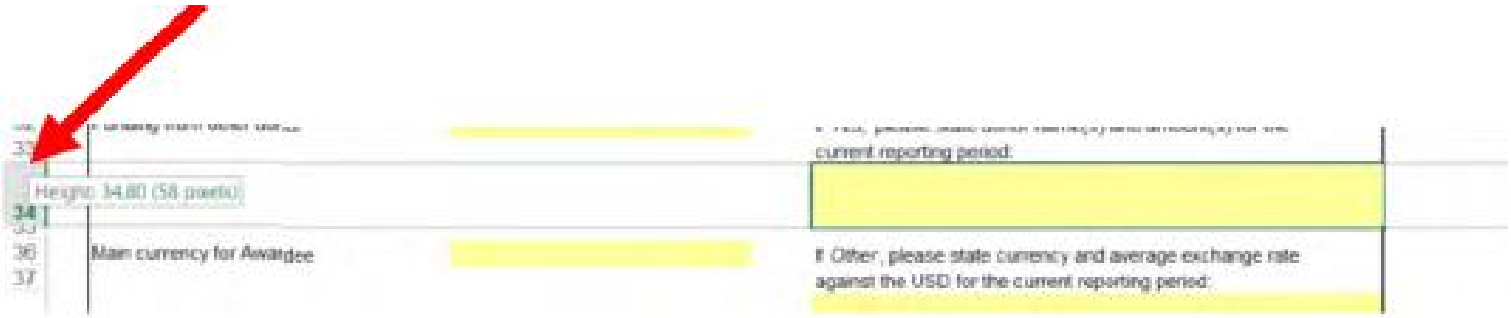
6. **Asset register** should be completed upon purchase of new equipment/capital expenditure.

7. **Biannual Payment Request** should be completed, signed by an authorised representative for the awardee, and submitted to CEPI (in pdf) when requesting payment for the upcoming biannual period.

   The file is protected. It is only possible to insert data into yellow and green cells:

   Enter information into light yellow cells
   Enter actual expenditures into green cells

If you need more space to write in the yellow cells, drag the boundary to expand it:



To be completed by CEPI
Import date

Cost center

Import text

Coalition for Epidemic Preparedness Innovations, CEPI
Marcus Thranes gate 2
0473 OSLO
Norway
Registration number: 917687811

Awardee name

Address

Reg.no.

Subject: **Quarterly Financial Report**

Your reference

CEPI's reference INCU1901

Financial report number

Start date, financial reporting period

End date, financial reporting period

Funding from other donor

If *Yes*, please state donor name(s) and amount(s) for the current reporting period:

Main currency for Awardee

If *Other*, please state currency and exchange rate against the USD used for the current reporting period:

Currency Sub-awardees

Please list all sub-awardees that use other currencies than USD, and state their exchange rate against the USD used for the current reporting period:

Indirect cost rate on primary Awardee's portion
Primary awardee's indirect cost rate on Sub-award portion

I hereby declare that to the best of my knowledge all information provided in this financial report is full, reliable and true.

Place and date

Signature authorised representative

Printed name and title

	Year 1, Q1 & Q2						Year 1, Q3 & Q4						Year
	Projected Q1&Q2 Expenditure	Q1 Actual Expenditure	Q2 Actual Expenditure	Variance, $	Variance, %	Note no.	Projected Q3&Q4 Expenditure	Q3 Actual Expenditure	Q4 Actual Expenditure	Variance, $	Variance, %	Note no.	Projected Q1&Q2 Expenditure	Q1 Actual Expenditure	Q2 Exp
Total, Completed work packages	$ -	$ -	$ -				$ -	$ -	$ -				$ -	$ -	$
Work package 1															
Total WP 1	$ -	$ -	$ -	$ -			$ -	$ -	$ -	$ -			$ -	$ -	$
WP1.1 Research batch Ag #1															
Personnel				$ -	0%					$ -	0%				
Travel				$ -	0%					$ -	0%				
Consultants				$ -	0%					$ -	0%				
Equipment				$ -	0%					$ -	0%				
Other Direct Costs				$ -	0%					$ -	0%				
Sub-awards				$ -	0%					$ -	0%				
TOTAL DIRECT COST	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Indirect Cost (Primary Awardee Portion)	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Indirect Cost (Sub-award Portion)	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
TOTAL WP 1.1	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
WP1.2 Preclinical POC Ag #1															
Personnel				$ -	0%					$ -	0%				
Travel				$ -	0%					$ -	0%				
Consultants				$ -	0%					$ -	0%				
Equipment				$ -	0%					$ -	0%				
Other Direct Costs				$ -	0%					$ -	0%				
Sub-awards				$ -	0%					$ -	0%				
TOTAL DIRECT COST	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Indirect Cost (Primary Awardee Portion)	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Indirect Cost (Sub-award Portion)	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
TOTAL WP 1.2	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
WP1.3 Regulatory Ag #1															
Personnel				$ -	0%					$ -	0%				
Travel				$ -	0%					$ -	0%				
Consultants				$ -	0%					$ -	0%				
Equipment				$ -	0%					$ -	0%				
Other Direct Costs				$ -	0%					$ -	0%				
Sub-awards				$ -	0%					$ -	0%				
TOTAL DIRECT COST	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Indirect Cost (Primary Awardee Portion)	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Indirect Cost (Sub-award Portion)	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
TOTAL WP 1.3	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Work package 2															
Total WP 2	$ -	$ -	$ -	$ -			$ -	$ -	$ -	$ -			$ -	$ -	$
WP2.1 Research batch Ag #2															
Personnel				$ -	0%					$ -	0%				
Travel				$ -	0%					$ -	0%				
Consultants				$ -	0%					$ -	0%				
Equipment				$ -	0%					$ -	0%				
Other Direct Costs				$ -	0%					$ -	0%				
Sub-awards				$ -	0%					$ -	0%				
TOTAL DIRECT COST	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Indirect Cost (Primary Awardee Portion)	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
Indirect Cost (Sub-award Portion)	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
TOTAL WP 2.1	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$
WP2.2 Preclinical POC Ag #2															
Personnel				$ -	0%					$ -	0%				
Travel				$ -	0%					$ -	0%				
Consultants				$ -	0%					$ -	0%				
Equipment				$ -	0%					$ -	0%				
Other Direct Costs				$ -	0%					$ -	0%				
Sub-awards				$ -	0%					$ -	0%				
TOTAL	$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$

DIRECT COST																
Indirect Cost (Primary Awardee Portion)	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -
Indirect Cost (Sub-award Portion)	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -
TOTAL WP 2.2	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**
WP2.3 Development & GMP Ag #2																
Personnel				$ -	0%									$ -	0%			
Travel				$ -	0%									$ -	0%			
Consultants				$ -	0%									$ -	0%			
Equipment				$ -	0%									$ -	0%			
Other Direct Costs				$ -	0%									$ -	0%			
Sub-awards				$ -	0%									$ -	0%			
TOTAL DIRECT COST	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -
Indirect Cost (Primary Awardee Portion)	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -
Indirect Cost (Sub-award Portion)	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -
TOTAL WP 2.3	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**
WP2.4 Regulatory Ag #2																
Personnel				$ -	0%									$ -	0%			
Travel				$ -	0%									$ -	0%			
Consultants				$ -	0%									$ -	0%			
Equipment				$ -	0%									$ -	0%			
Other Direct Costs				$ -	0%									$ -	0%			
Sub-awards				$ -	0%									$ -	0%			
TOTAL DIRECT COST	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -
Indirect Cost (Primary Awardee Portion)	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -
Indirect Cost (Sub-award Portion)	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -
TOTAL WP 2.4	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**

Year 2, Q3 & Q4						Year 3, Q1 & Q2						Year 3, Q3 & Q4							
Projected Q3&Q4 Expenditure	Q3 Actual Expenditure	Q4 Actual Expenditure	Variance, $	Variance, %	Note no.	Projected Q1&Q2 Expenditure	Q1 Actual Expenditure	Q2 Actual Expenditure	Variance, $	Variance, %	Note no.	Projected Q3&Q4 Expenditure	Q3 Actual Expenditure	Q4 Actual Expenditure	Variance, $	Variance, %	Note no.	Budget Award	Cu Ex
$ -	$ -	$ -				$ -	$ -	$ -				$ -	$ -	$ -				$ -	$
$ -	$ -	$ -	$ -			$ -	$ -	$ -	$ -			$ -	$ -	$ -	$ -			$ -	$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
$ -	$ -	$ -	$ -			$ -	$ -	$ -	$ -			$ -	$ -	$ -	$ -			$ -	$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
			$ -	0%					$ -	0%					$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%			$
$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$ -	$ -	$ -	0%		$ -	$

Work package 3																																
Work package 4																																
Total WP 4	$	-	$	-	$	-	$	-			$	-	$	-	$	-	$	-			$	-	$	-	$	-	$	-		
WP4.1 Research batch Ag #3																																
Personnel							$	-	0%								$	-	0%								$	-	0%		
Travel							$	-	0%								$	-	0%								$	-	0%		
Consultants							$	-	0%								$	-	0%								$	-	0%		
Equipment							$	-	0%								$	-	0%								$	-	0%		
Other Direct Costs							$	-	0%								$	-	0%								$	-	0%		
Sub-awards							$	-	0%								$	-	0%								$	-	0%		
TOTAL DIRECT COST	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
Indirect Cost (Primary Awardee Portion)	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
Indirect Cost (Sub-award Portion)	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
TOTAL WP 4.1	**$**	-	**$**	-	**$**	-	$	-	0%		**$**	-	**$**	-	**$**	-	$	-	0%		**$**	-	**$**	-	**$**	-	$	-	0%		
WP4.2 Preclinical POC Ag #3																																
Personnel							$	-	0%								$	-	0%								$	-	0%		
Travel							$	-	0%								$	-	0%								$	-	0%		
Consultants							$	-	0%								$	-	0%								$	-	0%		
Equipment							$	-	0%								$	-	0%								$	-	0%		
Other Direct Costs							$	-	0%								$	-	0%								$	-	0%		
Sub-awards								-	0%									-	0%									-	0%		
TOTAL DIRECT COST	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
Indirect Cost (Primary Awardee Portion)	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
Indirect Cost (Sub-award Portion)	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
TOTAL WP 4.2	**$**	-	**$**	-	**$**	-	$	-	0%		**$**	-	**$**	-	**$**	-	$	-	0%		**$**	-	**$**	-	**$**	-	$	-	0%		
WP4.3 Development & GMP Ag #3																																
Personnel							$	-	0%								$	-	0%								$	-	0%		
Travel							$	-	0%								$	-	0%								$	-	0%		
Consultants							$	-	0%								$	-	0%								$	-	0%		
Equipment							$	-	0%								$	-	0%								$	-	0%		
Other Direct Costs							$	-	0%								$	-	0%								$	-	0%		
Sub-awards							$	-	0%								$	-	0%								$	-	0%		
TOTAL DIRECT COST	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
Indirect Cost (Primary Awardee Portion)	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
Indirect Cost (Sub-award Portion)	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
TOTAL WP 4.3	**$**	-	**$**	-	**$**	-	$	-	0%		**$**	-	**$**	-	**$**	-	$	-	0%		**$**	-	**$**	-	**$**	-	$	-	0%		
WP4.4 Regulatory Ag #3																																
Personnel							$	-	0%								$	-	0%								$	-	0%		
Travel							$	-	0%								$	-	0%								$	-	0%		
Consultants							$	-	0%								$	-	0%								$	-	0%		
Equipment							$	-	0%								$	-	0%								$	-	0%		
Other Direct Costs							$	-	0%								$	-	0%								$	-	0%		
Sub-awards							$	-	0%								$	-	0%								$	-	0%		
TOTAL DIRECT COST	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
Indirect Cost (Primary Awardee Portion)	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
Indirect Cost (Sub-award Portion)	$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		$	-	$	-	$	-	$	-	0%		
TOTAL WP 4.4	**$**	-	**$**	-	**$**	-	$	-	0%		**$**	-	**$**	-	**$**	-	$	-	0%		**$**	-	**$**	-	**$**	-	$	-	0%		

$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -		$ -	$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%		$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%		$ -	$	0.00
$ -	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$**	**0.00**
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			-	0%				-	0%				-	0%		$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%		$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%		$ -	$	0.00
$ -	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$**	**0.00**
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%		$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%		$ -	$	0.00
$ -	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$**	**0.00**
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
			$ -	0%				$ -	0%				$ -	0%		$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%		$ -	$	0.00
$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%	$ -	$ -	$ -	$ -	0%		$ -	$	0.00
$ -	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$ -**	$ -	0%	**$ -**	**$ -**	**$**	**0.00**

Note no.	Variance notes
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

1. Six-Month Projection
Please describe the components of your projected six-month expenditure, commenting on all cost categories.

2. Personnel
Please describe whether the staff and FTE were needed for the current quarterly period as anticipated, and if they were deployed as expected. (Please provide your transaction list demonstrating your actual quarterly Personnel costs).

3. Travel
Please describe whether planned travel was undertaken as expected during the current quarterly period. Please describe the travel that was undertaken. (Please provide your transaction list demonstrating your actual quarterly Travel costs).

4. Consultants
Please individually list any consultants that were deployed and reimbursed during the current quarterly period, including the number of billable units. (Please provide your transaction list demonstrating your actual quarterly Consultant costs).

5. Equipment & Capital Expenditure
Please describe whether equipment items were purchased in line with your projected expenditure for the current quarterly period. (Please provide your transaction list demonstrating your actual quarterly Equipment & Capital Expenditure costs).

6. Other Direct Costs
Please describe whether other direct costs were as expected in-line with your projected expenditure for the current quarterly period. (Please provide your transaction list demonstrating your actual quarterly Other Direct Costs).

7. Sub-awards
Please individually list the sub-awardees that were deployed and reimbursed during the quarterly period. (Please provide your transaction list demonstrating your actual quarterly Sub-award costs).

8. Work-Package
Please describe your confidence that the total remaining Work Package funds per cost category are sufficient to complete the Work Package activities. For example, do you expect to incur new or unplanned costs in order to complete the Work Package activities.

9. Risk
Please describe any potential technical or financial risks that may have an impact on the project's financial performance.

10. Non-USD expenditure
If you have indicated non-USD expenditure on the cover letter, please explain which portion of your actual expenditure was incurred in each currency.

11. Procurement
During the current quarterly period did you procure any goods, services or supplies, or, enagage any subawardee, subcontractors or other third parties who were not specifically named in the Work Package budget? If yes, please list the third party name, value and a brief description of the goods, services or supplies and describe how you complied with the CEPI Procurement Procedure.

	Q1	Q2	Q3	Q4	Y1 Total	Q5	Q6	Q7	Q8	Year 2 Total	Q9	Q10	Q11	Q12	Year 3 Total	Total Award
WP1.1 Research batch Ag #1																
Revenue																
WP 1.1. Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 1.1 CEPI Biannual Payment:																
WP 1.1 Projected 6 Month Expenditure	0.00		0.00		0.00	0.00		0.00		0.00	0.00		0.00		0.00	
WP 1.1 Retained Amount					0.00					0.00					0.00	
WP 1.1 Payment Reduction (Positive Balance at Period End Only)					0.00					0.00					0.00	n/a
WP 1.1 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 1.1 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.1 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.1 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																
WP 1.1 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.1 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.1 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.1 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 1.1 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP1.2 Preclinical POC Ag #1																
Revenue																
WP 1.2 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 1.2 CEPI Biannual Payment:																
WP 1.2 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 1.2 Retained Amount					0.00					0.00					0.00	
WP 1.2 Payment Reduction (Positive Balance at Period End Only)					0.00					0.00					0.00	n/a
WP 1.2 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 1.2 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.2 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.2 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																
WP 1.2 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.2 Funds Spent on Indirect Cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

(Primary Awardee Portion)																
WP 1.2 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.2 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 1.2 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WP1.3 Regulatory Ag #1																	
Revenue																	
WP 1.3 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 1.3 CEPI Biannual Payment:																	
WP 1.3 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 1.3 Retained Amount					0.00						0.00					0.00	
WP 1.3 Payment Reduction (Positive Balance at Period End Only)					0.00						0.00					0.00	n/a
WP 1.3 Biannual Payment	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		
WP 1.3 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.3 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.3 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																	
WP 1.3 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.3 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.3 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 1.3 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 1.3 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP2.1 Research batch Ag #2																	
Revenue																	
WP 2.1. Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 2.1 CEPI Biannual Payment:																	
WP 2.1 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
WP 2.1 Retained Amount					0.00						0.00					0.00	
WP 2.1 Payment Reduction (Positive Balance at Period End Only)					0.00						0.00					0.00	n/a
WP 2.1 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 2.1 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.1 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.1 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																	
WP 2.1 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.1 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.1 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.1 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 2.1 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP2.2 Preclinical POC Ag #2																	
Revenue																	
WP 2.2 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 2.2 CEPI Biannual Payment:																	
WP 2.2 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
WP 2.2 Retained Amount					0.00						0.00					0.00	
WP 2.2 Payment Reduction (Positive Balance at Period End Only)					0.00						0.00					0.00	n/a
WP 2.2 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 2.2 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.2 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.2 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																	
WP 2.2 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.2 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.2 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.2 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 2.2 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WP2.3 Development & GMP Ag #2																
Revenue																
WP 2.3 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 2.3 CEPI Biannual Payment:																
WP 2.3 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 2.3 Retained Amount					0.00					0.00					0.00	
WP 2.3 Payment Reduction (Positive Balance at Period End Only)					0.00					0.00					0.00	n/a
WP 2.3 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 2.3 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.3 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.3 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																
WP 2.3 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.3 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.3 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.3 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 2.3 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP2.4 Regulatory Ag #2																
Revenue																
WP 2.4 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 2.4 CEPI Biannual Payment:																
WP 2.4 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 2.4 Retained Amount					0.00					0.00					0.00	
WP 2.4 Payment Reduction (Positive Balance at Period End Only)					0.00					0.00					0.00	n/a
WP 2.4 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 2.4 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.4 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.4 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																
WP 2.4 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.4 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.4 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 2.4 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 2.4 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP3.1 Clinical trial Ag #2																
Revenue																
WP 3.1 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 3.1 CEPI Biannual Payment:																
WP 3.1 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 3.1 Retained Amount					0.00					0.00					0.00	
WP 3.1 Payment Reduction (Positive Balance at Period End Only)					0.00					0.00					0.00	n/a
WP 3.1 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 3.1 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.1 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.1 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																
WP 3.1 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.1 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.1 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.1 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 3.1 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WP3.2 Regulatory Ag #2																	
Revenue																	
WP 3.2 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	
WP 3.2 CEPI Biannual Payment:																	
WP 3.2 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 3.2 Retained Amount					0.00						0.00					0.00	
WP 3.2 Payment Reduction (Positive Balance at Period End Only)					0.00						0.00					0.00	n/a
WP 3.2 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
WP 3.2 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.2 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.2 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																	
WP 3.2 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.2 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.2 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 3.2 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 3.2 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP4.1 Research batch Ag #3																	
Revenue																	
WP 4.1 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	
WP 4.1 CEPI Biannual Payment:																	
WP 4.1 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 4.1 Retained Amount					0.00						0.00					0.00	
WP 4.1 Payment Reduction (Positive Balance at Period End Only)					0.00						0.00					0.00	n/a
WP 4.1 Biannual Payment	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		
WP 4.1 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.1 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.1 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																	
WP 4.1 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.1 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.1 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.1 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 4.1 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP4.2 Preclinical POC Ag #3																	
Revenue																	
WP 4.2 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	
WP 4.2 CEPI Biannual Payment:																	
WP 4.2 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
WP 4.2 Retained Amount					0.00						0.00					0.00	
WP 4.2 Payment Reduction (Positive Balance at Period End Only)					0.00						0.00					0.00	n/a
WP 4.2 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 4.2 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.2 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.2 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																	
WP 4.2 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.2 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.2 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.2 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 4.2 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WP4.3 Development & GMP Ag #3																
Revenue																
WP 4.3 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 4.3 CEPI Biannual Payment: WP 4.3 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 4.3 Retained Amount					0.00				0.00						0.00	
WP 4.3 Payment Reduction (Positive Balance at Period End Only)					0.00				0.00						0.00	n/a
WP 4.3 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 4.3 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.3 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.3 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																
WP 4.3 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.3 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.3 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.3 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 4.3 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP4.4 Regulatory Ag #3																
Revenue																
WP 4.4 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 4.4 CEPI Biannual Payment: WP 4.4 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 4.4 Retained Amount					0.00				0.00						0.00	
WP 4.4 Payment Reduction (Positive Balance at Period End Only)					0.00				0.00						0.00	n/a
WP 4.4 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 4.4 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.4 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.4 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																
WP 4.4 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.4 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.4 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 4.4 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 4.4 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP5.1 Clinical trial Ag #3																
Revenue																
WP 5.1 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 5.1 CEPI Biannual Payment: WP 5.1 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 5.1 Retained Amount					0.00				0.00						0.00	
WP 5.1 Payment Reduction (Positive Balance at Period End Only)					0.00				0.00						0.00	n/a
WP 5.1 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 5.1 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.1 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.1 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																
WP 5.1 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.1 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.1 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.1 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 5.1 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WP5.2 Regulatory Ag#3																	
Revenue																	
WP 5.2 Carry-over Amount from Prior Period		0.00	0.00	0.00	n/a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
WP 5.2 CEPI Biannual Payment:																	
WP 5.2 Projected 6 Month Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 5.2 Retained Amount					0.00						0.00					0.00	
WP 5.2 Payment Reduction (Positive Balance at Period End Only)					0.00						0.00					0.00	n/a
WP 5.2 Biannual Payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WP 5.2 Interest Earned	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.2 Other Gains / (Losses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.2 TOTAL CASH AVAILABLE BY PERIOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure																	
WP 5.2 Funds Spent on Direct Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.2 Funds Spent on Indirect Cost (Primary Awardee Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.2 Funds Spent on Indirect Cost (Subaward Portion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP 5.2 Total Expenditure by Period	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WP 5.2 TOTAL BALANCE AT PERIOD END	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Asset and Equipment Register Template
Organisation:
Address:

Asset/ Equipment No.*	Asset/Equipment Description	Purchase Date	Purchase Price	Purchase Currency	Location (include full address)	Pricing Class	Manufacturer, Model/Model No, and item serial number.	Warranty No. and Duration (Years)	Maintenance Requirements	Supplier Details (Name, address, registration number etc)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
TOTAL			**$ 0.00**							

(*Equipment only includes items with a unit cost of at least $5,000 (USD) and a useful life of more than one year)

Pricing Class

Price Type:	Purchase Price:
A	$5,000 - $12,799
B	$12,800 - $63,999
C	$64,000 <

Awardee name		Coalition for Epidemic Preparedness Innovations, CEPI
Address		Marcus Thranes gate 2 0473 OSLO Norway Registration number: 917687811
Reg.no.		
Subject:	**Biannual payment request**	
Your reference		
CEPI's reference	INCU1901	
Payment request number		
Start date, 6 month payment period		
End date, 6 month payment period		
Is report for previous biannual period enclosed?		If no, please explain why:
A. Total projected expenditure this payment period		
For reference: CEPI retainer % applied to projected expenditure	*N/A*	
B. Total retained, this payment period	$ -	
C. Interest earned in previous payment period		
D. Available cash balance (from previous reporting period)		
E. Total payment request	$ -	

Awardee Bank Account Details for Receipt of CEPI Funds
Account holder
Name of bank
Branch address
IBAN
BIC/SWIFT

I hereby declare that to the best of my knowledge all information provided in this payment request is full, reliable and true.

Place and date

Signature authorised representative

Printed name and title

SCHEDULE 9

QUARTERLY REPORT TEMPLATE

CEPI Quarterly Report

CUREVAC AG

From …… to ……

Executive Summary

(Please provide a short summary of progress and/or issues encountered over the last three months-<300 words).

Quarterly Report

(Please amalgamate the previous three monthly reports into two slides as shown below).

Current Project Status

· WP-X.1
  · <short description of work-package and status>

· WP-X.2
  · < short description of work-package and status >

· WP-X.3
  · < short description of work-package and status >

Next steps

· *Please describe the preparations required for the next steps in the project here*

Next Milestone/Stage Gate

· *Please include milestones and/or Stage Gates due within the next 30 days*

Challenges

· *Review the risk register here, highlighting any new issues in particular or the status of ongoing problems*

· *Please list progress towards the next Milestone, Deliverable or Stage Gate* ***due within the next month***

WBS	Milestone, Deliverable or Stage Gate	Target Completion Date	Actual Completion Date	Status
		Date		
		Date		
		Date		

· *If any tasks are causing concern please explain any remedial actions and update the Risk Registry accordingly*

WBS	Task description	Issue plus remedial action

Progress

(Please insert progress chart from latest monthly report.)

(Please update the following table based on activities which have been completed within the last six months).

Milestones/Deliverables	**Activity**
WP X.Y	*Milestone achieved*
Stage Gate	
WP X.Y	*Stage Gate achieved*

Communication

(Please update the following table with the communication activities from the quarter and the planned ones for the next three months).

Past three months			**Next three months**		
Type of communication	**Who**	**When**	**Type of communication**	**Who**	**When**

Intellectual Property

(Please fill in the table below. This is a reflection of the obligations outlined in the agreed Partnership Agreement)

During the previous 3 months;

Have you or any subawardee generated any of the following? If yes, please describe below.	
New or novel scientific or test data? Including clinical data, CMC data, pharmacological data or toxicological data?	New or novel invention, work or discovery? Including concepts, data, designs, formulae, methods, models, assays, procedures, processes, specifications or algorithms?
(Please insert details here)	*(Please insert details here)*

If you or any subawardee has generated any novel invention, work or discovery, please describe if you have or if will you seek intellectual protection for a registered patent, design right, trade-mark, trade-name, database right, copyright or other right subsisting in any part of the world?
(Please insert details here)

Have you or any subawardee made any formal submissions to any Regulatory Authority relating to the development, manufacture or marketing of any product, results, foreground intellectual property or other outputs from the CEPI project? If yes, please describe below and provide copies of all minutes, communications and other submission documentation.
(Please insert details here)

During the next 3 months, do you or any subawardee intend to publish or disseminate any foreground intellectual property, results or data from the CEPI project? If yes, please describe:		
The foreground intellectual property, results or data that you wish to publish or disseminate?	The authors who will be named?	How you will comply with CEPI's open access requirements set out in the Partnering Agreement and CEPI's Open Access Policy ?
(Please insert details here)	*(Please insert details here)*	*(Please insert details here)*

During the next 3 months, do you intend to deploy, use or exploit any foreground intellectual property, results or outputs from the CEPI project outside of the CEPI project? If yes, please describe below.			
Your proposed or intended further use or exploitation?	If the use or exploitation will occur in the Field of the CEPI project and/or in an Affect Territory?	If the use or exploitation is for the purpose of Development or Marketing activities?	If the use or exploitation is for the purpose of generating commercial revenue
(Please insert details here)	*(Please insert details here)*	*(Please insert details here)*	*(Please insert details here)*

Forecast

*(Please provide a forecast for the **next six months** of milestones/deliverables and any Stage Gates due. Please explain briefly the main activities which will need to be completed).*

Milestones/Deliverables	**Activity**
WP X.Y	*Milestone/Deliverable(s) and date due*
Stage Gate	
WP X.Y	*Stage Gate(s) and due date*
Intellectual Property	
Area covered	*Please outline any proposed filing within the next 6 months*

Change Control

(Please describe any agreed changes to activities of the project and impact the impact that this may have on timelines. Insert the date that was originally targeted for completion of the activity, and revised date.).

Function	Change	Impact	Initial date	Revised date

Planning

(Please attach a link to the Gantt chart with progress bars updated. This should be stored on your secure server. Please copy the original and rename it with the appropriate time period. For example. Project_Plan_Jan19_Mar19).

Risk Register

(Please update the Risk Register and attach a link to its location on your secure server. Please copy the original and rename it with the appropriate time period. For example. Risk_Register_Jan19_Mar19).

SCHEDULE 10

CEPI POLICIES

[*****]

SCHEDULE 11

TEAM CHARTER

[*****]

SCHEDULE 12

DISCLOSURE LETTER
[*****]

SCHEDULE 13

PARTNER FUNDER REQUIREMENTS

[*****]

Draft additioanl work package 2020-01-27

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

WORKPACKAGE STATEMENT
Development of CureVac Outbreak Response
To Novel Coronavirus (2019-nCoV)

MADE ON: 27 January 2020

BETWEEN:

1. COALITION FOR EPIDEMIC PREPAREDNESS INNOVATIONS, a not-for-profit international association existing under Norwegian law with address at Marcus Thranesgate 2, PO box 123 Torshov, N-0412 Oslo Norway ("CEPI"); and

2. CureVac Ag, a private company existing under German law with address at Paul-Ehrlich-Strasse 15, 72076 Tubingen Germany ("Partner").

INTRODUCTION: This document is a Work Package Statement pursuant to the Framework Partnering Agreement dated 15 February 2019 and entered into by the Parties (the "Partnering Agreement") and outlines the tasks and actions which take place during the execution of [description of disease and work package].

NOW IT IS AGREED THAT:

1. Defined terms in this Work Package Statement shall have the meaning given to them in the Partnering Agreement unless otherwise stated.

2. The Partner shall:

a. perform all activities set out in Schedule 1 and provide the Partner Contribution, if any, set out in Schedule 2 to deliver the Deliverables set out in Schedule 3, Part 1;

b. use reasonable Efforts to achieve the Milestones Criteria set out in Schedule 3, Part 2 by the applicable Milestone Date;

c. ensure that ail Contractor Results are produced on behalf of the Partner, as set out in Schedule 3, Part 3; and

d. use Reasonable Efforts to achieve the Stage Gates set out in Schedule 4 by the applicable Stage Gate Date.

3. CEPI shall make payments to the Partner up to a maximum of the Work Package Budget set out in Schedule 5 in accordance with Clauses 3.7- 3.12 of the Partnering Agreement.

4. The terms and provisions of the Partnering Agreement are incorporated by reference to this Work Package Statement and all rights and obligations arising under this Work Package

Draft additional work package 2020-01-27

Statement shall be governed by and construed in accordance with the terms of the Partnering Agreement.

IN WITNESS whereof the Parties through their duly authorised representatives have executed this Agreement.

Signed for and on behalf of COALITION FOR EPIDEMIC PREPAREDNESS INNOVATIONS by its duly authorised signatory:

DocuSigned by:

Signature: /s/ Richard Hatchett

Name: Richard Hatchett

Title: Chief Executive Officer

Date: 27 January 2020

Signed for and on behalf CureVac AG by its duly authorized signatory:

Signature: /s/ Daniel Menichella

Name: Daniel Menichella

Title: Chief Executive Officer

Date: 22 January 2020

SCHEDULE 1 – ACTIVITIES

[*****]

SCHEDULE 2 - - PARTNER CONTRIBUTION

[*****]

SCHEDULE 3 - DELIVERABLES, MILESTONES & & CONTRACTOR RESULTS

[*****]

SCHEDULE 4 - STAGE GATES

[*****]

SCHEDULE 5 – WORK PACKAGE BUDGET

[*****]

SCHEDULE 6 - PAYMENT SCHEDULE

[*****]

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

DEVELOPMENT AND OPTION AGREEMENT

by and between

CUREVAC AG

and

ACUITAS THERAPEUTICS INC.

dated

APRIL 29, 2016

Table of Contents

Table of Contents
(continued)

Table of Contents
(continued)

List of Exhibits

Exhibit 1.1	Patents in the Acuitas Background Technology
Exhibit 1.31	Exclusive License Agreement
Exhibit 1.54	Non-exclusive License Agreement
Exhibit 3.1(a)	Work Plan
Exhibit 3.1(f)	Technology Transfer Agreement
Exhibit 4.2A	Target Reservation Request Form
Exhibit 4.2B	Vaccine Target Reservation Request Form

Development and Option Agreement

This Development and Option Agreement (this "Agreement"), dated as of April 29, 2016 (the "Effective Date"), is made by and between CureVac AG, a German stock corporation with offices at Paul- Ehrlich-Strasse 15, 72076 Tubingen, Germany ("CureVac"), and Acuitas Therapeutics Inc., a British Columbia corporation ("Acuitas"). Each of CureVac and Acuitas may be referred to herein as a "Party" or together as the "Parties."

WHEREAS, Acuitas has expertise and intellectual property relating to the development of LNP Technologies (as defined below);

WHEREAS, CureVac has expertise and intellectual property relating to mRNA Constructs (as defined below); and

WHEREAS, the Parties believe that certain proprietary Acuitas LNP Technology (as defined below) could be useful for the formulation and delivery of CureVac's proprietary mRNA Constructs; and

WHEREAS, the Parties are interested in evaluating the development of products incorporating Acuitas LNP Technology and CureVac Technology (as defined below), and Acuitas wishes to grant to CureVac, and CureVac wishes to obtain, an option to obtain a license under the Acuitas LNP Technology to develop and commercialize one or more specific products of CureVac, all in accordance with the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the amount and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE 1

Definitions

The following terms and their correlatives will have the following meanings:

1.1 "Acuitas Background Technology" means any and all LNP Technology that is Controlled by Acuitas or any of its Affiliates as of the Effective Date or during the Term, but excluding any Acuitas Program Know-How and Acuitas Program Patents, and necessary or useful for the research, development, manufacturing and commercialization of Licensed Products. For the avoidance of doubt, the rights granted to Acuitas [*****] shall not fall under this definition. The Patents and Know-How comprised in the Acuitas Background Technology as of the Effective Date are listed in **Exhibit 1.1** attached hereto.

1.2 "Acuitas Indemnitees" has the meaning set forth in Section 8.7(b).

1.3 "Acuitas LNP Technology" means the Acuitas Background Technology and the Acuitas Program Technology.

1.4 "Acuitas Program Know-How" means any and all Program Know-How owned by Acuitas in accordance with Section 6.2, including Acuitas' right and interest in any Jointly-Owned Program Know-How (as defined in Section 6.2(c)).

1.5 "Acuitas Program Patents" means any and all Patents that claim any of the Acuitas Program Know-How, including Acuitas' right and interest in any Jointly-Owned Program Patents (as defined in Section 6.2(c)).

1.6 "Acuitas Program Technology" means the Acuitas Program Know-How and the Acuitas Program Patents. For clarity, all Acuitas Program Technology will be "Controlled" by Acuitas for purposes of this Agreement.

1.7 "Acuitas Work Plan Leader" has the meaning set forth in Section 2.1.

1.8 "[*****] Target" has the meaning as defined in Section 1.60 below.

1.9 "Affiliate" of a person or entity means any other entity which (directly or indirectly) is controlled by, controls or is under common control with such person or entity. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to an entity will mean (i) in the case of a corporate entity, direct or indirect ownership of voting securities entitled to cast at least fifty percent (50%) of the votes in the election of directors or (ii) in the case of a non-corporate entity, direct or indirect ownership of at least fifty percent (50%) of the equity interests with the power to direct the management and policies of such entity, provided that if local Law restricts foreign ownership, control will be established by direct or indirect ownership of the maximum ownership percentage that may, under such local Law, be owned by foreign interests. Regarding CureVac, Affiliate shall not include Mr. Hopp and dievini Hopp BioTech holding GmbH & Co. KG and/or any other entity controlled by Mr. Hopp and/or dievini Hopp BioTech holding GmbH & Co. KG.

1.10 "Agreement" has the meaning set forth in the Preamble

1.11 "Approved Partner" means with respect to any Third Party to whom CureVac wishes to disclose Acuitas Confidential Information or transfer Acuitas LNP Technology or Materials provided by Acuitas to CureVac, (i) [*****] or (ii) any Third Party providing services set forth in the Work Plan to CureVac.

1.12 "Bankrupt Party" has the meaning set forth in Section 9.4(b).

1.13 "Calendar Quarter" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.14 "Change of Control" with respect to Acuitas, shall be deemed to have occurred if during the Term (i) any person or entity is or becomes the "beneficial owner", directly or indirectly, of shares of capital stock or other interests (including partnership interests) of Acuitas then outstanding and normally entitled (without regard to the occurrence of any contingency) to vote in the election of the directors, managers or similar supervisory positions of Acuitas representing fifty percent (50%) or more of the total voting power of all outstanding classes of voting stock of Acuitas or has the power, directly or indirectly, to elect a majority of the members of the Acuitas' board of directors, or similar governing body; or (ii) Acuitas enters into a merger, consolidation or similar transaction with another person or entity; or (iii) Acuitas sells or transfers to any Third Party, in one (1) or more related transactions, properties or assets representing all or substantially all of Acuitas' consolidated total assets to which this Agreement relates;or (iv) the holders of capital stock of Acuitas approve a plan or proposal for the liquidation or dissolution of Acuitas.

1.15 "Concurrent Reserved List Limits" has the meaning set forth in Section 4.2(d).

1.16 "Confidential Information" has the meaning set forth in Section 7.1.

1.17 "Contract Year" will refer to the twelve (12)-month period beginning with the Effective Date and on each anniversary thereafter.

1.18 "Control" or "Controlled" means with respect to Technology, a Party owns or has a license to use and practice such intellectual property right without violating the terms of any agreement with any Third Party and without owing any milestone, royalty or other monetary obligations to a Third Party.

1.19 "CureVac Background Technology" means any and all mRNA Technology that is owned or licensed by CureVac or any of its Affiliates as of the Effective Date or during the Term, but excluding any CureVac Program Know-How and CureVac Program Patents, and necessary or useful for the research, development, manufacturing and commercialization of a Licensed Product.

1.20 "CureVac Indemnitees" has the meaning set forth in Section 8.7(a).

1.21 "CureVac Program Know-How" means any and all Program Know-How owned by CureVac in accordance with Section 6.2, including CureVac's right and interest in any Jointly-Owned Program Know-How.

1.22 "CureVac Program Patents" means any and all Patents that claim any of the CureVac Program Know-How, including CureVac's right and interest in any Jointly-Owned Program Patents (as defined in Section 6.2(c)).

1.23 "CureVac Program Technology" means the CureVac Program Know-How and the CureVac Program Patents. For clarity, all CureVac Program Technology will be "Controlled" by CureVac for purposes of this Agreement.

1.24 "CureVac Technology" means, collectively, CureVac Background Technology and CureVac Program Technology.

1.25 "CureVac Work Plan Leader" has the meaning set forth in Section 2.1.

1.26 "Diligent Efforts" means, with respect to the efforts to be expended by each Party with respect to any activity set forth in the Work Plan, active and sustained efforts to conduct the applicable activity, or to attempt to achieve the applicable requirement or goal, in a prompt and expeditious manner, as is reasonably practicable under the circumstances consistent with the Work Plan (including the level of FTE funding and budget for out-of-pocket and Third Party contractors set forth therein) and the terms of this Agreement.

1.27 "Disclosing Party" has the meaning set forth in Section 7.1.

1.28 "[*****] Technology" is an Improvement to [*****] at the time such Improvement is discovered, created, conceived, developed or reduced to practice.

1.29 "Effective Date" has the meaning set forth in the Preamble.

1.30 "Escrow Agent" shall mean a partner with [*****] the agent selected by Acuitas in good faith to maintain in confidence the Restricted Target List and to respond to CureVac's Target Notices on behalf of Acuitas. All costs and expenses incurred through the Escrow Agent will be borne by Acuitas.

1.31 "Exclusive License Agreement" means an exclusive license agreement in the form attached hereto as **Exhibit 1.31.**

1.32 "Executive Officers" has the meaning set forth in Section 2.2(d).

1.33 "FTE" means a full-time person, or more than one person working the equivalent of a full-time person, where "full-time" is determined by the standard practices in the biopharmaceutical industry in the geographic area in which such personnel are working, but includes at least [******] hours per year, and includes the performance of the Works and Services and scientific management oversight as reasonably required but, for clarity, excludes the manufacture of Formulated Product for research and clinical activities as set forth in the Work Plan. In no event shall one person be counted as more than one FTE.

1.34 "FTE Costs" mean the actual FTEs employed by Acuitas in the conduct of the Works and Services multiplied by an annual rate per FTE equal to [*****]. Such FTE Costs represent reimbursement for all costs of providing the Works and Services (including salaries, benefits, lab supplies, reagents, equipment and overhead, as well as other G&A costs).

1.35 "Formulated Product" means product produced by Acuitas in accordance with the Work Plan that incorporates CureVac mRNA Constructs formulated with Acuitas LNP Technology.

1.36 "Formulated Product Fee" means the fees to be charged by Acuitas for supply of Formulated Product to CureVac under this Agreement, which fees are set forth in the Work Plan and will include all costs of materials used in the Formulated Product or its manufacture. In no event will the Formulated Product Fees include any costs otherwise reimbursed by CureVac or the cost of any Formulated Product manufactured by a GMP manufacturer under any technology transfer from Acuitas pursuant to Section 3. HO-

1.37 "Improvement" means, with respect to the [*****] any change, modification, variation or revision of such Technology, whether patentable, copyrightable or not

1.38 "Indemnified Party" has the meaning set forth in Section 8.7(c).

1.39 "Indemnification Claim Notice" has the meaning set forth in Section 8.7(c).

1.40 "JDC" has the meaning set forth in Section 2.2(a).

1.41 "JDC Deadlock" has the meaning set forth in Section 2.2(d).

1.42 "Know-How" means all commercial, technical, scientific and other know-how and information, trade secrets, knowledge, technology, methods, processes, practices, formulae, instructions, skills, techniques, procedures, experiences, ideas, technical assistance, designs, drawings, assembly procedures, computer programs, specifications, data and results (including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, preclinical, clinical, safety, manufacturing and quality control data and know-how, including study designs and protocols), in all cases, provided it is confidential and proprietary, and regardless of whether patentable, in written, electronic or any other form now known or hereafter developed.

1.43 "Law" or "Laws" means all laws, statutes, rules, regulations, orders, judgments, or ordinances having the effect of law of any federal, national, multinational, state, provincial, county, city or other political subdivision.

1.44 "License Agreement" means either an Exclusive License Agreement or Non-exclusive License Agreement.

1.45 "Licensed Product" means (i) [*****] product comprised of Lipid Nanoparticles (LNP) containing [*****] mRNA Constructs intended [*****] where the Target is selected from the Targets available to CureVac on the Reserved Target List and where such product is derived from, is based on, or utilizes any Acuitas LNP Technology; and/or (ii) [*****] Licensed Vaccine Product. If a given protein, e.g., an antibody comprises separated amino acid-chains, or a given Vaccine comprises multiple antigens or antibodies, which may be delivered as separated mRNA Constructs (combined in one LNP or delivered in separated LNPs), such product would be considered as one Licensed Product. For the avoidance of doubt, the term Licensed Product in respect of a given Target encompasses all variants of such Target, including the wild types, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been made (for example, mutated versions, derivatives or fragments) and species homologs and orthologs thereof, provided, however, that any such naturally occurring variant, engineered variant or species homolog or ortholog possesses substantially similar biological activity to such Target(s) (for example antigenicity in case of antigens).

1.46 "Licensed Vaccine Product" means [*****] product that is comprised of Lipid Nanoparticles (LNP) containing [*****] mRNA Constructs intended to express a [*****] Target and the [*****] Targets selected from the Targets available to CureVac on the Reserved Target List, in any combination, if any, and where such product is a Vaccine and is derived from, is based on, or utilizes any Acuitas LNP Technology. Licensed Vaccine Products may consist of [*****] mRNA Constructs encoding for the [*****] Target and [*****] Targets each of which is reserved pursuant to Article 4.

1.47 "LNP Technology" means Technology that claim, embody or incorporate delivery systems (and components thereof) based on or incorporating lipid nanoparticles.

1.48 "Losses" has the meaning set forth in Section 8.7(a).

1.49 "Mammalian Target" means a Target that is encoded by and expressed by a mammal including a human. For clarity all Targets that are antibodies are "Mammalian Targets".

1.50 "Material Transfer Agreements" means the [*****] both as amended from time to time.

1.51 "Materials" means any tangible chemical or biological material, including any compounds, LNP, DNA, RNA (including mRNA), clones, cells, and any expression product, progeny, derivative or other improvement thereto, along with any tangible chemical or biological material embodying any Know-How, Controlled by a Party.

1.52 "mRNA Construct" means any mRNA construct for the expression of a protein, including the sequence of such construct (which potentially comprises one (1) or more of a cap, 5' UTR, the associated open reading frame, 3'UTR and a poly A tail), the chemistry of natural and non-natural nucleic acids, and other chemical modifications associated with such construct.

1.53 "mRNA Technology" means Technology that claims, embodies or incorporates expression systems (and components thereof), based on or incorporating mRNA.

1.54 "Non-exclusive License Agreement" means a non-exclusive license agreement in the form attached hereto as **Exhibit 1.54.**

1.55 "Non-Mammalian Target" means a Target that is encoded by and expressed by a non-mammalian organism.

1.56 "Option" has the meaning set forth in Section 5.1.

1.57 "Option Exercise Fee" means with respect to each Non-exclusive License Agreement for which CureVac has exercised the Option to enter into in accordance with Article 5, [*****] dollars (US[*****]) and with respect to each Exclusive License Agreement for which CureVac has exercised the Option to enter into in accordance with Article 5, three hundred thousand dollars (US$300,000). In addition, in the event that upon Option exercise a Licensed Agreement includes more than [*****] Targets, each [*****] Target in [*****] will have an additional Option Exercise Fee under a Non-exclusive License Agreement of [*****] US Dollars (US[*****]) if it is a [*****] or [*****] US Dollars (US[*****]) if it is a [*****] and under an Exclusive License Agreement an additional Option Exercise Fee of [*****] dollars [*****] if it is a [*****] or [*****] dollars (US$[*****]) if it is a [*****].

1.58 "Option Notice" has the meaning set forth in Section 5.1.

1.59 "Option Period" has the meaning set forth in Section 5.1.

1.60 "Patent(s)" means an (i) issued patent, a patent application, and a future patent issued from any such patent application, (ii) a future patent issued from a patent application filed in any country worldwide which claims priority from a patent or patent application of (i), and (iii) any additions, divisions, continuations, continuations-in-part, invention certificates, substitutions, reissues, reexaminations, extensions, registrations, utility models, supplementary protection certificates and renewals based on any patent or patent application under (i) or (ii), but not including any rights that give rise to regulatory exclusivity periods (other than supplementary protection certificates, which will be treated as "Patents" hereunder).

1.61 "Pre-Existing Restrictions" means, with respect to a Target proposed for inclusion on the Reserved Target List pursuant to Section 4.2(b), that Acuitas or its Affiliates have granted to a Third Party with respect to a Target for which CureVac requests in the case of an exclusive reservation, a non-exclusive or exclusive license or option or in the case of a non-exclusive reservation, an exclusive license or option in each case pursuant to a *bona fide* written agreement that is executed in good faith in the ordinary course of business prior to the date of the Target Notice and that is still in effect on such date, to develop and commercialize a product that is comprised of Lipid Nanoparticles (LNP) containing a mRNA Construct encoding such Target or a Third Party has delivered a Target Notice with respect to such Target prior to the Target Notice by CureVac and has subsequently elected to enter into a *bona fide* written agreement that is executed in good faith in the ordinary course of business.

1.62 "[*****] Target" will mean the designated [*****] Target of a Licensed Vaccine Product. Each [*****] Target encoded for in the Licensed Vaccine Product will be termed an "[*****] Target".

1.63 "Program" means the program of activities using Acuitas LNP Technology and CureVac Technology for the development of Licensed Products incorporating CureVac's mRNA Constructs that the Parties engage in under this Agreement pursuant to the Work Plan.

1.64 "Program Improvement Technology" means Program Technology which constitutes an Improvement to either Party's or both Parties' Technology at the time such Improvement is discovered, created, conceived, developed or reduced to practice. Program Improvement Technology will be either Sole Improvement Technology or Dual Improvement Technology. For the avoidance of doubt, Program Improvement Technology will not include any Improvement arising out of a Party's internal research and development efforts or collaborations with Third Parties, in each case conducted outside of the Program; *provided* that such Improvement is not developed using or with reference to the Technology, Confidential Information or Material of the other Party.

1.65 "Program Know-How" means all Know-How, including Know-How embodied in Materials, created, conceived, developed or reduced to practice in connection with activities performed pursuant to the Work Plan or using Formulated Product as set forth in the Work Plan under this Agreement (whether solely by or on behalf of one Party or jointly by or on behalf of the Parties).

1.66 "Program Technology" means all Program Know-How and all Patents directed to or disclosing such Program Know-How.

1.67 "Receiving Parly" has the meaning set forth in Section 7.1.

1.68 "Records" has the meaning set forth in Section 3.3(a).

1.69 "Reserved Target" means a Target with respect to which CureVac shall have delivered to the Escrow Agent a Target Reservation Request and in response thereto the Escrow Agent shall have delivered to CureVac a Target Response Notice under Section 4.2(c)(i) for such Target to become a Reserved Target. A Reserved Target that is replaced pursuant to Section 4.2 will no longer be deemed a Reserved Target. For avoidance of doubt: (i) the term Reserved Target includes all variants of such Target, including the wild types, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been made (for example, mutated versions, derivatives or fragments) and species homologs and orthologs thereof, provided however that any such naturally occurring variant, engineered variant or species homolog or ortholog possesses substantially similar biological activity to such Target(s) (for example antigenicity in case of antigens); and (ii) if a given protein, e.g., an antibody comprises separated amino acid chains which might be delivered by separated mRNA Constructs such proteins would be defined as one Reserved Target.

1.70 "Reserved Target List" means collectively, the list of all Reserved Targets.

1.71 "Restricted Target List" has the meaning set forth in Section 4.2(a).

1.72 "Sole Improvement Technology" means, without regard to inventorship, an Improvement to one Party's Technology that is not also an Improvement to the other Party's Technology at the time such Improvement is discovered, created, conceived, developed or reduced to practice.

1.73 "Target" means either: (a) [*****] naturally occurring human protein encoded by a specific gene locus, as identified by the applicable transcript identifier (i.e., [*****]), gene identifier (i.e., [*****]), gene name and synonyms and DNA sequence coordinates, together with all variants of such protein, including the wild type, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments), and species homologs, orthologs thereof, provided however that any such naturally occurring variant, engineered variant, or species homolog or ortholog possesses substantially similar biological activity to the naturally occurring human protein (for example immunogenicity in case of antigens); or (b) [*****] protein that is not covered by subclause (a) above, together with any variants, mutated versions, derivatives or fragments of such protein, provided that any such variant, mutated version, derivative or fragment [*****]. If a given protein, e.g., an antibody comprises separated amino acid chains which might be delivered by separated mRNA Constructs such proteins would be defined as one Target.

1.74 "Target Notice" has the meaning set forth in Section 4.2(b).

1.75 "Target Reservation and Maintenance Fees" means the annual fees set forth in Section 4.4.

1.76 "Target Response Notice" has the meaning set forth in Section 4.2(c).

1.77 "[*****]" has the meaning set forth in Section 1.1.

1.78 "[*****] License" has the meaning set forth in Section 1.1.

1.79 "Technology" means collectively Patents and Know-How.

1.80 "Term" has the meaning set forth in Section 9.1.

1.81 "Third Party" means any person or entity other than CureVac, Acuitas and their respective Affiliates.

1.82 "Third Party Claims" has the meaning set forth in Section 8.7(a).

1.83 "[*****] Patent Rights" means any and all Patents resulting from the research collaboration conducted between Acuitas and [*****] of the [*****] from about [*****] to the Effective Date together with associated Know-How to the extent this Know-How is known to Acuitas and can be provided by Acuitas without breaching any confidentiality obligations of Acuitas. For avoidance of doubt, such results include those of the research summarized in [*****]

1.84 "Vaccine" means any product primarily intended (i) to elicit an adaptive immune response in the recipient against a specific disease-causing organism or malignancy as the result of presentation of antigen(s) associated with the disease-causing organism or malignancy; or (ii) to provide passive immune protection against a specific disease-causing organism.

1.85 "Work Plan" has the meaning set forth in Section 3.1(a).

1.86 "Work Plan Leaders" has the meaning set forth in Section 2.1.

1.87 "Works and Services" means the activities to be performed by Acuitas pursuant to the Work Plan.

ARTICLE 2

Governance

2.1 **Management.** Management of the Program activities will be under the responsibility of Michael Hope, Chief Scientific Officer, for Acuitas (the "Acuitas Work Plan Leader") and Patrick Baumhof for CureVac (the "CureVac Work Plan Leader," and together with the Acuitas Work Plan Leader, the "Work Plan Leaders"). Each Work Plan Leader will be the primary point of contact for the other Party on all matters relating to the Program activities.

2.2 **Joint Development Committee.**

(a) ***Development Committee.*** As soon as practicable, the Parties will establish a Joint Development Committee, comprised of up to [*****] representatives of CureVac and up to [*****] representatives of Acuitas (the "JDC"). One such representative from each Party will be such Party's Work Plan Leader. Each Party may replace its Work Plan Leader and other JDC representatives at any time upon written notice to the other Party, provided, however, that each Party shall use commercially reasonable efforts to ensure continuity on the JDC. With the consent of the other Party (which will not be unreasonably withheld), each Party may invite non-voting employees and consultants to attend JDC meetings of the JDC, subject to their agreement to be bound to the same extent as a permitted subcontractor under Section 3.4.

(b) ***Meetings.*** While in existence, the JDC will meet each Calendar Quarter by teleconference, videoconference or in person and, at a minimum, one of such meetings each calendar year will be in person (which in-person meeting will be held on an alternating basis in Tubingen, Germany and in Vancouver, BC), unless agreed otherwise by the JDC representatives. The JDC will have a quorum if at least [*****] representative of each Party is present or participating. Each Party will be responsible for all of its own expenses of participating in the committee meetings. The Parties will endeavor to schedule meetings of the JDC at least [*****] months in advance. The Parties will alternate in preparing the meeting agenda, and the Party that was responsible for preparing the meeting agenda will prepare and circulate for review and approval by the other Party written minutes of such meeting within [*****] days after such meeting. The Parties will agree on the minutes of each meeting promptly, but in no event later than the next meeting of the JDC.

(c) ***Responsibilities.*** The JDC will oversee and supervise the overall performance of the Work Plan and within such scope will:

(i) review the efforts of the Parties and allocate those resources for the Work Plan committed by the Parties hereunder;

(ii) revise and approve any revisions to the Work Plan regularly and in any event at least [*****] days before the start of each Calendar Quarter during the Term;

(iii) form such other committees as the JDC may deem appropriate, provided that such committees may make recommendations to the JDC but may not be delegated JDC decision-making authority;

(iv) address such other matters relating to the activities of the Parties under this Agreement as either Party may bring before the JDC, including any matters that are delegated to the JDC to decide as provided in this Agreement; and

(v) attempt to resolve any disputes on an informal basis.

(d) ***Decision-making.*** The JDC will make decisions only by unanimous consent. In the event the JDC is unable to reach agreement as to a matter within the JDC's jurisdiction (such event, a "JDC Deadlock"), upon the written request of a Party, such matter will be referred to a senior executive of each Party (the "Executive Officers") (or their designees, which designee is required to have decision-making authority on behalf of such Party), who will attempt in good faith to resolve such JDC Deadlock by negotiation and consultation for a [*****]-day period following receipt of such written notice. If, despite such efforts, agreement on a particular matter cannot be reached by the Executive Officers within such [*****]-day period, then CureVac shall have the final decision-making authority with respect to such JDC Deadlock, subject to Section 3.1(c).

(e) ***Limits on JDC Authority.*** Each Party will retain the rights, powers and discretion granted to it under this Agreement and no such rights, powers, or discretion will be delegated to or vested in the JDC unless such delegation or vesting of rights is expressly provided for in this Agreement or the Parties expressly so agree in writing. The JDC will not have the power to amend, modify or waive compliance with this Agreement (other than as expressly permitted hereunder). Notwithstanding anything herein to the contrary, the JDC will not have the power to require any Party to perform any activities that are materially greater in scope or more costly than those provided for in the Work Plan then in effect or otherwise under this Agreement.

ARTICLE 3

The Program

3.1 **Program Generally.** The Parties will jointly conduct the Program. It is intended that Acuitas will be responsible for the lipid chemistry and LNP formulation and characterization work, CureVac will be responsible for mRNA Construct development and Acuitas and CureVac will each undertake preclinical studies as allocated in the Work Plan.

(a) ***Work Plan Preparation.*** The development activities to be undertaken by the Parties with respect to the Program will be described in a deta™iled written development plan (the "Work Plan"). The Work Plan includes a description of activities undertaken by tire Parties under the Material Transfer Agreements and prior to the execution of this Agreement. The initial Work Plan, which will cover the initial [*****] months of the Program, is attached hereto as **Exhibit 3.1 (a).**

(b) ***Work Plan Contents.*** The Work Plan will include (i) all activities to be undertaken by each Party with respect to the Program, including Acuitas' manufacture and supply of Formulated Product, (ii) a detailed budget of the FTE activities, FTE Costs and out-of-pocket costs to be incurred by Acuitas for which CureVac will reimburse Acuitas in connection with the performance of the Works and Services, (iii) the Materials to be provided by one Party to the other, (iv) forecasting and ordering procedures for the Formulated Product, and (v) the projected timelines for completion of all activities set forth therein. The goal of the Work Plan and Program will be to evaluate and produce LNP formulations that are safe and efficacious for delivery of CureVac's mRNA Constructs and to advance the development of such mRNA-LNP formulations. The Parties will use commercially reasonable efforts to develop LNP formulations which do not infringe Third Party Technology (for avoidance of doubt, [*****]. The Program will include activities with respect to Reserved Targets but may also include activities with respect to Targets that are not on the CureVac Reserved List provided all such Targets have been pre-cleared with the Escrow Agent and confirmed not subject to exclusive Pre-existing Restrictions. Pre-clearance with the Escrow Agent will not reserve any Targets not on the CureVac Reserved List and Acuitas, through the Escrow Agent, will notify CureVac upon any such Target becoming subject to an exclusive Pre-existing Restriction at which time, CureVac will terminate all activities under the Program with respect to such Target.

(c) ***Amendments to the Work Plan.*** The Work Plan will be reviewed as necessary at each meeting of the JDC, and at any other time upon the request of either Party, and will be modified in accordance with the goal as defined in Section 3.1(b) and as appropriate at the direction of the JDC to reflect material scientific (and other) developments. Each Calendar Quarter, the JDC will update the Work Plan to cover the subsequent [*****] months of the Program in detail. In all events, the Work Plan will be consistent and not conflict with the terms of this Agreement, and in the event of any conflict between the Work Plan and this Agreement, the terms of this Agreement will control. The Work Plan may be amended by the JDC to accelerate, decelerate, add or remove activities thereunder including reducing or eliminating Acuitas' responsibilities for an activity thereunder, provided that Acuitas' written consent is required in order to amend the Work Plan to significantly accelerate or decelerate the planned Acuitas activities, materially change the Acuitas resources required to perform the Work Plan activities or to require allocation by Acuitas of FTEs significantly greater than or less than those provided for in the Work Plan, such consent not to be unreasonably withheld, delayed or conditioned. CureVac may not amend the Work Plan to include any activities that are subject to exclusive Pre-existing Restrictions.

(d) ***Obligations Under the Work Plan.*** During the Term, each Party will perform the Works and Services in a professional manner and in accordance with the Work Plan, and each Party will use Diligent Efforts to meet the objectives and timelines set forth therein. It is understood that the activities and goals of the Work Plan are experimental and that successful results cannot be guaranteed. The Parties will otherwise conduct the Program on the terms and conditions set forth in this Agreement and in accordance with the Work Plan. Each Party will cooperate with and provide reasonably requested non-financial support to the other Party in such other Party's performance of its responsibilities under the Work Plan. In addition to the reporting obligations set forth in Section 3.3(b), each Party will keep the other Party reasonably informed of such Party's activities under the Program and will reasonably consult with such other Party and consider such other Party's comments and advice with respect to all material decisions relating to such activities in good faith.

(e) ***Supply of Formulated Product.*** Acuitas will manufacture and supply CureVac with Formulated Product as set forth in the Work Plan and CureVac will pay to Acuitas the Formulated Product Fee for such Formulated Product. CureVac will use the Formulated Product solely for research purposes in laboratory animals and/or *in vitro* studies but will not use Formulated Product in humans.

(f) ***Technology Transfer to Contract Manufacturing Organization.*** Following CureVac's exercise of an Option, Acuitas will be responsible to transfer the formulation process for that Licensed Product to a GMP manufacturer. In order to ensure a smooth transfer of themanufacturing process upon Option Notice, at CureVac's discretion the Parties will perform some preparatory technology transfer activities, to a GMP manufacturer that is reasonably acceptable to Acuitas, such technology transfer starting after the Effective Date. The activities to be performed with respect to such technology transfer, the rights and obligations of the Parties, and the reimbursement of Acuitas for such technology transfer activities are set forth in the Technology Transfer Agreement in **Exhibit 3.1 (f)** hereto, and will be otherwise governed by the terms and conditions of this Agreement.

(g) ***Payment for External Expenses.*** On a Calendar Quarterly basis, CureVac will reimburse Acuitas for any reasonable external costs that are incurred by Acuitas in connection with performing the Works and Services in accordance with the Work Plan and Work Plan budget, such external costs being specified in the Work Plan or agreed by the JDC. Acuitas will send a reasonably detailed invoice to CureVac no later than [*****] days after the end of each Calendar Quarter, which invoice shall include a detailed summary of and reasonable documentation for all such external costs. CureVac agrees to pay undisputed amounts in each such invoice within [*****] days of CureVac's receipt thereof. Except for such reimbursement of external costs, CureVac's payments to Acuitas with respect to FTE Costs as set forth in Section 3.2, each Party will bear its own costs of performing the Work Plan.

3.2 FTEs.

(a) ***Generally.*** Acuitas will perform the Works and Services under the Work Plan and as part of the Program. The actual number of Acuitas FTEs committed to work on the Program at any particular point in time will be set forth in the Work Plan. The Parties will prepare the Work Plan, which will determine the number of Acuitas FTEs to be funded each year. Notwithstanding anything to the contrary set forth herein, in no event will (i) Acuitas be required to devote any FTEs to the conduct of the Program other than those funded by CureVac or (ii) CureVac be required to fund more than the actual number of FTEs devoted by Acuitas to the Work Plan.

(b) ***FTEs.*** Acuitas shall ensure that those individuals selected by Acuitas to perform the Works and Services and otherwise support the activities to be undertaken by Acuitas pursuant to the Work Plan will have sufficient scientific expertise, skill, training and competency to perform the proposed work and have similar skills, training and competency as those FTEs employed by Acuitas to perform work on Acuitas' internal programs and for Third Parties. In the event that CureVac has concerns regarding the selection of an individual to perform the Works and Services or other activities under this Agreement, the Parties will discuss such concerns in good faith.

(c) ***FTE Costs***. CureVac will reimburse Acuitas on a Calendar Quarter-by-Calendar Quarter basis for FTE Costs incurred to conduct the Work Plan (including the manufacture of Formulated Product) and provided such FTE Costs are either set forth in the Work Plan or pre-agreed by the JDC. Acuitas will send a reasonably detailed invoice to CureVac no later than [*****] days after the end of each Calendar Quarter, which invoice shall include a summary of all activities by the name of each individual, number of hours devoted by each such individual, and Works and Services type/activity performed by each such individual during such Calendar Quarter. CureVac agrees to pay undisputed amounts in each such invoice within [*****] days of CureVac's receipt thereof.

3.3 Program Records, Reports and Materials.

(a) ***Records.*** Each Party will maintain, or cause to be maintained, records of its activities under the Program in sufficient detail and in good scientific manner appropriate for scientific, Patent and regulatory purposes, which will properly reflect all work included in the Program ("Records") for a period of at least [*****] years after the creation of such Records. CureVac will have the right to request and receive a copy of any such Records maintained by Acuitas; and Acuitas will have the right to request and receive a copy of any such Records maintained by CureVac to the extent such Records are required by Acuitas to exercise its rights under this Agreement.

(b) ***Program Reports.*** During the Term each Party will furnish to the JDC a summary written report within [*****] days after the end of each Calendar Quarter describing its progress under the Work Plan as part of the Program. Within [*****] days following expiration or earlier termination of this Agreement, each Party will furnish to the JDC a final summary written report. Acuitas shall promptly provide all additional information with respect to the Acuitas LNP Technology that is reasonably requested by CureVac and necessary or useful for CureVac to determine whether to exercise an Option with respect to any Licensed Product.

(c) ***Materials.***

(i) Each Party will, during the Term, furnish to each other samples of Materials which comprise, embody or incorporate CureVac Technology or Acuitas LNP Technology only as expressly set forth in the Work Plan. Acuitas will furnish to CureVac the quantities of Formulated Product as set forth in the Work Plan and will use commercially reasonable efforts to provide any additional quantities which will be required in performance of the Program. In addition, each Party will, upon the other Party's reasonable written request, furnish to such other Party other samples of Materials which comprise, embody or incorporate CureVac Technology or Acuitas LNP Technology that are in such Party's Control and are reasonable (both in quantity and identity) and useful for the other Party to carry out its responsibilities under the Work Plan, provided (A) such Materials are reasonably and readily available in excess of the providing Party's own requirements, and (B) supply of such Materials will not, in the providing Party's reasonable judgment, (1) conflict with the providing Party's internal or Third Party research programs, (2) conflict with the providing Party's internal policies regarding such Materials or (3) violate any agreement to which the providing Party is a party. Upon termination or expiration of this Agreement and unless such Material is necessary or useful for the exercise of a Party's rights or obligations under another or future License Agreement, Materials will, at the providing Party's option and request to be made (if at all) within three (3) months after such termination or expiration or the effective date of termination, be returned to the providing Party or destroyed. The provision of Materials hereunder by either Party will not constitute any grant, option or license under any Patents or Know-How, except as expressly set forth herein.

(ii) Each Party will use such Materials only in accordance with the Work Plan and otherwise in accordance with the terms and conditions of this Agreement. Except with the prior written consent of the supplying Party, the Party receiving any Materials will not distribute or otherwise allow the release of Materials to any Third Party, except, with respect to either Party, to any permitted subcontractors under Section 3.4 and, with respect to CureVac, to any Approved Partners. All Materials delivered to the receiving Party will remain the sole property of the providing Party and will be used in compliance with all applicable Law and only to perform activities set forth in the Work Plan. The Materials supplied under this Agreement will be used with prudence and appropriate caution in any experimental work because not all of their characteristics may be known.

3.4 **Permitted Subcontracting.** Acuitas may, with the prior written consent of CureVac, subcontract its activities to be performed under the Work Plan to an Approved Partner or a Third Party, and CureVac may subcontract its activities to be performed under the Work Plan to any Third Party, provided that Acuitas Confidential Information related to LNP Technology formulations is provided to such Party subject to the confidentiality obligations under Article 7 below. Any such Third Party will have entered into a written agreement with the subcontracting Party that includes terms and conditions protecting and limiting use and disclosure of Confidential Information and Materials and Know-How at least to the same extent as under this Agreement, and (in the case of Approved Partners described in clause (ii) of the definition thereof) requiring such Third Party and its personnel to assign to the subcontracting Party all right, title and interest in and to any Patents and Know-How and Materials created, conceived, developed or reduced to practice in connection with the performance of subcontracted activities in accordance with this Agreement in order to give effect to the provisions of Article 6. CureVac shall use commercially reasonable efforts to obtain the foregoing assignment for Approved Partners described in clause (i) of the definition thereof, and if CureVac is unable to obtain such assignment, CureVac shall obtain a non-exclusive, perpetual, irrevocable, royalty-free, and sublicensable license under the applicable Know-How and Patents. Any such subcontracting activities will be described in the reports for the Program required by Section 3.3(b).

3.5 **Program Licenses.**

(a) ***By Acuitas.*** Subject to the terms and conditions of this Agreement, Acuitas hereby grants to CureVac a worldwide, non-exclusive license under the Acuitas LNP Technology, solely to the extent needed to enable CureVac to perform its activities set forth in the Work Plan and for no other purpose. The foregoing licenses shall not include the right to grant sublicenses, except to Affiliates of CureVac, to Approved Partners or to permitted subcontractors in accordance with Section 3.4.

(b) ***By CureVac***. Subject to the terms and conditions of this Agreement, CureVac hereby grants to Acuitas a worldwide, non-exclusive license under CureVac Technology, solely to the extent needed to enable Acuitas to perform its activities set forth in the Work Plan and for no other purpose. The foregoing license shall not include the right to grant sublicenses, except to permitted subcontractors in accordance with Section 3.4.

(c) ***Option for additional Licenses.*** For the event that, in their reasonable judgment, CureVac, its Affiliates or sublicensees consider it necessary to obtain a sublicense [*****] to practice the Acuitas LNP Technology in accordance with the Work Plan, Acuitas hereby grants to CureVac the option to acquire one or more sublicenses under any such [*****] Technology, to the extent Acuitas has the right to grant sublicenses. Such sublicense will be granted at the terms of Acuitas' main Third Party license agreement on the effective date of the sublicense, and where such terms are equivalent to the terms and conditions that would be applicable to Acuitas if Acuitas were developing the product under the Third Party license. The scope of each such option for asublicense is equivalent to the scope of the licenses granted to CureVac under Section 3.5 (a) above, provided, however, that CureVac will have the option to extend the sublicense with respect to a License Agreement at the terms of Acuitas' main Third Party license agreement, and the sublicense will then also have the scope equivalent to the scope of the licenses granted to CureVac under the License Agreements, provided that they will only become effective upon the respective License Agreement becoming effective and provided CureVac opts for such extension in writing. CureVac is entitled to exercise the option at any time during the Term, and upon written notice of CureVac that it exercises the option, the Parties shall finalize in good faith the terms of such sublicense agreement according to the terms of Acuitas' main Third Party license agreement.

(d) ***No Other Licenses***. No license or right is or will be created or granted hereunder by implication, estoppel or otherwise. All licenses and rights are or will be granted only as expressly provided in this Agreement.

3.6 **Program** [*****]. In the event during [*****], CureVac shall actually pay to Acuitas combined FTE Costs, Reservation and Maintenance Fees and License Fees ([*****]), Acuitas will within [*****] days following the last day of the applicable Contract Year, [*****].

ARTICLE 4

Reserved Targets

4.1 **Generally.** CureVac will select the Targets that will be the subject of the work performed as part of the Program from the Reserved Target List. CureVac shall have the right, but not the obligation, to reserve Targets (or replace a Reserved Target with a new Target) in accordance with this Article 4.

4.2 **Restricted Target List.**

(a) ***Pre-existing Restrictions.*** Acuitas shall maintain - at the Escrow Agent - a current and up-to-date list of Targets that are subject to Pre-Existing Restrictions (the "Restricted Target List"). Such list will also identify the scope of the Pre-Existing Restrictions. Acuitas represents, warrants and covenants to CureVac that (i) the Restricted Target List is and will at all times be accurate; and (ii) Acuitas or the Escrow Agent will not add any Reserved Targets to the Restricted Target List or grant to any Third Party any exclusive or non-exclusive licenses or options under the Acuitas LNP Technology with respect to any Reserved Targets that would preclude Acuitas from entering into an Exclusive License Agreement or a Non-Exclusive License Agreement with respect to such Reserved Target as set forth herein.

(b) ***Target Notices.*** If CureVac desires to include a Target as a Reserved Target hereunder, CureVac will notify the Escrow Agent in writing of the same, which notice will identify, in addition to such proposed Target and whether CureVac wishes to exclusively or non- exclusively reserve such Target, (i) the information on the Target Reservation Request Form attached hereto as **Exhibit 4.2 A** or Vaccine Target Reservation Request Form attached hereto as **Exhibit 4.2 B,** and (ii) the identity of each Reserved Target (if any) that CureVac desires to remove as a Reserved Target (each such notice, a "Target Notice").

(c) ***Target Response Notices.***

(i) The Escrow Agent - on behalf of Acuitas - will review each Target Notice provided by CureVac hereunder to determine whether or not any such proposed Target is on the Restricted Target List as of the date of such Target Notice. Within [*****] days of the Escrow Agent's receipt of a Target Notice, the Escrow Agent will provide CureVac with written notice that includes the information set forth in subsection (c)(ii) and (iii) (each such notice, a "Target Response Notice").

(ii) If, as of the date of CureVac's Target Notice for a Target, such Target is on the Restricted Target List and is listed as being subject to Pre-Existing Third Party Restrictions that restrict Acuitas from granting the applicable license to CureVac under the Acuitas LNP Technology hereunder or under a License Agreement with respect to such Target, then such Target will not become a Reserved Target. The Target Response Notice issued for such Target will certify to CureVac that such Target is on the Restricted Target List and is listed as being subject to Pre-Existing Third Party Restrictions that restrict Acuitas from granting the applicable license to CureVac under the Acuitas LNP Technology hereunder or under a License Agreement and that such Target is not a Reserved Target.

(iii) If, as of the date of CureVac's Target Notice for a Target, such Target is not listed on the Restricted Target List, or is listed on the Restricted Target List but is not listed as being subject to Pre-Existing Third Party Restrictions that restrict Acuitas from granting the applicable license to CureVac under the Acuitas LNP Technology hereunder or under a License Agreement with respect to such Target, then such Target will become a Reserved Target and will be added to the Reserved Target List subject to the Concurrent Reserved List Limits set forth in subsection (d) below.

(d) ***Concurrent Reserved List Limits.*** The following concurrent reserved list limits will apply to all Reserved Targets ("Concurrent Reserved List Limits").

(i) Minimum Number Reserved Targets. During the Term, CureVac will maintain [*****] Target on the Reserved Target List. CureVac may select additional Reserved Targets at any time during the Term up to the totals allowed for in subparagraph (ii) below. For the avoidance of doubt: (i) if CureVac removes a Reserved Target from the Reserved Target List the number of Reserved Targets on the Reserved Target List reduces respectively; and (ii) if CureVac exercises an Option in respect of a License Agreement, the Reserved Target that is the subject of the License Agreement remains on the Reserved Target List but is identified as a licensed Target and is not subject to any further Target Reservation and Maintenance Fees.

(ii) Maximum Number Reserved Targets. CureVac will have the right to select up to [*****] Targets at any one time to be placed on the Reserved Target List provided no more than [*****] may be exclusive Reserved Targets.

(iii) Reserved Vaccine Target List. In the case of Targets intended to be used in a Licensed Vaccine Product, CureVac will notify the Escrow Agent of the [*****] Target and the [*****] Targets, if any. The [*****] Target will count as a single Reserved Target, however, [*****] Targets will not be counted against the total number of Reserved Targets available to CureVac, provided, however, that the total number of [*****] Targets on the Reserved Target List cannot be more than [*****] at any time of which not more than [*****]. For the avoidance of doubt, if CureVac exercises an Option in respect of a License Agreement that includes [*****] Targets, the number of [*****] Targets on the Reserved Target List reduces respectively by the number of [*****] Targets included in such License Agreement.

4.3 **Expiration of Pre-Existing Restrictions.** If any Pre-Existing Restrictions identified in a Target Response Notice that precluded Acuitas from granting CureVac a non-exclusive or exclusive, as applicable, license under the Acuitas LNP Technology later expire or otherwise are modified or terminate such that Acuitas is no longer precluded under the terms of the applicable Third Party agreement from granting the applicable rights to CureVac with respect to such Target, the Escrow Agent will notify CureVac of such event and CureVac will have an exclusive option, for a period of [*****]) days following delivery of notice to CureVac, to add such Target to the Reserved Target List as a Reserved Target in accordance with Section 4.2 (c), subject to the Concurrent Reserved List Limits. For clarity, CureVac will at all times thereafter have the right to provide a Target Notice for such Target to the Escrow Agent pursuant to Section 4.2(b) but such Target Notice will be subject to any intervening Pre-Existing Third Party Restrictions.

4.4 **Fees.**

(a) ***Target Reservation and Maintenance Fees.*** CureVac will pay to Acuitas the fees shown below per Contract Year for each Reserved Target added to the Reserved Target List pursuant to Section 4.2 as a non-exclusive Target:

(i) [*****]

(ii) [*****]

(iii) [*****]

or the fees shown below per Contract Year for each Reserved Target added to the Reserved Target List pursuant to Section 4.2 as an exclusive Target:

(iv) [*****]

(v) [*****]

(vi) [*****]

In the case of Targets for Vaccines, instead of the fees set forth in (i) to (vi) above, CureVac will pay to Acuitas the fees shown below per Contract Year for each non- exclusively Reserved [*****] Target added to the Reserved Target List pursuant to Section 4.2 together with each associated [*****] Target:

(vii) [*****]

(viii) [*****]

(ix) [*****]

or the fees shown below per Contract Year for each exclusively Reserved Primary Vaccine Target added to the [*****] List pursuant to Section 4.2 together with each associated [*****] Target:

(x) [*****]

(xi) [*****]

(xii) [*****]

(b) Each such payment will be due within [*****] after CureVac's receipt of an invoice from Acuitas following (i) the date on which the Reserved Target is added to the Reserved Target List and (ii) the beginning of each Contract Year thereafter during which the Reserved Target remains on the Reserved Target List. If a Reserved Target is removed from the Reserved Target List, CureVac may credit, within [*****] days, the portion of the annual fee previously paid that corresponds to the remainder of the Contract Year to new Reserved Target. For the first and the last Contract Year during which a Reserved Target is on the Reserved Target List, the payments shall be made on a *pro rata temporis* basis, i.e., shall be reduced accordingly.

(c) ***Credit.*** Once paid by CureVac as set forth above, up to [*****] dollars (US$[*****]) of the cumulative Target Reservation and Maintenance Fees paid with respect to a particular Target will be credited against the Option Exercise Fees for an Exclusive License Agreement and up to [*****] dollars (US$[*****]) of the cumulative Target Reservation and Maintenance Fees paid with respect to a particular Target will be credited against the Option Exercise Fees for a Non- exclusive License Agreement. In the case of a Licensed Vaccine Product, only the [*****] Target Reservation and Maintenance Fees will be credited against the license fee for a License Agreement for the Licensed Vaccine Product.

ARTICLE 5

CureVac License Options

5.1 Option. From the period commencing on the Effective Date and ending on the expiration of the Term (the "Option Period"), CureVac will have options (each, an "Option"), on a Reserved Target by Reserved Target basis, to enter into a maximum of [*****] under the Acuitas LNP Technology with respect to Licensed Product(s) containing mRNA Construct(s) intended to express such Reserved Target in the applicable form (non-exclusive or exclusive) set forth in Exhibit 1.54 and Exhibit 1.31, provided that the Exhibits to such template agreements are to be prepared or updated in accordance with the terms of the respective License Agreement and this Agreement. In the event CureVac opts for an exclusive license of a Reserved Target for Licensed Vaccine Products, the exercise notice will identify the [*****] Target and the [*****] Target(s), if any, and the exclusivity will apply with respect to the [*****] Target, and will cover any combination of the [*****] Target, with or without and with one or several of the [*****] Targets, if any. CureVac may exercise each such Option by providing to Acuitas, prior to the expiration of the Term, written notice of Option exercise, setting forth the particular Reserved Target which is intended to be expressed by the Licensed Products (each such notice, an "Option Notice"). A separate Option Notice and Option Exercise Fee will be required for each License Agreement with respect to which CureVac exercises an Option pursuant to this Section 5.1, and CureVac will pay to Acuitas the Option Exercise Fee for each such License Agreement as set forth in Section 5.3. If not exercised prior to the expiration of the Term, the Options granted to CureVac under this Article 5 with respect to all Licensed Products will terminate in full and will no longer be exercisable. In the event that CureVac terminates a license(s) during the Term, the Target(s) subject to the license(s) will be removed from the Reserved Target List and CureVac may replace such Target(s) on the Reserved Target List in accordance with Article 4 and may exercise an option to take a license to such Target(s) in accordance with this Article 5. For clarity no more than [*****] active licenses can be held at any time.

5.2 CureVac's Exercise of Option. Within [*****] business days of CureVac's delivery of an Option Notice to Acuitas, CureVac and Acuitas will enter into a License Agreement with respect to Licensed Products containing mRNA Constructs intended to express the respective Reserved Target for which CureVac has issued an Option Notice.

5.3 Option Exercise Fee. Within [*****] business days after entry into a License Agreement for Licensed Product(s), Acuitas will issue an invoice to CureVac for the Option Exercise Fee less any amounts creditable against such Option Exercise Fee for such License Agreement pursuant to Section 4.4(c). Each such payment will be due within [*****] days after CureVac's receipt of such invoice from Acuitas.

ARTICLE 6

Ownership of Program Technology

6.1 Disclosure of Program Know-How. Each Party will promptly (and at least on a Calendar Quarterly basis) disclose to the other Party any Program Know-How that is created, conceived or reduced to practice by or on behalf of such Party and owned by the other Party pursuant to Section 6.2(c), and will provide such documentation regarding same as such other Party may reasonably request.

6.2 Ownership.

(a) ***CureVac Owned Technology.*** As between the Parties, CureVac will continue to own all right, title and interest in and to the CureVac Background Technology.

(b) ***Acuitas Owned Technology.*** As between the Parties, Acuitas will continue to own all right, title and interest in and to the Acuitas Background Technology.

(c) ***Sole and Joint Program Know-How.***

(i) Except as set forth in subsection (iii) below, each Party will solely own all right, title and interest in and to all Program Technology that is discovered, created, conceived, developed or reduced to practice solely by or on behalf of such Party ("Solely-Owned Program Know-How"), and all Patents arising therefrom that claim such Solely-Owned Program Know-How ("Solely-Owned Program Patents" and together with the Solely-Owned Program Know-How, the "Solely-Owned Technology"), and all right, title and interest in and to all Solely- Owned Technology will automatically vest solely in such Party.

(ii) Except as set forth in subsection (iii) below, the Parties will jointly own any and all Program Know-How that is discovered, created, conceived, developed or reduced to practice jointly by or on behalf of the Parties ("Jointly- Owned Program Know-How") and all Patents arising therefrom that claim such Jointly-Owned Program Know-How ("Jointly-Owned Program Patents" and together with the Jointly-Owned Program Know-How, the "Jointly-Owned Technology"). Each Party will have an undivided one-half interest in and to such Jointly-Owned Program Technology. Acuitas will have a right to grant non-exclusive licenses (with the right to grant sublicenses through multiple tiers) to CureVac's share in such Jointly-Owned Technology to the extent such license is required to exercise and exploit the Acuitas LNP Technology, and CureVac will have a right to grant non-exclusive licenses (with the right to grant sublicenses through multiple tiers) to Acuitas' share in such Jointly-Owned Technology to the extent such license is required to exercise or exploit the CureVac Technology, i.e., neither Party is to be blocked in the use of its own Technology by Jointly- Owned Technology. Subject to the licenses hereunder or under any License Agreement, any further license requires the prior written consent of the other Party. Without limiting Acuitas' right to grant non-exclusive licenses to Jointly- Owned Technology as set forth in the preceding two sentences, Acuitas shall not assign or transfer its ownership interest in, or otherwise encumber its ownership interest in, the Jointly-Owned Program Technology without the prior written consent of CureVac, which consent shall not be unreasonably withheld, delayed or conditioned. In any event, the ownership rights in Jointly-Owned Program Technology remain subject to the licenses hereunder or under any License Agreement, other intellectual property rights of the other Party and the other terms and conditions of this Agreement. To the extent applicable and at the reasonable written request of a Party, the other Party will in writing grant such consents and confirm that no such accounting is required to effect the foregoing regarding Jointly-Owned Program Technology. Each Party, for itself and on behalf of its and its Affiliates' employees, subcontractors (subject to Section 3.4), Approved Partners, consultants and agents, hereby assigns (and to the extent such assignment can only be made in the future hereby agrees to assign), to the other Party a joint and undivided interest in and to all Jointly-Owned Program Technology.

(iii) Notwithstanding subsections (i) and (ii) above,

(A) Acuitas will solely own any Program Improvement Technology that is Sole Improvement Technology to any Acuitas Background Technology, regardless of the Party or Parties such Program Improvement Technology was discovered, created, conceived, developed or reduced to practice by or on behalf of, and CureVac, for itself and on behalf of its and its Affiliates' employees, subcontractors (subject to Section 3.4), Approved Partners, consultants and agents, hereby assigns (and to the extent such assignment can only be made in the future hereby agrees to assign), all of its rights, title and interest in such Sole Improvement Technology to Acuitas.

(B) CureVac will solely own any Program Improvement Technology that is Sole Improvement Technology to any CureVac Background Technology, regardless of the Party or Parties such Program Improvement Technology was discovered, created, conceived, developed or reduced to practice by or on behalf of, and Acuitas, for itself and on behalf of its and its Affiliates' employees, subcontractors (subject to Section 3.4), consultants and agents, hereby assigns (and to the extent such assignment can only be made in the future hereby agrees to assign), all of its rights, title and interest in such Sole Improvements Technology to CureVac.

(C) For clarity, nothing herein shall prevent (1) Acuitas from independently developing, owning and using outside of the Program any Know-How that is similar or related to any CureVac Technology, and (2) CureVac from independently developing, owning and using outside of the Program any Know-How that is similar or related to any Acuitas LNP Technology, provided that in each case such Know-How is not developed using or with reference to CureVac Technology or Acuitas LNP Technology, respectively, or any Confidential Information or Material of CureVac or Acuitas, respectively.

(d) [*****] Improvements. To the extent that a particular item of Program Technology constitutes [*****] Technology, the Parties shall discuss in good faith whether any such [*****] Technology can be divided and owned in accordance with subsection (iii) (A) and (B) above, made subject to separate Patent filings to be assigned accordingly; and to the extent no such division is possible and notwithstanding the rights and licensed with respect to Jointly Owned Technology, the owner or co-owner of such [*****] Technology shall [*****] i.e., the Acuitas LNP Technology in case of a [*****] Technology is [*****] and the CureVac Technology in case the [*****] Technology is [*****].

6.3 **Inventorship.** Inventorship determination for all Patents worldwide arising from any Program Know-How and thus the ownership thereof will be made in accordance with applicable laws. Each Party will ensure that each individual and each subcontractor conducting any activities under this Agreement on behalf of such Party will be under written obligation to assign to such Party all of its right, title and interest in and to the Program Technology.

6.4 **Prosecution and Maintenance.**

(a) ***General.*** Subject to the remainder of this Section 6.4 and to any License Agreement, Acuitas will have the sole right, but not the obligation to file, prosecute, and maintain (at its sole expense) Patents within the Acuitas LNP Technology other than: (i) Patents within Jointly-Owned Program Technology and (ii) Patents within Dual Improvement Technology (collectively "Joint Interest Patents"). Upon filing, Acuitas will provide CureVac with copies of all applications for all such Patents, and all other material submissions and correspondence with any patent authorities regarding such Patents, in sufficient time (not to be less than [*****] days) to allow for review and comment by CureVac. In addition, Acuitas will provide CureVac and its counsel with an opportunity to consult with Acuitas and its counsel regarding prosecution and maintenance of any such Patents, and shall, prior to filing, revise such documents to reflect CureVac's reasonable comments, provided that Acuitas will have the right to make the final determination in the event of any disagreement between the Parties related to any decision in connection with the filing, prosecution and maintenance of such Patents. Subject to any License Agreement, CureVac will have the first right, but not the obligation to file, prosecute and maintain the Joint Interest Patents, and the Parties will share equally all costs incurred by CureVac in connection with such efforts. CureVac shall (i) provide all information reasonably requested by Acuitas with respect to the Joint Interest Patents, (ii) promptly notify Acuitas in writing with respect to all significant developments regarding the Joint Interest Patents, (iii) promptly provide Acuitas with a copy of each material communication from any patent authority regarding such Patents, and (iv) provide Acuitas with drafts of each material filing (including without limitation draft patent applications and responses to office actions and similar filings) with respect to such Patents a reasonable amount of time (but at least [*****] days) in advance of the anticipated filing date and shall, prior to filing, revise such documents to reflect Acuitas' reasonable comments, provided that CureVac will have the right to make the final determination in the event of any disagreement between the Parties related to any decision in connection with the filing, prosecution and maintenance of the Joint Interest Patents. If CureVac intends to abandon any Joint Interest Patent, it shall notify Acuitas sufficiently in advance, and subject to any License Agreement Acuitas shall have the right to prosecute, maintain such Patent at its sole expense and all right, title and interest in the Patent will vest in Acuitas, provided that such Patent(s) will remain to be included in the Acuitas LNP Technology and licensed to CureVac under this Agreements and under any License Agreement for any Licensed Products.

(b) ***Cooperation.*** Each Party will reasonably cooperate with the other Party in the prosecution and maintenance of the Patents within the Acuitas LNP Technology and Joint Interest Patents. Such cooperation includes promptly executing all documents, or requiring inventors, subcontractors, employees and consultants to execute all documents, as reasonable and appropriate so as to enable the prosecution and maintenance of any such Patents in any country.

6.5 Patent Enforcement and Defense.

(a) ***Notice.*** To the extent not in breach of an obligation of confidentiality, each Party will promptly notify, in writing, the other Party upon learning of any actual or suspected infringement of any Patents comprised in the Acuitas LNP Technology by a Third Party, or of any claim of invalidity, unenforceability, or non-infringement of any Patents comprised in the Acuitas LNP Technology, and will, along with such notice, supply the other Party with any evidence in its possession pertaining thereto.

(b) ***Enforcement.*** As between the Parties and subject to any License Agreement, Acuitas will have the sole right, but not the obligation, to seek to abate any infringement of the Patents comprised in the Acuitas LNP Technology by a Third Party, or to file suit against any such Third Party for such infringement, other than Joint Interest Patents *provided* that Acuitas shall bear all the expense of such suit or abatement of infringement. As between the Parties and subject to any License Agreement, CureVac will have the first right, but not the obligation, to seek to abate any infringement of the Joint Interest Patents by a Third Party, or to file suit against any such Third Party for such infringement; *provided* that CureVac shall bear all the expense of such suit or abatement of infringement. If CureVac elects not to take action or to bring suit to prosecute such infringement or to continue such action or suit, it shall notify Acuitas of such election within [*****] days after becoming aware of or receipt of the notice of the infringement or after the election to stop any such action or suit. If after the expiration of the [*****] days period (or, if earlier, the date upon which CureVac provides written notice that it does not plan to bring such action) CureVac has neither obtained a discontinuance of infringement nor filed suit against any such Third Party infringer of such Joint Interest Patent, then, and subject to any License Agreement, Acuitas shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of the Joint Interest Patents, provided that Acuitas shall bear all the expenses of such suit.

(c) ***Defense.*** As between the Parties and subject to any License Agreement, Acuitas will have the sole right, but not the obligation, to defend against a declaratory judgment action or other action challenging any Patents comprised in the Acuitas LNP Technology, other than Joint Interest Patents; *provided* that Acuitas shall bear all the expense of such defense. As between the Parties and subject to any License Agreement, CureVac will have the first right, but not the obligation, to defend against a declaratory judgment action or other action challenging the Joint Interest Patents; *provided* that CureVac shall bear all the expense of such defense. If CureVac does not take steps to defend within a commercially reasonably time, or elects not to continue any such defense (in which case it will promptly provide notice thereof to CureVac), then, and subject to any License Agreement, Acuitas will have the right (but not the obligation) to defend any such Patent; *provided* that Acuitas shall bear all the expense of such defense. Notwithstanding the foregoing and subject to any License Agreement, any response to a Third Party infringer's counterclaim of invalidity or unenforceability of any Patent comprised in the Acuitas LNP Technology shall be controlled by the Party who controls the relevant enforcement proceeding pursuant to Section 6.5 (b) unless otherwise mutually agreed by the Parties.

(d) ***Withdrawal, Cooperation and Participation.*** With respect to any infringement or defensive action identified above in this Section 6.5 which may be controlled by either CureVac or Acuitas, and subject to any License Agreement:

(i) If the controlling Party ceases to pursue or withdraws from such action, it will promptly notify the other Party (in good time to enable the other Party to meet any deadlines by which any action must be taken to preserve any rights in such infringement or defensive action) and such other Party may substitute itself for the withdrawing Party, shall be granted the right and standing to sue in the other Party's name, and proceed under the terms and conditions of this Section 6.5.

(ii) The non-controlling Party will cooperate with the Party controlling any such action (as may be reasonably requested by the controlling Party), including (A) providing access to relevant documents and other evidence, (B) making its and its Affiliates and licensees and sublicensees and all of their respective employees, subcontractors, consultants and agents available at reasonable business hours and for reasonable periods of time, but only to the extent relevant to such action, and (C) if necessary, by being joined as a party, subject for this clause (C) to the controlling Party agreeing to indemnify such non-controlling Party for its involvement as a named party in such action and paying those reasonable, documented, out-of-pocket costs and expenses paid to outside legal counsel, and filing and maintenance expenses, actually and reasonably incurred by a Party in prosecuting and maintaining Patents and enforcing and defending them, incurred by such Party in connection with such joinder. The Party controlling any such action will keep the other Party updated with respect to any such action, including providing copies of all documents received or filed in connection with any such action.

(iii) Each Party will have the right to participate or otherwise be involved in any such action controlled by the other Party, in each case at the participating (i.e., non-controlling) Party's sole cost and expense. If a Party elects to so participate or be involved, the controlling Party will provide the participating Party and its counsel with an opportunity to consult with the controlling Party and its counsel regarding the prosecution of such action (including reviewing the contents of any correspondence, legal papers or other documents related thereto), and the controlling Party will take into account reasonable requests of the participating Party regarding such enforcement or defense.

(e) *Settlement.* Neither Party will settle or consent to an adverse judgment in any action described in this Section 6.5 and controlled by such Party, including any judgment which affects the scope, validity or enforcement of any Patents comprised in the Acuitas LNP Technology involved therewith, without the prior written consent of the other Party (such consent not to be unreasonably withheld or delayed).

(f) *Damages.* Unless otherwise agreed by the Parties, all monies recovered upon the final judgment or settlement of any action which may be controlled by either CureVac or Acuitas and described in Section 6.5 in each case will be used first to reimburse the controlling Party, then the non-controlling Party, for each of their out-of-pocket costs and expenses relating to the action, with the balance of any such recovery to be divided [*****]% to the Party controlling the action and [*****]% to the other Party.

ARTICLE 7

Confidentiality

7.1 **Confidential Information.** Each Party ("Disclosing Party") may disclose to the other Party ("Receiving Party"), and Receiving Party may acquire during the course and conduct of activities under the Agreement, certain proprietary or confidential information of Disclosing Party in connection with this Agreement. The term "Confidential Information" means all information of any kind, whether in written, oral, graphical, machine-readable or other form, whether or not marked as confidential or proprietary, that are disclosed or made available by or on behalf of the Disclosing Party to the Receiving Party in connection with this Agreement, including any of the foregoing of Third Parties; provided thatProgram Know-How will be considered the Confidential Information of the Party (or Parties) owning such Program Know-How, and Dual Improvement Technology will be considered Confidential Information of both Parties, even if only owned by one Party. Notwithstanding the foregoing, either Party may use and disclose Dual Improvement Technology or Jointly-Owned Technology in connection with such Party's permitted exploitation of such Technology, provided that the recipient is bound by confidentiality obligations corresponding to the obligations under this Agreement.

7.2 **Restrictions.** During the Term and for [*****] years thereafter, Receiving Party will keep all Disclosing Party's Confidential Information in confidence with the same degree of care with which Receiving Party holds its own confidential information, but in no event less than reasonable care. Receiving Party will not use Disclosing Party's Confidential Information except for in connection with the performance of its obligations and exercise of its rights under this Agreement or any License Agreement. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent to Receiving Party's Affiliates, and each of their employees, subcontractors (subject to Section 3.4) and Approved Partners, consultants or agents who have a need to know such Confidential Information in order to perform its obligations and exercise its rights under this Agreement or any License Agreement and who are under written obligation to comply with the restrictions on use and disclosure that are no less restrictive than those set forth in this Section 7.2. Receiving Party assumes responsibility for such entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

7.3 **Exceptions.** Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information will not apply to a specific portion of the Disclosing Party's Confidential Information to the extent that Receiving Party can demonstrate that such portion: (i) was known to Receiving Party or any of its Affiliates prior to the time of disclosure by the Disclosing Party without obligation of confidentiality; (ii) is or becomes public knowledge through no fault or omission of Receiving Party or any of its Affiliates; (iii) is obtained on a non-confidential basis by Receiving Party or any of its Affiliates from a Third Party who to Receiving Party's knowledge is lawfully in possession thereof and under no obligation of confidentiality to Disclosing Party; or (iv) has been independently developed by or on behalf of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information.

7.4 **Permitted Disclosures.** Receiving Party may disclose Disclosing Party's Confidential Information to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(a) in order and to the extent required to comply with applicable Law (including any securities Law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

(b) in connection with prosecuting or defending litigation, and filing, prosecuting and enforcing Patents in connection with Receiving Party's rights and obligations pursuant to this Agreement or a License Agreement; and

(c) to acquirers or permitted assignees; investment bankers, investors and lenders, including potential acquirers, assignees, investment bankers, and lenders;

(d) in the case of CureVac, to Approved Partners, but in case the Approved Partner is only a potential licensee or assignee, only such information that is reasonably necessary or useful for the potential licensee or partner to evaluate the applicable Licensed Product, including design of experiments conducted under the Work Plan, data and results generated under the Work Plan,and LNP/Licensed Product manufacturing processes, but excluding the particular chemical structure and formulation of any LNPs (which excluded information may be disclosed to such potential licensee or partner upon Acuitas' prior written consent); provided that (1) where reasonably possible, Receiving Party will notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant to subsections (a) and (b) sufficiently prior to making such disclosure so as to allow Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to subsections (c) and (d), each of those entities are required to comply with the restrictions on use and disclosure in Section 7.2 (other than investment bankers, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

7.5 **Return of Confidential Information.** Upon expiry or earlier termination of the Agreement, upon written request of a Party (such request, if made, to be made within [*****] months of such expiry or termination) the other Party will destroy or return (as shall be specified in such request) to the requesting Party all copies of the Confidential Information of the requesting Party; provided that the Party may retain: (i) one copy of such Confidential Information for record-keeping purposes, for the sole purpose of ensuring compliance with this Agreement; (ii) any copies of such Confidential Information as is required to be retained under applicable Law; (iii) any copies of such Confidential Information as is necessary or useful for such Party to exercise a right or fulfill an obligation under a License Agreement, if any, or as set forth in this Agreement; and (iv) any copies of any computer records and files containing Confidential Information that have been created by such Party's routine archiving/backup procedures.

7.6 **Publications.** Notwithstanding anything in this Agreement to the contrary, Acuitas shall be permitted to publish the results of the Program only with the prior written consent of CureVac. Acuitas shall submit any proposed publication of the results of the Program to CureVac. Following receipt of the proposed publication by CureVac, CureVac will use commercially reasonable efforts to provide written approval or disapproval, at CureVac's discretion, within [*****] days. Expedited reviews for abstracts or poster presentations, or for other publications that may relate to potential patent applications, may be arranged if mutually agreeable to the Parties. CureVac is permitted to publish the results of the Program provided, however, that it will not disclose Acuitas Confidential Information in any publication by CureVac of the results of the Program or any Licensed Product development by CureVac without Acuitas' prior written consent, which will not be unreasonably withheld, conditioned or delayed in the event such Acuitas Confidential Information is reasonably required to support the results of the Program so published.

7.7 **Terms of this Agreement; Publicity.** The Parties agree that the existence and terms of the Parties' relationship and this Agreement will be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 7.4. Except as required by Law, each Party agrees not to issue any press release or public statement disclosing information relating to the existence of this Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party.

ARTICLE 8

Warranties; Covenants; Limitations of Liability; Indemnification

8.1 **Representations and Warranties.** Each Party represents and warrants to the other as of the Effective Date that (a) it is a corporation duly organized, validly existing, and in good standing under the Laws of the jurisdiction in which it is incorporated, (b) it has the legal right and power to enter intothis Agreement, to extend the rights and licenses granted or to be granted to the other in this Agreement, and to fully perform its obligations hereunder, (c) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder and (d) this Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms.

8.2 **Additional Representations and Covenants of Acuitas.** Acuitas hereby represents and warrants to CureVac as of the Effective Date as follows:

(a) ***Impairment.*** Neither Acuitas nor any of its Affiliates has entered into any agreement or otherwise licensed, granted, assigned, transferred, conveyed or otherwise encumbered or disposed of any right, title or interest in or to any of its assets, including any intellectual property rights including Know-How, that would in any way conflict with or impair the scope of any rights or licenses granted to CureVac hereunder or that would be granted to CureVac under any License Agreement, including under any of the agreements which Acuitas has identified to CureVac prior to the Effective Date. The foregoing shall not apply to Pre-existing Third Party Restrictions.

(b) ***Patents.*** Exhibit 1.1 sets forth a complete and accurate list of all Patents included in the Acuitas Background Technology, indicating the owner, licensor and/or co-owner(s), if applicable. Acuitas is and will remain entitled to grant to CureVac the licenses specified herein or under a License Agreement during the Term, to the Patents and the Know-How within the Acuitas Background Technology. To Acuitas' knowledge, the Patents listed on Exhibit 1.1 have been procured or are being procured from the respective patent offices in accordance with applicable Law. None of the Patents included in the Acuitas Background Technology listed on Exhibit 1.1 is or has been involved in any opposition, cancellation, interference, reissue or reexamination proceeding, and to Acuitas' knowledge as of the Effective Date, no Acuitas Background Technology is the subject of any judicial, administrative or arbitral order, award, decree, injunction, lawsuit, proceeding or stipulation. As of the Effective Date, neither Acuitas nor any of its Affiliates has received any notice alleging that the Patents in the Acuitas Background Technology listed on Exhibit 1.1 are invalid or unenforceable, or challenging Acuitas' ownership of or right to use any such rights.

(c) ***Entire LNP Technology.*** The Acuitas LNP Technology licensed to CureVac under this Agreement or any License Agreement comprises all LNP Technology Controlled by Acuitas.

(d) ***Encumbrances.*** Acuitas and its Affiliates are not subject to any payment obligations to Third Parties as a result of the execution or performance of this Agreement. As of the Effective Date, neither Acuitas nor any of its Affiliates has granted any liens or security interests on the Acuitas Background Technology, and the Acuitas Background Technology is free and clear of any mortgage, pledge, claim, security interest, covenant, easement, encumbrance, lien or charge of any kind. Subject to Pre-Existing Third Party Restrictions, Acuitas is the sole owner of the entire right, title and interest in and to all Acuitas Background Technology.

(e) ***Defaults.*** The execution, delivery and performance by Acuitas of this Agreement and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any understanding, contract or agreement to which Acuitas is a party or by which it is bound, including each of the agreements which Acuitas has identified to CureVac prior to the Effective Date, in each case as wouldreasonably be expected to have a material adverse effect on the rights granted to CureVac hereunder or under any License Agreement.

(f) ***Litigation.*** There is no action, suit, proceeding or investigation pending or, to the knowledge of Acuitas, currently threatened in writing against or affecting Acuitas that questions the validity of this Agreement or the right of Acuitas to enter into this Agreement or consummate the transactions contemplated hereby or that relates to the Acuitas LNP Technology.

(g) ***Infringement.*** Neither Acuitas nor any of its Affiliates has received any notice of any claim, nor does Acuitas or its Affiliates have any knowledge of any basis for any claim, that any Patent, Know-How or other intellectual property owned or controlled by a Third Party would be infringed or misappropriated by the practice of any Acuitas LNP Technology in connection with the performance of the Work Plan or the use of Acuitas LNP Technology in connection with the production, use, research, development, manufacture or commercialization of any product as contemplated by a License Agreement.

(h) *Third Party Infringement.* To Acuitas' knowledge, no Third Party is infringing or has infringed any Patent within the Acuitas LNP Technology or is misappropriating or has misappropriated any Know-how within the Acuitas LNP Technology.

(i) *[*****] Patent Rights.* Acuitas will use commercially reasonable efforts to resolve at its cost and without any financial liability for CureVac [*****] with respect to any [*****] Patent Rights which would reasonably be infringed by the use of the Acuitas LNP Technology under this Agreement and/or the License Agreements, in order to enable CureVac to use such [*****] Patent Rights for purposes of this Development and Option Agreement and the License Agreements, if so required. In the event Acuitas is not able to resolve the potential dispute with respect to the [*****] Patent Rights with the result that the [*****] Patent Rights are Controlled by Acuitas, royalties payable by CureVac for a license under any [*****] Patent Rights which would reasonably be infringed by the use of the Acuitas LNP Technology will be treated as set forth in Section 4.3(d) of the License Agreement.

8.3 **Disclosure Letter under License Agreements.** Acuitas shall promptly inform CureVac in the event it receives information of any event or circumstance which it would need to disclose under Section 9.2 of any of the License Agreements.

8.4 **Disclaimers.** Without limiting the respective rights and obligations of the Parties expressly set forth herein, each Party specifically disclaims any guarantee that the Program will be successful, in whole or in part. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT, THE PARTIES MAKE NO REPRESENTATIONS AND EXTEND NO WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED.

8-5 **No Consequential Damages.** NOTWITHSTANDING ANYTHING IN THIS AGREEMENT OR OTHERWISE, NEITHER PARTY WILL BE LIABLE TO THE OTHER OR ANY THIRD PARTY WITH RESPECT TO ANY SUBJECT MATTER OF THIS AGREEMENT FOR ANY INDIRECT, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES; PROVIDED THAT THIS SECTION 8.5 WILL NOT APPLY TO BREACHES OF ARTICLES 6 OR 7 OR THE PARTIES' INDEMNIFICATION RIGHTS AND OBLIGATIONS UNDER ARTICLE 8.

8.6 **Performance by Others.** The Parties recognize that each Party may perform some or all of its obligations under this Agreement through Affiliates, Approved Partners and/or permittedsubcontractors provided, however, that each Party will remain responsible and liable for the performance by its Affiliates, Approved Partners and/or permitted subcontractors and will cause its Affiliates and permitted subcontractors to comply with the provisions of this Agreement in connection therewith.

8.7 Indemnification.

(a) ***Indemnification by Acuitas.*** Acuitas will indemnify CureVac, its Affiliates and their respective directors, officers, employees, Third Party licensors and agents, and their respective successors, heirs and assigns (collectively, "CureVac Indemnitees"), and defend and hold each of them harmless, from and against any and all losses, damages, liabilities, costs and expenses (including reasonable attorneys' fees and expenses) (collectively, "Losses") in connection with any and all suits, investigations, claims or demands of Third Parties (collectively, "Third Party Claims") against the CureVac Indemnitees to the extent arising from or occurring as a result of: (i) the breach by Acuitas of any provision of this Agreement; or (ii) any negligence or willful misconduct on the part of any Acuitas Indemnitee; or (iii) any alleged infringement or misappropriation of Patents or other intellectual property rights by CureVac in the conduct of the Work Plan based solely on CureVac's use of Acuitas LNP Technology as permitted hereunder in the performance of the Program (excluding, for clarity, infringement of Patents, Know-How or Materials covering CureVac Technology used by CureVac in the performance of the Work Plan), except in each case (i)-(iii) to the extent arising from or occurring as a result of the negligence or willful misconduct on the part of a CureVac Indemnitee or CureVac's breach of this Agreement.

(b) ***Indemnification by CureVac.*** CureVac will indemnify Acuitas, its Affiliates and their respective directors, officers, employees and agents, and their respective successors, heirs and assigns (collectively, "Acuitas Indemnitees"), and defend and hold each of them harmless, from and against any and all Losses in connection with any and all Third Party Claims against Acuitas Indemnitees to the extent arising from or occurring as a result of: (i) the breach by CureVac of any provision of this Agreement; or (ii) any negligence or willful misconduct on the part of any CureVac Indemnitee; or (iii) any alleged infringement or misappropriation of Patents or other intellectual property rights by Acuitas in the conduct of the Work Plan based solely on Acuitas' use of CureVac Technology as permitted hereunder in the performance of the Program (excluding, for clarity, infringement of Acuitas LNP Technology used by Acuitas in the performance of the Work Plan), except in each case (i)-(iii) to the extent arising from or occurring as a result of the negligence or willful misconduct on the part of an Acuitas Indemnitee or Acuitas' breach of this Agreement.

(c) ***Notice of Claim.*** All indemnification claims provided for in subsections (a) and (b) above will be made solely by such Party to this Agreement (the "Indemnified Party"). The Indemnified Party will promptly notify the indemnifying Party (an "Indemnification Claim Notice") of any Losses or the discovery of any fact upon which the Indemnified Parly intends to base a request for indemnification under subsections (a) or (b) above but in no event will the indemnifying Party be liable for any Losses that result from any delay in providing such notice. Each Indemnification Claim Notice must contain a description of the claim and the nature and amount of such Loss (to the extent that the nature and amount of such Loss is known at such time). The Indemnified Party will furnish promptly to the indemnifying Party copies of all papers and official documents received in respect of any Losses and Third Party Claims.

(d) ***Defense, Settlement, Cooperation and Expenses.***

(i) Control of Defense. At its option, the indemnifying Party may assume the defense of any Third Party Claim by giving written notice to the Indemnified

Party within [*****] days after the indemnifying Party's receipt of an Indemnification Claim Notice. The assumption of the defense of a Third Party Claim by the indemnifying Party will not be construed as an acknowledgment that the indemnifying Party is liable to indemnify the Indemnified Party in respect of the Third Party Claim, nor will it constitute a waiver by the indemnifying Party of any defenses it may assert against the Indemnified Party's claim for indemnification. Upon assuming the defense of a Third Party Claim, the indemnifying Party may appoint as lead counsel in the defense of the Third Party Claim any legal counsel selected by the indemnifying Party (the indemnifying Party will consult with the Indemnified Party with respect to such legal counsel and a possible conflict of interest of such counsel retained by the indemnifying Party). In the event the indemnifying Party assumes the defense of a Third Party Claim, the Indemnified Party will immediately deliver to the indemnifying Party all original notices and documents (including court papers) received by the Indemnified Party in connection with the Third Party Claim. In the event that it is ultimately determined that the indemnifying Party is not obligated to indemnify, defend or hold harmless the Indemnified Party from and against the Third Party Claim, the Indemnified Party will reimburse the indemnifying Party for any and all costs and expenses (including reasonable attorneys' fees and costs of suit) and any Third Party Claims incurred by the indemnifying Party in its defense of the Third Party Claim.

(ii) Riuht to Participate in Defense. Without limiting subsection (i) above, any Indemnified Party will be entitled to participate in, but not control, the defense of such Third Party Claim and to employ counsel of its choice for such purpose; provided, however, that such employment will be at the Indemnified Party's own cost and expense unless (A) the indemnifying Party has failed to assume the defense and employ counsel in accordance with subsection (i) above (in which case the Indemnified Party will control the defense) or (B) the interests of the Indemnified Party and the indemnifying Party with respect to such Third Party Claim are sufficiently adverse to prohibit the representation by the same counsel of both Parties under applicable Law, ethical rules or equitable principles, in which case the indemnifying Party will assume one hundred percent (100%) of any such reasonable costs and expenses of counsel for the Indemnified Party.

(iii) Settlement. With respect to any Third Party Claims that relate solely to the payment of money damages in connection with a Third Party Claim and that will not result in the Indemnified Party's becoming subject to injunctive or other relief or otherwise adversely affecting the business or Patents of the Indemnified Party in any manner, and as to which the indemnifying Party will have acknowledged in writing the obligation to indemnify the Indemnified Party hereunder, the indemnifying Party will have the sole right to consent to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss, on such terms as the indemnifying Party, in its sole discretion, will deem appropriate. With respect to all other Losses in connection with Third Party Claims, where the indemnifying Party has assumed the defense of the Third Party Claim in accordance with subsection (i) above, the indemnifying Party will have authority to consent to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss provided it obtains the prior written consent of the Indemnified Party (which consent will not be unreasonably withheld,conditioned or delayed). The indemnifying Party will not be liable for any settlement or other disposition of a Loss by an Indemnified Party that is reached without the written consent of the indemnifying Party. Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, no Indemnified Party will admit any liability with respect to or settle, compromise or discharge, any Third Party Claim without the prior written consent of the indemnifying Party, such consent not to be unreasonably withheld.

(iv) Cooperation. Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, the Indemnified Party will, and will cause each other indemnified party to, cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith at the indemnifying Party's expense. Such cooperation will include access during normal business hours afforded to the indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party Claim, and making indemnified parties and other employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder, and the indemnifying Party will reimburse the Indemnified Party for all its reasonable out-of-pocket costs and expenses in connection therewith.

(v) Costs and Expenses. Except as provided above in this Section 8.7, the costs and expenses, including reasonable attorneys' fees and expenses, incurred by the Indemnified Party in connection with any claim will be reimbursed on a Calendar Quarter basis by the indemnifying Party, without prejudice to the indemnifying Party's right to contest the Indemnified Party's right to indemnification and subject to refund in the event the indemnifying Party is ultimately held not to be obligated to indemnify the Indemnified Party.

8.8 Insurance. Each Party will maintain at its sole cost and expense, an adequate liability insurance or self-insurance program to protect against potential liabilities and risk arising out of activities to be performed under this Agreement and any agreement related hereto and upon such terms (including coverages, deductible limits and self-insured retentions) as are customary in the respective industry of such Party for the activities to be conducted by such Party under this Agreement. The coverage limits set forth herein will not create any limitation on a Party's liability to the other under this Agreement.

ARTICLE 9

Term and Termination

9.1 Term. This Agreement will commence as of the Effective Date and, unless sooner terminated or extended in accordance with the terms hereof or by mutual written consent, will continue for a period of five (5) years (the "Term").

9.2 Termination by CureVac.

(a) ***Breach, Change of Control.*** CureVac will have the right to terminate this Agreement or the Program in full upon delivery of written notice to Acuitas in the event of (i) any material breach by Acuitas of any terms and conditions of this Agreement, provided that suchbreach has not been cured within [*****] after written notice thereof is given by CureVac to Acuitas specifying the nature of the alleged breach; or (ii) a Change of Control. In the event of a termination of the Program for Acuitas' material breach or a Change of Control, the JDC will be disbanded, Acuitas will receive no further Acuitas FTE funding (except for termination for Change of Control), and Acuitas will conduct a technology transfer and provide necessary licenses to CureVac or its Third Party designee each as reasonably necessary for CureVac or such Third Party designee to complete the conduct of the Program. For avoidance of doubt, termination of the Program will not terminate CureVac's reservation of Reserved Targets or the Options subject to the payments associated therewith.

(b) Discretionary Termination. CureVac will have the right to terminate this Agreement in full at any time without cause by giving [*****] prior written notice to Acuitas. Upon termination by CureVac pursuant to this subsection, CureVac will pay to Acuitas all remaining unpaid Target Reservation and Maintenance Fees, and any amounts payable to Acuitas for any Works and Services performed pursuant to the Work Plan up through the date of such termination.

9.3 Termination by Acuitas. Acuitas will have the right to terminate this Agreement in full upon delivery of written notice to CureVac in the event of any material breach by CureVac of any terms and conditions of this Agreement, provided that such breach has not been cured within [*****] days after written notice thereof is given by Acuitas to CureVac specifying the nature of the alleged breach. CureVac hereby agrees that Acuitas is entitled to receive payment of any amounts payable to Acuitas for any Works and Services performed pursuant to the Work Plan up through the date of such termination.

9.4 Termination Upon Bankruptcy.

All rights and licenses granted under or pursuant to this License Agreement by Acuitas are, and will otherwise be deemed to be, for purposes of Section 65.11(7) of the Bankruptcy and Insolvency Act, R.S.C. 1985, c. B-3 and Section 32(6) of the Companies' Creditors Arrangement Act, R.S.C. 1985, c. C-36 (the "Insolvency Legislation"), a grant of "right to use intellectual property" as used in the Insolvency Legislation. The Parties agree that CureVac and its Affiliates, as licensees of such rights under this Agreement, will retain and may fully exercise all of their rights and elections under the Insolvency Legislation subject to the payment of amounts provided for herein. Without limiting CureVac's rights under the Insolvency Legislation, if Acuitas becomes insolvent or makes an assignment for the benefit of its creditors or there is filed by or against the Acuitas any bankruptcy, receivership, reorganization or similar proceeding (an "Insolvency Event") pursuant to or under the Insolvency Legislation or otherwise, CureVac shall be entitled to a copy of any and all such intellectual property and all embodiments of such intellectual property, and the same, if not in the possession of Acuitas, shall be promptly delivered to it (i) before this License Agreement is rejected by or on behalf of Acuitas, within thirty (30) days after CureVac's written request, unless Acuitas, or its trustee or receiver, elects within thirty (30) days to continue to perform all of its obligations under this License Agreement, or (ii) after any rejection of this License Agreement by or on behalf of Acuitas, if not previously delivered as provided under clause (i) above. All rights of the Parties under this Section 10.4(b) and under Section 65.11(7) of the Bankruptcy and Insolvency Act, R.S.C. 1985, c. B-3 and Section 32(6) of the Companies' Creditors Arrangement Act are in addition to and not in substitution of any and all other rights, powers, and remedies that each party may have under this License Agreement, the Insolvency Legislation, and any other applicable Laws. CureVac shall have the right to perform the obligations of Acuitas hereunder with respect to such intellectual property, but neither such provision nor such performance by CureVac shall release Acuitas from any such obligation or liability for failing to perform it.

9.5 Effects of Termination.

(a) A material breach of this Agreement by either Party may only constitute a material breach under one or several License Agreements [*****]. In the event of a dispute with respect to payment obligations, Acuitas is not considered to be [*****] for purposes of this Section 9.5(a) if CureVac makes payment of the disputed amount to a Third Party trustee selected by CureVac and reasonably acceptable to Acuitas. The Third Party trustee shall confirm to Acuitas that it holds such payment and will forward the monies to Acuitas or return the monies to CureVac once the dispute has been finally resolved and depending on the outcome of the resolved dispute.

(b) Upon termination by either Party under Sections 9.2, 9.3 or 9.4, (a) Acuitas will terminate all Works and Services in progress in an orderly manner as soon as practical and in accordance with a schedule agreed to by CureVac, (b) Acuitas will deliver to CureVac any Materials in its possession or control and all deliverables developed through termination or expiration, (c) unless such termination is by CureVac for Acuitas' material breach pursuant to Section 9.2(a), CureVac will pay Acuitas any monies due and owing Acuitas, up to the time of termination or expiration, for Works and Services actually performed and all authorized expenses actually incurred (as specified in the Work Plan) and (d) if such termination is of the entire Agreement (and not the Program only) by CureVac for Acuitas' material breach, Acuitas will refund to CureVac any Target Reservation and Maintenance Fees for the remainder of the Contract Year in which such termination is effective.

9.6 Survival. In addition to the termination consequences set forth in Section 9.5, the following provisions will survive termination or expiration of this Agreement, as well as any other provision which by its terms or by the context thereof, is intended to survive such termination: Sections 3.1 (f), 3.3, 8.4, 8.5, 8.7, 8.8, 9.4, 9.5, 9.6, 10.1, 10.4, 10.6, 10.7, 10.9, 10.10 and 10.11 and Articles 1, 6 and 7. Termination or expiration of this Agreement will not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at Law or in equity with respect to any breach of this Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations will terminate upon expiration of this Agreement.

ARTICLE 10

Miscellaneous

10.1 Dispute Resolution.

(a) Dispute Escalation. In the event of a dispute between the Parties, the Parties will first attempt in good faith to resolve such dispute by negotiation and consultation between themselves or the Program directors. In the event that such dispute is not resolved on an informal basis within [*****] days, any Party may, by written notice to the other, have such dispute referred to each Party's Chief Executive Officer or his or her designee (who will be a senior executive), who will attempt in good faith to resolve such dispute by negotiation and consultation for a [*****] day period following receipt of such written notice

(b) Dispute Resolution. In the event the Chief Executive Officers of the Parties are not able to resolve such dispute as set forth above, the Parties agree to try to solve such dispute amicably by mediation. The Parties shall conduct a mediation procedure according to the Mediation Rules of the World Intellectual Property Organization (WIPO) in effect on the date of the commencement of the mediation proceedings. The location of the mediation proceedings will be London, England. The number of mediators will be one (1). The language of the mediation proceedings will be English. If the dispute has not been settled pursuant to the said rules within [*****] days following the filing of a request for mediation or within such other period as the Parties may agree in writing, either Party may submit the dispute to final and binding arbitration. Any dispute relating to the validity performance, construction or interpretation of this Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in this Section 10.1, shall be submitted to arbitration in accordance with the Arbitration Rules of WIPO in effect on the date of the commencement of the arbitration proceedings. The location of the arbitration proceedings will be London, England. The number of arbitrators will be three (3). The language of the arbitration proceeding will be English. The decision of the arbitrators shall be final and binding upon the Parties (absent manifest error on the part of the arbitrator(s)) and enforceable in any court of competent jurisdiction.

(c) ***Injunctive Relief.*** Notwithstanding the dispute resolution procedures set forth in this Section 10.1, in the event of an actual or threatened breach hereunder, the aggrieved Party may seek equitable relief (including restraining orders, specific performance or other injunctive relief) in any court or other forum, without first submitting to any dispute resolution procedures hereunder.

(d) Tolling. The Parties agree that all applicable statutes of limitation and time-based defenses (such as estoppel and laches) will be tolled while the dispute resolution procedures set forth in this Section 10.1 are pending, and the Parties will cooperate in taking all actions reasonably necessary to achieve such a result.

(e) Prevailing Party. The prevailing Party in any action, proceeding or suit related to this Agreement will be entitled to recover from the losing Party all reasonable out-of-pocket fees, costs and expenses (including those of attorneys, professionals and accountants and all those arising from appeals and investigations) incurred by the prevailing Party in connection with such arbitration or suit.

(f) Cumulative Remedies. All rights and remedies of the Parties hereunder will be cumulative and in addition to all other rights and remedies provided hereunder or available by agreement, at Law or otherwise. Each Party acknowledges and agrees that breach of Section 4.4 or Article 7 may cause irreparable harm and damage to the other and that such damage may not be ascertainable in money damages and that as a result thereof the non-breaching Party may be entitled to seek from a court equitable or injunctive relief restraining any breach or future violation of the terms contained herein by the breaching Party without the necessity of proving actual damages or posting bond. Such right to equitable relief is in addition to whatever remedies either Party may be entitled to as a matter of Law or equity, including money damages.

10.2 **Relationship of Parties.** Nothing in this Agreement is intended or will be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the Parties. No Party will incur any debts or make any commitments for the other, except to the extent, if at all, specifically provided therein. There are no express or implied Third Party beneficiaries hereunder.

10.3 **Compliance with Law.** Each Party will perform or cause to be performed any and all of its obligations or the exercise of any and all of its rights hereunder in good scientific manner and in compliance with all applicable Law.

10.4 **Governing Law.** This Agreement will be governed by and construed in accordance with the Laws of England and Wales, without respect to its conflict of Laws rules, provided that any dispute relating to the scope, validity, enforceability or infringement of any Patents or Know-How will be governed by, and construed and enforced in accordance with, the substantive Laws of the jurisdiction in which such Patents or Know-How apply.

10.5 **Counterparts; Facsimiles.** This Agreement may be executed in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this Agreement by either Party will constitute a legal, valid and binding execution and delivery of this Agreement by such Party

10.6 **Headings.** All headings in this Agreement are for convenience only and will not affect the meaning of any provision hereof.

(a) ***Waiver of Rule of Construction.*** Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, the rule of construction that any ambiguity in this Agreement will be construed against the drafting party will not apply.

(b) ***Interpretation.*** Whenever any provision of this Agreement uses the term "including" (or "includes"), such term will be deemed to mean "including without limitation" (or "includes without limitations"). "Herein," "hereby," "hereunder," "hereof" and other equivalent words refer to this Agreement as an entirety and not solely to the particular portion of this Agreement in which any such word is used. All definitions set forth herein will be deemed applicable whether the words defined are used herein in the singular or the plural. Unless otherwise provided, all references to Sections and Exhibits in this Agreement are to Sections and Exhibits of this Agreement. References to any Sections include Sections and subsections that are part of the related Section.

10.7 **Further Assurances.** Each Party shall take all customary and reasonable actions and do all things reasonably necessary or proper, including under applicable law, to make effective and further the intents and purposes of the transactions contemplated by this Agreement, including executing any further instruments reasonably requested by the other Party.

10.8 **Binding Effect.** This Agreement will inure to the benefit of and be binding upon the Parties, their Affiliates, and their respective lawful successors and assigns.

10.9 **Assignment.** This Agreement may not be assigned by either Party, nor may either Party delegate its obligations or otherwise transfer licenses or other rights created by this Agreement, except as expressly permitted hereunder, without the prior written consent of the other Party, which consent will not be unreasonably withheld; provided that either Party may assign this Agreement without such consent to an Affiliate or to its successor in connection with sale of all or substantially all of its assets or business or that portion of its business pertaining to the subject matter of this Agreement (whether by merger, consolidation or otherwise).

10.10 **Notices.** All notices, requests, demands and other communications required or permitted to be given pursuant to this Agreement will be in writing and will be deemed to have been duly given upon the date of receipt if delivered by hand, recognized international overnight courier, or registered or certified mail, return receipt requested, postage prepaid to the following addresses:

If to CureVac: CureVac AG
Paul-Ehrlich-Str. 15
72076 Tubingen
Germany
Attention: CEO and General Counsel

If to Acuitas: Acuitas Therapeutics Inc.
2714 West 31rst Avenue
Vancouver, B.C.
Canada V6L 2A1
Attention: President and CEO

With a copy to: McCarthy Tetrault LLP
Suite 2400 745 Thurlow Street
Vancouver, B.C.
Canada V6E 0C5
Attention: Miranda Lam, Esq.

Either Party may change its designated address by notice to the other Party in the manner provided in this Section 10.10.

10.11 **Amendment and Waiver.** This Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties; provided that any unilateral undertaking or waiver made by one Party in favor of the other will be enforceable if undertaken in a writing signed by the Party to be charged with the undertaking or waiver. Any waiver of any rights or failure to act in a specific instance will relate only to such instance and will not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

10.12 **Severability.** In the event that any provision of this Agreement will, for any reason, be held to be invalid or unenforceable in any respect, such invalidity or unenforceability will not affect any other provision hereof, and the Parties will negotiate in good faith to modify the Agreement to preserve (to the extent possible) their original intent.

10.13 **Entire Agreement.** This Agreement together with any License Agreements (including all appendices and exhibits hereto and thereto) entered into during the Term and the Material Transfer Agreements are the sole agreements with respect to the subject matter and supersede all other agreements and understandings between the Parties with respect to same, provided, however, that the terms and conditions under this Agreement apply with respect to the activities which have been performed by the Parties under the Material Transfer Agreement but which are also set forth under the Work Plan, and to such extent this Agreement replaces the Material Transfer Agreements,

10.14 **Force Majeure.** Neither Acuitas nor CureVac will be liable for failure of or delay in performing obligations set forth in this Agreement (other than any obligation to pay monies when due), and neither will be deemed in breach of such obligations, if such failure or delay is due to natural disasters or any causes reasonably beyond the control of Acuitas or CureVac; provided that the Party affected will promptly notify the other of the force majeure condition and will exert reasonable efforts to eliminate, cure or overcome any such causes and to resume performance of its obligations as soon as possible.

[Signature page to follow]

IN WITNESS WHEREOF, the Parties have caused this Development and Option Agreement to be executed by their respective duly authorized officers as of the Effective Date.

CureVacAG

By: /s/ L. Hoerr
(Signature)

Name: L. Hoerr

Title: CEO

Acuitas Therapeutics Inc.

By: _____
(Signature)

Name: _____

Title: _____

Exhibit 1.1

Patents in the Acuitas Background Technology

[*****]

Exhibit 1.31

Exclusive License Agreement

Exclusive License Agreement

by and between

Acuitas Therapeutics Inc.

and

CureVac AG

dated

[_____]

Table of Contents

Table of Contents
(continued)

List of Appendices

Appendix 1.1	Patents within the Acuitas LNP Technology as of the License Agreement Effective Date
Appendix 1.22	Joint Interest Patents
Appendix 1.53	Description of the Target
Appendix 2.4	Technology Transfer Agreement
Appendix 9.2	Exceptions to Acuitas' Representations and Warranties in Section 9.2

Exclusive License Agreement

This License Agreement ("License Agreement"), dated as of [_____] (the "License Agreement Effective Date"), is made by and between Acuitas Therapeutics Inc., a British Columbia corporation ("Acuitas"), and CureVac AG, a German stock corporation with offices at Paul-Ehrlich-Strasse 15, 72076 Tubingen, Germany ("CureVac"). Each of Acuitas and CureVac may be referred to herein as a "Party" or together as the "Parties."

WHEREAS, Acuitas has proprietary LNP Technology;

WHEREAS, CureVac has expertise and intellectual property relating to mRNA Constructs (as defined below);

WHEREAS, Acuitas and CureVac are parties to that certain Development and Option Agreement (dated April 29, 2016) (the "Development and Option Agreement") pursuant to which CureVac has options to take licenses under the Acuitas LNP Technology (as defined below) with respect to CureVac's mRNA Constructs; and

WHEREAS, pursuant to the terms of the Development and Option Agreement, CureVac has exercised an option with respect to the Target (as defined below) and the Parties are now entering into a licensing arrangement whereby CureVac will have a license under the Acuitas LNP Technology to develop and commercialize Licensed Products (as defined below) based on such Target.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the amount and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Definitions.

The following terms and their correlatives will have the following meanings:

1.1 "Acuitas LNP Technology" means any and all LNP Technology Controlled by Acuitas or any of its Affiliates as of the License Agreement Effective Date or at any time during the Term, including Acuitas' right and interest in any Technology created, conceived or reduced to practice under the Development and Option Agreement and/or the Technology Transfer Agreement and Acuitas' interest in any such Technology jointly owned by CureVac or its Affiliates and Acuitas or its Affiliates and necessary or useful for the research, development, manufacturing and commercialization of Licensed Products. Unless otherwise set forth herein, Acuitas LNP Technology will include Joint Interest Patents. For the avoidance of doubt, the rights granted to Acuitas by [*****] shall not fall under this definition. The Acuitas LNP Technology existing as of the License Agreement Effective Date is listed in **Appendix 1.1** attached hereto.

1.2 "Acuitas Indemnitiees" has the meaning set forth in Section 9.6(a).

1.3 "Affiliate" of a person or entity means any other entity which (directly or indirectly) is controlled by, controls or is under common control with such person or entity. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to an entity will mean (i) in the case of a corporate entity, direct or indirect ownership of voting securities entitled to cast at least fifty percent (50%) of the votes in the election of directors or (ii) in the case of a non-corporate entity, direct or indirect ownership of at least fifty percent (50%) of the equity interests with thower to direct the management and policies of such entity, provided that if local Law restricts foreign ownership, control will be established by direct or indirect ownership of the maximum ownership percentage that may, under such local Law, be owned by foreign interests. Regarding CureVac, Affiliate shall not include Mr. Hopp and dievini Hopp BioTech holding GmbH & Co. KG and/or any other entity controlled by Mr. Hopp and/or dievini Hopp BioTech holding GmbH & Co. KG.

1.4 "cGMP" means current Good Manufacturing Practices as specified in the U.S. C.F.R., ICH Guideline Q7A, or equivalent Laws of an applicable Regulatory Authority at the time of manufacture.

1.5 "Calendar Quarter" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.6 "Change of Control" with respect to Acuitas, shall be deemed to have occurred if during the Term (i) any person or entity is or becomes the "beneficial owner", directly or indirectly, of shares of capital stock or other interests (including partnership interests) of Acuitas then outstanding and normally entitled (without regard to the occurrence of any contingency) to vote in the election of the directors, managers or similar supervisory positions of Acuitas representing fifty percent (50%) or more of the total voting power of all outstanding classes of voting stock of Acuitas or has the power, directly or indirectly, to elect a majority of the members of the Acuitas' board of directors, or similar governing body; or (ii) Acuitas enters into a merger, consolidation or similar transaction with another person or entity, or (iii) Acuitas sells or transfers to any Third Party, in one (1) or more related transactions, properties or assets representing all or substantially all of Acuitas' consolidated total assets to which this Agreement relates; or (iv) the holders of capital stock of Acuitas approve a plan or proposal for the liquidation or dissolution of Acuitas."

1.7 "Combination Product" means a Licensed Product that includes at least one additional active ingredient other than a Licensed Product. Drug delivery vehicles, adjuvants, and excipients shall not be deemed to be "active ingredients", except in the case where such delivery vehicle, adjuvant, or excipient is recognized as an active ingredient in accordance with 21 C.F.R. 210.3(b)(7) or equivalent Laws in other jurisdictions, provided however, should lipid nanoparticles comprised in a Licensed Product be characterized as "active ingredients" at any time during the Term, such lipid nanoparticles will not be considered an "active ingredient" for the purposes of this definition.

1.8 "Competitive Product" shall mean a product that [*****] as a Licensed Product.

1.9 "Indication" shall mean an individual disease or clinical condition with respect to which at least one adequate and well controlled study is required to support inclusion of such disease or condition in the indication statement of an FDA approved package insert for a Licensed Product.

1.10 "Confidential Information" has the meaning set forth in Section 8.1.

1.11 "Control" or "Controlled" means, with respect to any Know-How or Patent, the possession (whether by ownership or license, other than by a license or sublicense granted pursuant to this License Agreement or the Development and Option Agreement) by Acuitas or its Affiliates of the ability to grant to CureVac a license or access to such Know-How or Patent as provided herein to such item, without violating the terms of any agreement or other arrangement with any Third Party and without owing any milestone, royalty or other monetary obligations to a Third Party.

1.12 "Covered Product" has the meaning set forth in Section 4.3.

1.13 "Covers", with reference to (a) a Patent, means that the manufacture, development or commercialization of a Licensed Product would infringe a Valid Claim of such Patent in the country in which such activity occurs; and (b) Know-How, means that the manufacture, development or commercialization of a Licensed Product incorporates or embodies such Know-How.

1.14 "CureVac Indemnitees" has the meaning set forth in Section 9.6(b).

1.15 "Late-Stage Development" means with respect to a product that [*****] Studies have been initiated.

1.16 "Development and Option Agreement" has the meaning set forth in the Preamble.

1.17 "Disclosing Party" has the meaning set forth in Section 8.1

1.18 "Field of Use" means all [*****].

1.19 "First Commercial Sale" means the first sale for use or consumption of any Licensed Product in a country after all required Regulatory Approvals for commercial sale of such Licensed Product have been obtained in such country.

1.20 "Indemnification Claim Notice" has the meaning set forth in Section 9.6(c).

1.21 "Indemnified Party" has the meaning set forth in Section 9.6(c).

1.22 "Joint Interest Patents" means the Patents listed in **Appendix 1.22** hereto, as amended from time to time.

1.23 "Know-How" means all commercial, technical, scientific and other know-how and information, trade secrets, knowledge, technology, methods, processes, practices, formulae, instructions, skills, techniques, procedures, experiences, ideas, technical assistance, designs, drawings, assembly procedures, computer programs, specifications, data and results (including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, preclinical, clinical, safety, manufacturing and quality control data and know-how, including study designs and protocols), in all cases, provided it is confidential and proprietary, and regardless of whether patentable, in written, electronic or any other form.

1.24 "Law" or "Laws" means all laws, statutes, rules, regulations, orders, judgments, or ordinances having the effect of law of any federal, national, multinational, state, provincial, county, city or other political subdivision.

1.25 "License Agreement" has the meaning set forth in the Preamble.

1.26 "License Agreement Effective Date" has the meaning set forth in the Preamble.

1.27 "Licensed Product" means: (i) [*****] product comprised of Lipid Nanoparticles (LNP) containing [*****] mRNA Constructs intended to express the Target and where such product is derived from, is based on, or utilizes any Acuitas LNP Technology; and/or (ii) [*****] Licensed Vaccine Product. If a given protein, e.g., an antibody comprises separated amino acid-chains, or a given Vaccine comprises multiple antigens or antibodies, which might be delivered as separated mRNA Constructs (combined in one LNP or delivered in separated LNPs), such product would be considered as one Licensed Product For the avoidance of doubt, the term "Licensed Product" in respect of the Target encompasses all variants of such Target, including the wild types, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been made (for example, mutated versions, derivatives or fragments) and species homologs and orthologs thereof, provided however that any such naturally occurring variant, engineered variant or species homolog or ortholog possesses [*****] to such Target(s) (for example [*****]).

1.28 "Licensed Vaccine Product" means [*****] product that is comprised of Lipid Nanoparticles (LNP) containing [*****] mRNA Constructs intended to express a [*****] Target and the [*****] Targets in any combination, if any, and where such product is a Vaccine and is derived from, is based on, or utilizes any Acuitas LNP Technology. Licensed Vaccine Products may consist of [*****] mRNA Constructs encoding for the [*****] Target and the [*****] Targets all of which, i.e., the [*****] Target with [*****] of the [*****] Targets, if any, are considered the Target (for avoidance of doubt, a Licensed Vaccine Product must contain the [*****] Target and optionally any or all of the [*****] Targets, if any). CureVac may remove or add further [*****] Targets to this License Agreement in accordance with Section 4.2 below.

1.29 "LNP Technology" means Technology that claims, embodies or incorporates delivery systems (and components thereof) based on or incorporating lipid nanoparticles (LNP).

1.30 "LNP Technology Patent(s)" means Patents comprised in the Acuitas LNP Technology, including any future Patent which will become part of the Acuitas LNP Technology during the Term and further including Acuitas' rights in the Joint Interest Patents, unless otherwise set forth herein.

1.31 "Losses" has the meaning set forth in Section 9.6(a).

1.32 "Major Market Country/ics" means the [*****].

1.33 "Mammalian Target" means a Target that is encoded by and expressed by a mammal including a human. For clarity all Targets that are antibodies are "Mammalian Targets".

1.34 "mRNA Construct" means any mRNA construct for the expression of a protein, including the sequence of such construct (which potentially comprises one (1) or more of a cap, 5' UTR, the associated open reading frame, 3'UTR and a poly A tail), the chemistry of natural and non-natural nucleic acids, and other chemical modifications associated with such construct.

1.35 "mRNA Technology" means Technology that claims, embodies or incorporates expression systems (and components thereof), based on or incorporating mRNA.

1.36 "Milestones" means the milestones payable pursuant to Section 4.1.

1.37 "Milestone Event" has the meaning set forth in Section 4.1.

1.38 "Milestone Payment" has the meaning set forth in Section 4.1.

1.39 "Net Sales" means, with respect to any Licensed Product, the amount received by CureVac and its Affiliates and Sublicensees for *bona fide* sales of such Licensed Product to a Third Party (other than Affiliates and Sublicensees but including distributors for resale), less:

(a) discounts (including cash, quantity and patient program discounts), retroactive price reductions, commissions, charge-back payments and rebates granted to managed health care organizations or to federal, state and local governments, their agencies, and purchasers and reimbursers or to trade customers;

(b) credits or allowances actually granted upon claims, damaged goods, rejections or returns of, and for uncollectable amounts on, such Licensed Product, including such Licensed Product returned in connection with recalls or withdrawals;

(c) freight out, postage, shipping and insurance charges for delivery of such Licensed Product;

(d) taxes or duties levied on, absorbed or otherwise imposed on the sale of such Licensed Product, including value-added taxes, or other governmental charges otherwise imposed upon the billed amount, as adjusted for rebates and refunds;

(e) any invoiced amounts from a prior period which are not collected and are written off by CureVac or its Affiliates, including bad debts;

(f) wholesaler and distributor administration fees; and

(g) other customary deductions taken in the ordinary course of business in accordance with IFRS (International Financial Reporting Standards) principles.

Net Sales shall not include any payments among CureVac, its Affiliates and Sublicensees. Net Sales shall be determined in accordance with generally accepted accounting principles, consistently applied. Net Sales for any Combination Product shall be calculated on a country-by-country basis by multiplying actual Net Sales of such Combination Product by the fraction A/(A+B), where A is the weighted average price paid for the Licensed Product contained in such Combination Product sold separately in finished form in such country, and B is the weighted average invoice price paid for the other active ingredients contained in such Combination Product sold separately in finished form in such country, if such Licensed Product and such other active ingredients are each sold separately in such country'.

If such other active ingredients are not sold separately in such country, then Net Sales for such Combination Product shall be calculated on a country-by-country basis by multiplying actual Net Sales of such Combination Product by the fraction A/C, where C is the weighted average invoice price paid for such Combination Product in such country. If such Licensed Product is not sold separately in finished form in such country, Net Sales for such Licensed Product will be determined by CureVac's good faith estimate of the relative contribution of such Licensed Product and each such other active ingredients in such Combination Product, and shall take into account in good faith any applicable allocations and calculations that may have been made for the same period in other countries.

1.40 "Non-Mammalian Target" means a Target that is encoded by and expressed by a non-mammalian organism.

1.41 "Paient(s)" means an (i) issued patent, a patent application, and a future patent issued from any' such patent application, (ii) a future patent issued from a patent application filed in any country worldwide which claims priority from a patent or patent application of (i), and (iii) any additions, divisions, continuations, continuations-in-part, invention certificates, substitutions, reissues, reexaminations, extensions, registrations, utility models, supplementary protection certificates and renewals based on any patent or patent application under (i) or (ii), but not including any rights that give rise to regulatory exclusivity periods (other than supplementary protection certificates, which will be treated as "Patents" hereunder).

1.42 "Patent Costs" means the reasonable, documented, out-of-pocket costs and expenses paid to outside legal counsel, and filing and maintenance expenses, actually and reasonably incurred by a Party in prosecuting and maintaining Patents and enforcing and defending them.

1.43 "Phase I Study" means a human clinical trial of a Licensed Product in any country, the primary purpose of which is the determination of safety and which may include the determination of pharmacokinetic and/or pharmacodynamic profiles in healthy individuals or a diseased patient population. A Phase 1 Study in a diseased patient population may include, in addition to primary determination of safety, dose exploration and a determination of preliminary efficacy of a product in the target patient population. For clarity, a particular human clinical trial of a Licensed Product will not be considered both a Phase 1 Study and a Phase 2 Study for the purposes of Milestone payments under Section 4.1.

1.44 "Phase 2 Study" means a human clinical trial of a Licensed Product in any country, and which is: (a) a human clinical trial (other than a Phase 1 Study) in which the primary purpose is dose exploration, dose response, duration of effect, kinetics or preliminary efficacy and safety of a product in the target patient population, or (b) a controlled dose-ranging clinical trial to evaluate further the efficacy and safety of such product in the target patient population and to define the optimal dosing regimen.

1.45 "Phase 3 Study" means a human clinical trial of a Licensed Product in any country, and which is: (a) a controlled study of a product in the target patient population of the efficacy and safety of such product which is prospectively designed to demonstrate statistically whether such product is effective and safe for use in a particular indication in a manner sufficient to obtain Regulatory Approval to market such product.

1.46 "[*****] Target" will mean the designated [*****] Target of a Licensed Vaccine Product. Each [*****] Target encoded for in the Licensed Vaccine Product will be termed an "[*****] Target".

1.47 "Receiving Party" has the meaning set forth in Section 8.1

1.48 "Regulatory Approval" means, with respect to a country or extra-national territory, any and all approvals (including BLAs and MAAs), licenses, registrations or authorizations of any Regulatory Authority necessary in order to commercially distribute, sell or market a product in such country or some or all of such extra-national territory, including any pricing or reimbursement approvals.

1.49 "Regulatory Authority" means any national (e.g., the FDA), supra-national (e.g., the EMA), regional, state or local regulatory agency, department, bureau, commission, council or other governmental authority, in any jurisdiction in the world, involved in the granting of Regulatory Approval.

1.50 "Royalty Term" has the meaning set forth in Section 4.3(d).

1.51 "Solely Owned TP" has the meaning set forth in Article 5

1.52 "Sublicensee" means any Third Party that is granted a sublicense as permitted by Section 2.2, either directly by CureVac or its Affiliates or indirectly by any other Sublicensee hereunder.

1.53 "Target (s)" means the protein(s) as described in **Appendix 1.53 a or b** hereto, together with all variants of such protein(s), including the wild types, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments) and species homologs, orthologs thereof, provided however that any such naturally occurring variant, engineered variant or species homolog or ortholog possesses substantially similar biological activity to such protein(s) (for example antigenicity in case of antigens). If a given protein (e.g., an antibody) comprises separated amino acid chains which might be delivered by separated mRNA Constructs such protein is defined as one Target.

1.54 "Technology" means collectively Patents and Know-How.

1.55 "Technology Transfer Agreement" has the meaning set forth in Section 2.3

1.56 "[*****]" has the meaning set forth in Section 1.1.

1.57 "[*****] License" has the meaning set forth in Section 1.1.

1.58 "Term" has the meaning set forth in Section 10.1.

1.59 "Territory" means worldwide.

1.60 "Third Party" means any person or entity other than CureVac, Acuitas and their respective Affiliates.

1.61 "Third Party Claims" has the meaning set forth in Section 9.6(a).

1.62 "[*****] Patent Rights" means any and all Patents resulting from the research collaboration conducted between Acuitas and [*****] of the [*****] from about [*****] to the effective date of the Development and Option Agreement together with associated Know-How to the extent this Know-How is known to Acuitas and can be provided by Acuitas without breaching any confidentiality obligations of Acuitas. For avoidance of doubt, such results include those of the research summarized in [*****]

1.63 "Vaccine" means any product primarily intended (i) to elicit an adaptive immune response in the recipient against a specific disease-causing organism or malignancy as the result of presentation of antigen(s) associated with the disease-causing organism or malignancy; or (ii) to provide passive immune protection against a specific disease-causing organism.

1.64 "Valid Claim" means, with respect to a particular country, any claim of (i) an issued and unexpired Patent; or (ii) a pending Patent claim, comprised within the Acuitas LNP Technology in such country that (a) has not been revoked or held unenforceable or invalid by a decision of a court or governmental agency of competent jurisdiction from which no further appeal is possible (other than to the United States Supreme Court or to an equivalent court in the respective jurisdiction) and (b) has not been abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reissue or disclaimer or otherwise in such country; and with respect to a pending Patent claim provided such Patent has been pending for less than five (5) years of the earliest priority date of filing of such pending Patent.

2. License Grants; Technology Transfer.

2.1 Licenses by Acuitas. Subject to the terms and conditions of this License Agreement, Acuitas hereby grants to CureVac an exclusive, non-transferrable license, with the right to sublicense only as permitted by Section 2.3(b), under the Acuitas LNP Technology, to develop, have developed, make, have made, use and have used, sell, offer for sale, have sold and import and have imported Licensed Products in the Field of Use in the Territory. For the avoidance of doubt, in case of a Target for Licensed Vaccine Products, the exclusivity of the license applies with respect to the [*****] Target, and will cover (i) [*****] of the [*****] Target with or without, and with one or several [*****] Targets; and (ii) the use of the [*****] Target (but not any of the [*****] Targets) for any Licensed Product including but not limited to Vaccines.

2.2 Option for additional Technology licenses. For the event that, in their reasonable judgment CureVac, its Affiliates or sublicensees considers it necessary to [*****] above in order to develop, have developed, make, have made, use and have used (including for research and development), sell, offer for sale, have sold, import and have imported a Licensed Product incorporating Acuitas LNP Technology in the Field of Use in the Territory, Acuitas hereby grants to CureVac the option to acquire one or more sublicenses under any such in-licensed Technology, to the extent Acuitas has the right to grant such sublicenses. Such sublicense will be granted at the terms and conditions of Acuitas' main Third Party license agreement on the effective date of the sublicense agreement, and where such terms and conditions are equivalent to the terms and conditions that would be applicable to Acuitas if Acuitas were developing, making and/or selling the product under the Third Party license. The scope of each such option for a sublicense is equivalent to the scope of the license granted to CureVac under Section 2.1 above, in each case being in respect of such additional Third Party LNP Technology. CureVac is entitled to exercise such an option at any time during the Term, and upon written notice of CureVac that it exercises the option, the Parties shall finalize in good faith the terms and conditions of such sublicense agreement according to the terms and conditions of Acuitas' main Third Party license agreement.

2.3 Sublicensing Rights.

(a) *Transfer.* The license granted in Section 2.1 is transferable only upon a permitted assignment of this License Agreement in accordance with Section 11.11.

(b) *CureVac Sublicenses.* The licenses granted in Section 2.1 may be sublicensed (with the right to sublicense through multiple tiers), in full or in part, by CureVac, its Affiliates or Sublicensees to CureVac's Affiliates and Third Parties provided, that for any sublicense to Third Parties:

(i) Each sublicense will be in writing and on terms consistent with and subject to the terms of this License Agreement,

(ii) CureVac will provide Acuitas with a copy of any sublicense agreement with a Sublicensee within [*****] days of execution thereof, which sublicense agreement may be redacted as necessary to protect commercially sensitive information and shall be treated as CureVac Confidential Information hereunder;

(iii) CureVac will be responsible for any and all obligations of such Sublicensee as if such Sublicensee were CureVac hereunder; and

(iv) Any sublicense granted by CureVac to any rights licensed to it hereunder shall terminate immediately upon the termination of the license from Acuitas to CureVac and its Affiliates with respect to such rights, provided that such sublicensed rights shall not terminate if, as of the effective date of such termination pursuant to Sections 10.2, 10.3(a) or 10.4, a Sublicensee is not in material default of its obligations under its sublicense agreement, and within [*****] days of such termination and a written notice by Acuitas and disclosure of this License Agreement to the Sublicensee, the Sublicensee agrees in writing to be bound directly to Acuitas under a license agreement substantially similar to this License Agreement with respect to the rights sublicensed hereunder, substituting such Sublicensee for CureVac.

(c) *Subcontractors.* For clarity purposes, CureVac is entitled to engage contract research organizations and contract manufacturing organizations for the development and manufacture of Licensed Products on behalf of CureVac. To the extent such contract organizations require a license to perform such subcontracted activities under applicable Laws, CureVac is entitled to grant a limited license without an obligation to meet the conditions of Section 2.3 (b)(ii) and (iv).

2.4 Technology Transfer. After the License Agreement Effective Date and promptly upon written request by CureVac, Acuitas will conduct a full transfer of Acuitas LNP Technology to CureVac and/or its designee(s) (which designee(s) may be an Affiliate or Third Party manufacturers, and which Third Party manufacturers may also be a backup manufacturer or a second manufacturer of Licensed Products) as required for the applicable transferee of the then-current process. The technology transfer activities, the rights and obligations of the Parties, the reimbursement of Acuitas for the technology transfer activities, and the rights and licenses to any Technology generated in the course of the technology transfer are set forth in the Technology Transfer Agreement ("Technology Transfer Agreement") in **Appendix 2.4** hereto, *provided*, *however,* that such Technology Transfer Agreement and its Appendices may be amended to reflect any developments and any specific requirements with respect to the then current process on the effective date of the Technology Transfer Agreement which become known to the Parties only after the effective date of the Development and Option Agreement.

2.5 Updates to Appendix 1.1. Acuitas shall notify CureVac at least once every [*****] months of Patents that are added to the Acuitas LNP Technology following the License Agreement Effective Date or any Patents that have been abandoned or discontinued in accordance with the terms of this License Agreement. Appendix 1.1 shall be automatically updated to include any such added Patents provided that, with written notice to Acuitas, CureVac may elect to exclude any particular Patents from the Acuitas LNP Technology. Following any such notice by CureVac, the Acuitas Patents that CureVac identifies for exclusion from this License Agreement will no longer be licensed to CureVac hereunder, and CureVac shall not have any obligations hereunder with respect to such Patent.

2.6 Documents and Declarations. Acuitas shall execute all documents, give all declarations regarding the licenses granted hereunder and reasonably cooperate with CureVac to the extent such documents, declarations and/or cooperation are required for the recording or registration of the licenses granted hereunder at the various patent offices in the Territory for the benefit of CureVac, its Affiliates or their Sublicensees.

3. License Limitations. No licenses or other rights are granted by Acuitas hereunder to use any trademark, trade name, trade dress or service mark owned or otherwise Controlled by Acuitas or any of its Affiliates. All licenses and other rights are or shall be granted only as expressly provided in this License Agreement, and no other licenses or other rights is or shall be created or granted by either Party hereunder by implication, estoppel or otherwise.

4. Payments and Royalties.

4.1 Milestone Payments. CureVac will make milestone payments (each, a "Milestone Payment") to Acuitas upon the first occurrence of each of the milestone events (each, a "Milestone Event") by Licensed Product as set forth below in this Section 4.1. CureVac will notify Acuitas of the achievement of each Milestone Event within [*****] business days of such achievement. Each Milestone Payment will be payable to Acuitas by CureVac within [*****] days of the achievement of the specified Milestone Event and receipt of a respective invoice from Acuitas, and such payments when owed or paid will be non-refundable and non-creditable. If one or more of the Milestone Events set forth below are not achieved or not required for any reason, the payment for such skipped Milestone Event will be due [*****]. The maximum total of all Milestone Payments for all Licensed Products payable under this License Agreement is [*****]

Milestone Event	*Milestone Payment*
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

*[*****] payments are payable for the [*****] for the [*****] For the avoidance of doubt, only license agreements concluded on the basis of the Development and Option Agreement will count towards the number of Active Agreements for the applicable [*****] payments. Provided a Licensed Product under this License Agreement is the first product comprised of Lipid Nanoparticles (LNP) containing one or more mRNA Constructs intended to express a protein that is a licensed product under this or any other exclusive license agreement entered into between the Parties on the basis of the Development and Option Agreement to reach a Phase 1, Phase 2 or Phase 3 milestone, the first three clinical Milestone Payments (i.e., [*****] If a Licensed Product under this License Agreement is not the first product under any exclusive license agreement entered into between the Parties on the basis of the Development and Option Agreement, but the first (and any subsequent) exclusive license agreement is terminated and the Licensed Product under this License Agreement therefore becomes the "first product" (i.e., no other exclusive license agreement under the Development and Option Agreement takes such place), [*****] in clinical development milestones will be applied to the Licensed Product under this License Agreement for any clinical milestones not achieved under the first or any subsequent exclusive license agreements.

4.2 License Maintenance Fee for [*****] Targets.

(a) Excess [*****] Targets. Upon the first dosing of the first patient in the first Phase 3 Study for the first Licensed Vaccine Product under this License Agreement anywhere in the Territory, CureVac will notify Acuitas in writing of the identity of any [*****] Target(s) not included in such Licensed Product ("[*****] Target(s)"). At CureVac's election, to be made in such notice, and on an [*****] Target-by-[*****] Target basis, (i) this License Agreement will be amended to remove reference to the [*****] Target and all rights to such [*****] Target will revert back to Acuitas; or (ii) CureVac will retain its rights under this License Agreement to such [*****] Target and will pay to Acuitas a license maintenance fee for such retained [*****] Target of [*****] per year if the [*****] Target is a Non-Mammalian Target and [*****] per year if the [*****] Target is a Mammalian Target and for as long as the [*****] Target is not part of any other Licensed Vaccine Product developed under this License Agreement. Thereafter, CureVac is entitled to remove any retained [*****] Target from this License Agreement upon prior written notice to Acuitas and upon receipt of such notice the obligation to pay license maintenance fees for such removed [*****] Target terminates.

(b) Inclusion of Further [*****] Targets. In the event CureVac desires to include [*****] Targets for which [*****] was exercised under the Development and Option Agreement or to reintroduce a removed [*****] Target into the License Agreement, CureVac will notify the Escrow Agent of the identify and other information describing each protein as set forth in Appendix 1.53(b) that it desires to be an [*****] Target. If such protein is available, the Escrow Agent will notify CureVac, such protein will become an [*****] Target and CureVac will make the payment for such [*****] Target(s) as though such [*****] Target had been reserved at the time the [*****] Target was reserved and the option to exercise the License Agreement including the [*****] Target had then included such [*****] Target. For avoidance of doubt, the number of [*****] Targets for purposes of calculating the option payment will not be reduced for [*****] Targets that have been removed from the Licensed Agreement, if any. This License Agreement will then be amended to include reference to such further [*****] Target(s).

4.3 Royalties.

(a) *Royalty.* Subject to the remainder of this Section 4.3, on a country-by-country basis and a Covered Product-by-Covered Product basis, "**Covered Product**" being a Licensed Product which is Covered by one or more Valid Claims, CureVac will pay to Acuitas a royalty of [*****] of Net Sales of the Covered Product whether [*****]. On a country by country basis, in the event a Licensed Product is not a Covered Product in such country, CureVac will pay to Acuitas a royalty on Net Sales equal to the Minimum Royalty set forth in subsection (c) below.

(b) *Third Party Royalty Payments.* If CureVac or its Affiliate or Sublicensee, in its reasonable judgment, considers it necessary or useful to obtain a license from any Third Party under any LNP Technology that Covers a Licensed Product in order to develop, manufacture or commercialize such Licensed Product the amount of CureVac's royalty obligations under Sections 4.3(a) will be reduced by [******]%) of the amount of the royalty payments made to such Third Party ("Third Party Royalty Payments"), *provided, however,* that such reduction shall not result in less than the Minimum Royalty due to Acuitas under Section (c) below. For avoidance of doubt, Third Party Royalty Payments will include payments by CureVac in connection with Acuitas sublicenses under Section 2.2.

(c) *Minimum Royalty.* Except as set forth in subsection (d) below, in no event will the Royalty payable by CureVac to Acuitas for any Licensed Product (whether or not a Covered Product) be less than the following according to which [*****] such Licensed Product corresponds to:

(i) [*****]

(ii) [*****]

(iii) [*****]

(d) *Third Party Royalty Reduction/Minimum Royalty applicable in the event of CureVac having rights under the [*****] Patent Rights* If CureVac or its Affiliates or Sublicensees, in their reasonable judgment, consider it necessary or useful to obtain [*****] Patent Rights in order to develop, manufacture and/or commercialize a Licensed Product and CureVac does not obtain such rights from Acuitas under the Acuitas LNP Technology at no additional cost, then the amount of CureVac's royalty obligations under Sections 4.3(a) will be [*****] made by CureVac, its Affiliates or Sublicensees to Acuitas or any Third Party for such rights, provided that the Minimum Royalty payable to Acuitas in accordance with Section 4.3 (c) will not be less than as shown below and according to which [*****] such Licensed Product falls into. Provided however that CureVac or its Affiliates or Sublicensees cannot elect to take [*****] Patent Rights from a Third Party if such [*****] Patent Rights are included in rights from Acuitas under the Acuitas LNP Technology and provided to CureVac its Affiliates or Sublicensees at no additional cost. For greater clarity the minimum royalties owing to Acuitas as shown below are in respect of both royalty reductions arising under Section 4.3 (b) and/or arising under this Section 4.3(d):

(i) [*****]

(ii) [*****]

(iii) [*****]

In the event that [*****] Patent Rights are included in the Acuitas LNP Technology (i.e., are at no additional cost to CureVac) and Cover a Licensed Product then the Minimum Royalty payable to Acuitas in accordance with Section 4.3 (c) will not be less than the following according to which [*****] such Licensed Product corresponds to:

(i) [*****]

(ii) [*****]

(iii) [*****]

(e) *Term.* The royalty term ("Royalty Term") shall expire on a country-by-country and Licensed Product-by-Licensed Product basis, on the last to occur of (i) expiration of the last to expire Valid Claim in the Acuitas LNP Technology that, but for the license described herein from Acuitas to CureVac for the applicable Licensed Product, is infringed by the making, using or sale of such Licensed Product, (ii) expiration of any period of data exclusivity, market exclusivity or supplemental protection certificates covering the Licensed Product in such country; and (iii) ten (10) years after First Commercial Sale of Licensed Product in such country. For the avoidance of doubt, upon exhaustion of the obligation to pay Royalties to Acuitas as set forth above the continued use of Acuitas Know-How comprised in the LNP Technology for the development, manufacture and/or sale of the Licensed Product shall not, in and of itself, obligate CureVac to pay further royalties to Acuitas. Thereafter, CureVac's license under Section 2.1 will become irrevocable, fully paid-up and royalty-free on a country-by-country and Licensed Product-by-Licensed Product basis.

(f) *Blended Royalty.* The Parties acknowledge and agree that the Acuitas LNP Technology licensed under this License Agreement may justify royalty rates and/or Royalty Terms of differing amounts for the sale of Licensed Products in the Territory, depending on the number of LNP Technology Patents and their respective expiry. The Parties have determined in light of such considerations and for reasons of mutual convenience that blended royalty rates for the Acuitas LNP Technology licensed hereunder will apply during a single Royalty Term for sales of a Licensed Product in the Territory. Consequently, the Parties have agreed to adopt the royalty rates set forth in this Section 4.3 with respect to the sales of Licensed Products in the Territory as blended royalty rates.

4.4 Payment Terms.

(a) *Manner of Payment.* All payments to be made by CureVac hereunder will be made in U.S. dollars by wire transfer to such bank account as Acuitas may designate.

(b) *Records and Audits.* CureVac shall keep, and shall cause each of its Affiliates and Sublicensees, as applicable, to keep adequate books and records of accounting for the purpose of calculating all royalties payable to Acuitas hereunder. For the [*****] years next following the end of the calendar year to which each shall pertain, such books and records of accounting (including those of CureVac's Affiliates) shall be kept at each of their principal places of business and shall be open for inspection at reasonable times and upon reasonable notice by an independent certified accountant selected by Acuitas, and which is reasonably acceptable to CureVac, for the sole purpose of inspecting the royalties due to Acuitas under this License Agreement. In no event shall such inspections be conducted hereunder more frequently than once every [*****] months. Such accountant must have executed and delivered to CureVac and its Affiliates, a confidentiality agreement as reasonably requested by CureVac, which shall include provisions limiting such accountant's disclosure to Acuitas to only the results and basis for such results of such inspection. The results of such inspection, if any, shall be binding on both Parties. Any underpayments shall be paid by CureVac within [*****] days of notification of the results of such inspection. Any overpayments shall be fully creditable against amounts payable in subsequent payment periods. Acuitas shall pay for such inspections, except that in the event there is any upward adjustment in aggregate royalties payable for any calendar year shown by such inspection of more than [*****]% of the amount paid, CureVac shall reimburse Acuitas for any reasonable out-of-pocket costs of such accountant.

(c) *Reports and Royalty Payments.* For as long as royalties are due under Section 4.3, CureVac shall furnish to Acuitas a written report for each Calendar Quarter, showing the amount of Net Sales of Licensed Products and royalty due for such Calendar Quarter. Reports shall be provided within [*****] days of the end of the Calendar Quarter for Net Sales generated by CureVac and its Affiliates, and within [*****] days of the end of the Calendar Quarter for Net Sales generated by Sublicensees,. Royalty payments for each Calendar Quarter shall be due at the same time as the last such written report for the Calendar Quarter. The report shall include, at a minimum, the following information for the applicable Calendar Quarter, each listed by Licensed Product and by country of sale: (i) the number of units of Licensed Products sold by CureVac and its Affiliates and Sublicensees on which royalties are owed to Acuitas hereunder; (ii) the gross amount received for such sales; (iii) Net Sales; (iv) the amounts of any credits or reductions permitted by Section 4.3; and (v) the computations for any Acuitas currency conversions pursuant to subsection (d) below. CureVac will require each Sublicensee to share with Acuitas the information listed in the foregoing clauses as it relates to Net Sales made by such Sublicensee, and to the extent practicable, will include such Sublicensee information in such report. All such reports shall be treated as Confidential Information of CureVac. In the event of a Change of Control by an acquirer that is commercializing a Competitive Product, reports shall be limited to (iii) and (v) above.

(d) *Currency Exchange*. With respect to Net Sales invoiced in U.S. dollars, the Net Sales and the amounts due to Acuitas hereunder will be expressed in U.S. dollars. With respect to Net Sales invoiced in a currency other than U.S. dollars, payments will be calculated based on standard methodologies employed by CureVac or its Affiliates or Sublicensees for consolidation purposes for the Calendar Quarter for which remittance is made for royalties.

(e) *Taxes.* CureVac may withhold from payments due to Acuitas amounts for payment of any withholding tax that is required by Law to be paid to any taxing authority with respect to such payments. CureVac will provide Acuitas all relevant documents and correspondence, and will also provide to Acuitas any other cooperation or assistance on a reasonable basis as may be necessary to enable Acuitas to claim exemption from such withholding taxes and to receive a refund of such withholding tax or claim a foreign tax credit. CureVac will give proper evidence from time to time as to the payment of any such tax. The Parties will cooperate with each other in seeking deductions under any double taxation or other similar treaty or agreement from time to time in force. Such cooperation may include CureVac making payments from a single source in the U.S., where possible. Apart from any such permitted withholding and those deductions expressly included in the definition of Net Sales, the amounts payable by CureVac to Acuitas hereunder will not be reduced on account of any taxes, charges, duties or other levies.

(f) *Blocked Payments.* In the event that, by reason of applicable law in any country, it becomes impossible or illegal for CureVac or its Affiliates or Sublicensees to transfer, or have transferred on its behalf, payments owed to Acuitas hereunder, CureVac will promptly notify Acuitas of the conditions preventing such transfer and such payments will be deposited in local currency in the relevant country to the credit of Acuitas in a recognized banking institution designated by Acuitas or, if none is designated by Acuitas within a period of [*****] days, in a recognized banking institution selected by CureVac or its Affiliate or Sublicensee, as the case may be, and identified in a written notice given to Acuitas.

(g) *Interest Due.* If any payment due to Acuitas under this License Agreement is overdue (and is not subject to a good faith dispute), then CureVac will pay interest thereon (before and after any judgment) at an annual rate of the lesser of [*****]% above the prime rate as reported in The Wall Street Journal, Eastern Edition, and the maximum rate permitted by applicable Law, such interest to run from the date upon which payment of such sum became due until payment thereof in full together with such interest.

(h) *Mutual Convenience of the Parties.* The royalty and other payment obligations set forth hereunder have been agreed to by the Parties for the purpose of reflecting and advancing their mutual convenience, including the ease of calculating and paying royalties and other amounts to Acuitas.

5. Ownership and Inventorship of IP.

Solely-Owned IP. As between the Parties, each Party will own and retain all right, title and interest in and to any and all Know-How and Patents arising therefrom that are discovered, created, conceived, developed or reduced to practice solely by or on behalf of such Party under or in connection with this License Agreement ("Solely Owned IP"). Subject to the licenses hereunder and the other terms and conditions of this License Agreement or any other agreement between the Parties, each Party will be solely responsible for the prosecution and maintenance, and the enforcement and defense, of any Patents within its Solely Owned IP.

6. Patent Prosecution and Maintenance.

6.1 Generally. As between the Parties and subject to Section 6.2 below, Acuitas (or its Third Party licensor, if any) will have the sole right, at its sole costs, to prosecute and maintain LNP Technology Patents, other than the Joint Interest Patents. Upon filing, Acuitas will provide CureVac with copies of all applications for all such LNP Technology Patents, and all other material submissions and correspondence with any patent authorities regarding such LNP Technology Patents, in sufficient time (not to be less than [*****] days) to allow for review and comment by CureVac. In addition, Acuitas will provide CureVac and its counsel with an opportunity to consult with Acuitas and its counsel regarding prosecution and maintenance of any such LNP Technology Patents, and Acuitas will not unreasonably refuse to address all reasonable comments timely made by or on behalf of CureVac. As between the Parties, CureVac will have the first right to prosecute and maintain any and all Joint Interest Patents and the Parties will share equally all costs incurred by CureVac in connection with such efforts. Upon filing, CureVac will provide Acuitas with copies of all applications for such Joint Interest Patents, and all other material submissions and correspondence with any patent authorities regarding such Joint Interest Patents, in sufficient time (not to be less than [*****] days) to allow for review and comment by Acuitas. In addition, CureVac will provide Acuitas and its counsel with an opportunity to consult with CureVac and its counsel regarding prosecution and maintenance of any such Joint Interest Patents, and CureVac will consider in good faith all reasonable comments timely made by or on behalf of Acuitas.

6.2 Election Not to Prosecute or Maintain or Pay Patent Costs.

(a) *By Acuitas.* If Acuitas elects not (i) to file, prosecute or maintain any LNP Technology Patents for which it is responsible under Section 6.1 in any particular country before the applicable filing deadline or continue such activities once filed in a particular country, or (ii) to pay the Patent Costs associated with prosecution or maintenance of any such LNP Technology Patents then in each such case Acuitas will so notify CureVac, promptly in writing and in good time to enable Acuitas to meet any deadlines by which an action must be taken to preserve such LNP Technology Patent in such country, if CureVac so requests. Upon receipt of each such notice by Acuitas, CureVac will have the right, but not the obligation, to notify Acuitas in writing on a timely basis that Acuitas should continue the prosecution and/or maintenance of such LNP Technology Patent in the respective country, and thereafter, Acuitas would prosecute and maintain such LNP Technology Patent in such country at the sole direction of CureVac, Acuitas would make available to CureVac all documentation and correspondence with respect to such LNP Technology Patent, and CureVac would compensate the reasonable Patent Costs incurred by Acuitas in connection with such efforts, i.e., Patent Costs which Acuitas would not have had incurred if it had elected not to file, prosecute or maintain the respective LNP Technology Patent. CureVac's license to such LNP Technology Patent hereunder under Section 2.1 will be, irrevocable and royalty free, and such LNP Technology Patent will thereafter no longer be part of the Acuitas LNP Technology for purposes of this License Agreement. CureVac is entitled to discontinue the payment of Patent Costs for any LNP Technology Patents at any time, provided that it will so notify Acuitas in writing in time for such discontinuance.

(b) *By CureVac.* If CureVac elects not (i) to file, prosecute or maintain any Joint Interest Patents for which it is responsible under Section 6.1 in any particular country before the applicable filing deadline or continue such activities once filed in a particular country, or (ii) to pay the Patent Costs associated with prosecution or maintenance of any Joint Interest Patents then in each such case CureVac will so notify Acuitas, promptly in writing and in good time to enable CureVac to meet any deadlines by which an action must be taken to preserve such Joint Interest Patent in such country at Acuitas' expense, if Acuitas so requests. Upon receipt of each such notice by CureVac, Acuitas will have the right, but not the obligation, to notify CureVac in writing on a timely basis that CureVac should transfer the prosecution or maintenance of such Joint Interest Patent to Acuitas and at Acuitas' sole expense and such LNP Technology Patent will thereafter no longer be part of the Acuitas LNP Technology for purposes of this License Agreement. Acuitas is entitled to discontinue the payment of Patent Costs for any Joint Interest Patents at any time, provided that it will so notify CureVac in writing in time for such discontinuance.

6.3 Patent Extensions. If any election for LNP Technology Patent term restoration or extension, supplemental protection certificate or any of their equivalents is to be made with respect to any LNP Technology Patent, then the Parties will discuss and seek to reach mutual agreement whether or not to take such action, provided that if the Parties are not able to reach mutual agreement within [*****] days, then CureVac will have the sole right to make the final decision whether or not to seek such patent term restoration or extension, supplemental protection certificate or any of their equivalents with respect to: (i) Joint Interest Patents; and (ii) any other LNP Technology Patents that, on the date of conclusion of such discussions, [*****] and provided further that the exercise of such right by CureVac will not increase or otherwise change the rights or obligations of the Parties hereunder. Acuitas will have the sole right to make the final decision whether or not to seek Patent term restoration or extension, supplemental protection certificate or any equivalents for any product but the Licensed Products with respect to all other Patents within the Acuitas LNP Technology. Without the prior written consent of CureVac, Acuitas shall not apply for any term restoration or extension, supplemental protection certificate or any of their equivalents for any Licensed Product.

6.4 Regulatory Exclusivity Periods. With respect to any Patent listings required for any regulatory exclusivity periods for Licensed Products the Parties will discuss and seek to reach mutual agreement, subject to Applicable Law, on which LNP Technology Patents to list, provided that if the Parties are not able to agree within [*****] days, CureVac will have the right to make the final decision with respect to: (i) Joint Interest Patents; and (ii) any other LNP Technology Patents that, on the date of conclusion of such discussions, [*****] and provided further that the exercise of such right by CureVac will not increase or otherwise change the rights or obligations of the Parties hereunder. Except where required under Applicable Law, without the written consent of CureVac, Acuitas will not apply for, and is not authorized under this Agreement to apply for, any Patent listings required for any regulatory exclusivity periods for any Licensed Product. For the avoidance of doubt, Acuitas is not restricted from applying for any Patent listings required for any regulatory exclusivity periods for any product but the Licensed Products.

6.5 Cooperation. Each Party will reasonably cooperate with the other Party in those activities involving the LNP Technology Patents set forth in Sections 6.1 to 6.4. Such cooperation includes promptly executing all documents, or requiring inventors, subcontractors, employees and consultants and agents of CureVac and Acuitas and their respective Affiliates and Sublicensees to execute all documents, as reasonable and appropriate so as to enable such activities in respect of any such LNP Technology Patents in any country.

7. Patent Enforcement and Defense.

7.1 Notice. To the extent not in breach of an obligation of confidentiality, each Party will promptly notify, in writing, the other Party upon learning of any actual or suspected infringement of any LNP Technology Patents by a Third Party, or of any claim of invalidity, unenforceability, or non-infringement of any LNP Technology Patents, and will, along with such notice, supply the other Party with any evidence in its possession pertaining thereto.

7.2 Enforcement and Defense.

(a) *Enforcement.* As between the Parties, Acuitas (or its Third Party licensor, or licensee if any) will have the first right, but not the obligation, to seek to abate any infringement of the LNP Technology Patents by a Third Party, or to file suit against any such Third Party for such infringement *provided* that (i) Acuitas shall bear all the expense of such suit or abatement of infringement, and (ii) CureVac shall have the first right but not the obligation to take action or bring suit against such Third party infringer with respect to: (A) Joint Interest Patents; and/or (B) any other LNP Technology Patents that, on the date of first notice of such infringement, are necessary or useful [*****] *provided* that CureVac shall bear all the expense of such suit or abatement of infringement. If the Party first responsible for such enforcement elects not to take action or to bring suit to prosecute such infringement or to continue such action or suit, it shall notify the other Party of such election within [*****] days after become aware of or receipt of the notice of the infringement or after the election to stop any such action or suit. If after the expiration of the [*****] days period (or, if earlier, the date upon which the responsible Party provides written notice that it does not plan to bring such action) the responsible Party has neither obtained a discontinuance of infringement nor filed suit against any such Third Party infringer of such Patent, then (i) in the case of an election by Acuitas (or its Third Party licensor, or licensee if any) not to prosecute an infringement of an LNP Technology Patent, CureVac shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patents, provided the infringement is [*****] being the subject of this License Agreement, and further provided that CureVac shall bear all the expenses of such suit and (ii) in the case of a CureVac election not to prosecute an infringement of a Joint Interest Patents or LNP Technology Patent, Acuitas shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patents, provided that Acuitas shall bear all the expenses of such suit.

(b) *Defense*. As between the Parties, Acuitas (or is Third Party licensor or licensee, if any) will have the first right, but not the obligation, at its sole costs, to defend against a declaratory judgment action or other action challenging any LNP Technology Patents, other than: (i) Joint Interest Patents; and (ii) any other LNP Technology Patents that, on the date of first notice of such action, [*****] and as between the Parties, CureVac will have the first right, but not the obligation, at its sole costs, to defend against a declaratory judgment action or other action challenging Joint Interest Patents and/or such other LNP Technology Patents. If the Party first responsible for such defense does not take steps to defend within a commercially reasonably time, or elects not to continue any such defense (in which case it will promptly provide notice thereof to the other Party), then (i) in the case of an election by Acuitas (or its Third Party licensor, or licensee if any) not to defend an LNP Technology Patent, CureVac shall have the right, but not the obligation, to take defend any LNP Technology Patents that cover Licensed Product and no other product licensed or optioned by Acuitas to a Third Party or commercialized by Acuitas provided that CureVac shall bear all the expenses of such suit and (ii) in the case of a CureVac election not to defend the Joint Interest Patents, Acuitas shall have the right, but not the obligation, to take action or bring suit to defend such Patents, provided that Acuitas shall bear all the expenses of such suit,

(c) Notwithstanding the foregoing, any response to a Third Party infringer's counterclaim of invalidity or unenforceability of any LNP Technology Patents shall be controlled by the Party who controls the relevant enforcement proceeding pursuant to Section 7.2 (a) unless otherwise mutually agreed by the Parties.

(d) *Withdrawal, Cooperation and Participation.* With respect to any infringement or defensive action identified above in this Section 7.2 which may be controlled by either CureVac or Acuitas:

(i) If the controlling Party ceases to pursue or withdraws from such action, it will promptly notify the other Party (in good time to enable the other Party to meet any deadlines by which any action must be taken to preserve any rights in such infringement or defensive action) and such other Party may substitute itself for the withdrawing Party, shall be granted the right and standing to sue in the other Party's name, and proceed under the terms and conditions of this Section 7.2.

(ii) The non-controlling Party will cooperate with the Party controlling any such action (as may be reasonably requested by the controlling Party), including (A) providing access to relevant documents and other evidence, (B) making its and its Affiliates and licensees and Sublicensees and all of their respective employees, subcontractors, consultants and agents available at reasonable business hours and for reasonable periods of time, but only to the extent relevant to such action, and (C) if necessary, by being joined as a party, subject for this clause (C) to the controlling Party agreeing to indemnify such non-controlling Party for its involvement as a named party in such action and paying those Patent Costs incurred by such Party in connection with such joinder. The Party controlling any such action will keep the other Party updated with respect to any such action, including providing copies of all documents received or filed in connection with any such action.

(iii) Each Party will have the right to participate or otherwise be involved in any such action controlled by the other Party, in each case at the participating (i.e., non-controlling) Party's sole cost and expense. If a Party elects to so participate or be involved, the controlling Party will provide the participating Party and its counsel with an opportunity to consult with the controlling Party and its counsel regarding the prosecution of such action (including reviewing the contents of any correspondence, legal papers or other documents related thereto), and the controlling Party will take into account reasonable requests of the participating Party regarding such enforcement or defense.

(e) *Settlement.* Neither Party will settle or consent to an adverse judgment in any action described in this Section 7.2 and controlled by such Party, including any judgment which affects the scope, validity or enforcement of any LNP Technology Patents involved therewith, without the prior written consent of the other Party (such consent not to be unreasonably withheld or delayed).

(f) *Damages.* Unless otherwise agreed by the Parties, all monies recovered upon the final judgment or settlement of any action which may be controlled by either CureVac or Acuitas and described in Section 7.2(a) or 7.2(b) in each case will be used first to reimburse the controlling Party, and thereafter the non-controlling Party, for each of their out-of-pocket costs and expenses relating to the action, with the balance of any such recovery to be divided as follows:

(i) To the extent such recovery reflects [*****]; and

(ii) To the extent such recovery reflects [*****]

8. Confidentiality.

8.1 Confidential Information. Each Party ("Disclosing Party") may disclose to the other Party ("Receiving Party"), and Receiving Party may acquire during the course and conduct of activities under this License Agreement, certain proprietary or confidential information of Disclosing Party in connection with this License Agreement. The term "Confidential Information" means all information of any kind, whether in written, oral, graphical, machine-readable or other form, whether or not marked as confidential or proprietary, that are disclosed or made available by or on behalf of the Disclosing Party to the Receiving Party in connection with this License Agreement.

8.2 Restrictions. During the Term and for [*****] years thereafter, Receiving Party will keep all Disclosing Party's Confidential Information in confidence with the same degree of care with which Receiving Party holds its own confidential information, but in no event less than reasonable care. Receiving Party will not use Disclosing Party's Confidential Information except for in connection with the performance of its obligations and exercise of its rights under this License Agreement. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent to Receiving Party's Affiliates, and each of their employees, subcontractors, consultants and agents who have a need to know such Confidential Information in order to perform their obligations and exercise their rights under this License Agreement and who are under written obligation to comply with the restrictions on use and disclosure that are no less restrictive than those set forth in this Section 8.2. Receiving Party assumes responsibility for such entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

8.3 Exceptions. Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information will not apply to a specific portion of the Disclosing Party's Confidential Information to the extent that Receiving Party can demonstrate that such portion: (i) was known to Receiving Party or any of its Affiliates prior to the time of disclosure by the Disclosing Party without obligation of confidentiality; (ii) is or becomes public knowledge through no fault or omission of Receiving Party or any of its Affiliates; (iii) is obtained on a non-confidential basis by Receiving Party or any of its Affiliates from a Third Party who to Receiving Party's knowledge is lawfully in possession thereof and under no obligation of confidentiality to Disclosing Party; or (iv) has been independently developed by or on behalf of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information.

8.4 Permitted Disclosures. Receiving Party may disclose Disclosing Party's Confidential Information to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(a) in order and to the extent required to comply with applicable Law (including any securities Law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

(b) in connection with prosecuting or defending litigation, and filing, prosecuting and enforcing LNP Technology Patents in connection with Receiving Party's rights and obligations pursuant to this License Agreement; and

(c) to acquirers or permitted assignees; investment bankers, investors and lenders, including potential acquirers, assignees, investment bankers, and lenders;

(d) in the case of CureVac, to (i) subcontractors; or (ii) potential licensees or collaboration partners, but in case (ii) only such information that is reasonably necessary or useful for the potential licensee or partner to evaluate the applicable Licensed Product, and LNP/Licensed Product manufacturing processes, but excluding the particular chemical structure and formulation of any LNPs (which excluded information may be disclosed to such potential licensee or partner upon Acuitas' prior written consent);

provided that (1) where reasonably possible, Receiving Party will notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant to subsections (a) and (b) sufficiently prior to making such disclosure so as to allow Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to subsections (c) and (d), each of those entities are required to comply with the restrictions on use and disclosure in Section 8.2 (other than investment bankers, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

8.5 Return of Confidential Information. Upon expiry or earlier termination of this License Agreement, upon written request of a Party (such request, if made, to be made within three (3) months of such expiry or termination) the other Party will destroy or return (as shall be specified in such request) to the requesting Party all copies of the Confidential Information of the requesting Party; provided that the Party may retain: (i) one copy of such Confidential Information for record-keeping purposes, for the sole purpose of ensuring compliance with this Agreement; (ii) any copies of such Confidential Information as is required to be retained under applicable Law; (iii) any copies of such Confidential Information as is necessary or useful for such Party to exercise a right or fulfill an obligation under another License Agreement, if any, or as set forth in this License Agreement; and (iv) any copies of any computer records and files containing Confidential Information that have been created by such Party's routine archiving/backup procedures.

8.6 Publications. Notwithstanding anything in this License Agreement to the contrary, CureVac is permitted to publish the results of its development under this License Agreement, provided, however, that it will not disclose Acuitas Confidential Information in any publication by CureVac of the results of any Licensed Product development by CureVac without Acuitas' prior written consent, which will not be unreasonably withheld, conditioned or delayed.

8.7 Terms of this License Agreement: Publicity. The Parties agree that the existence and terms of the Parties' relationship and this License Agreement will be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 8.4. Except as required by Law, each Party agrees not to issue any press release or public statement disclosing information relating to the existence of this License Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party.

9. Warranties; Limitations of Liability; Indemnification.

9.1 Representations and Warranties. Each Party represents and warrants to the other as of the License Agreement Effective Date that:

(a) it is a corporation duly organized, validly existing, and in good standing under the Laws of the jurisdiction in which it is incorporated,

(b) it has the legal right and power to enter into this License Agreement, to extend the rights and licenses granted or to be granted to the other in this License Agreement, and to fully perform its obligations hereunder,

(c) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this License Agreement and the performance of its obligations hereunder and

(d) this License Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms.

9.2 Additional Representations of Acuitas. Except as set forth on **Appendix 9.2,** Acuitas hereby represents and warrants to CureVac as of the License Agreement Effective Date as follows:

(a) *Impairment.* Neither Acuitas nor any of its Affiliates has entered into any agreement or otherwise licensed, granted, assigned, transferred, conveyed or otherwise encumbered or disposed of any right, title or interest in or to any of its assets, including any intellectual property rights including Know-How, that would in any way conflict with or impair the scope of any rights or licenses granted to CureVac hereunder, including under any of the agreements which Acuitas has identified to CureVac prior to the License Agreement Effective Date.

(b) *Patents.* **Appendix 1.1** sets forth a complete and accurate list of all LNP Technology Patents. Acuitas Controls, and will Control during the Term, the LNP Technology Patents listed on Appendix 1.1 and the Know-How within the Acuitas LNP Technology, and is entitled to grant the licenses specified herein. To Acuitas' knowledge, the LNP Technology Patents have been procured or are being procured from the respective patent offices in accordance with applicable Law. None of the LNP Technology Patents is or has been involved in any opposition, cancellation, interference, reissue or reexamination proceeding, and to Acuitas' knowledge as of the License Agreement Effective Date, no Acuitas LNP Technology is the subject of any judicial, administrative or arbitral order, award, decree, injunction, lawsuit, proceeding or stipulation. As of the License Agreement Effective Date, neither Acuitas nor any of its Affiliates has received any notice alleging that the LNP Technology Patents are invalid or unenforceable, or challenging Acuitas' ownership of or right to use any such rights.

(c) *Entire LNP Technology.* The Acuitas LNP Technology licensed to CureVac under this License Agreement comprises all Technology owned or in-licensed by Acuitas which is required to develop, manufacture and commercialize the Licensed Products.

(d) *Encumbrances.* Acuitas and its Affiliates are not subject to any payment obligations to Third Parties as a result of the execution or performance of this License Agreement. As of the License Agreement Effective Date, neither Acuitas nor any of its Affiliates has granted any liens or security interests on the Acuitas LNP Technology, and the Acuitas LNP Technology as licensed hereby is free and clear of any mortgage, pledge, claim, security interest, covenant, easement, encumbrance, lien or charge of any kind.

(e) *Defaults.* The execution, delivery and performance by Acuitas of this License Agreement and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any understanding, contract or agreement to which Acuitas is a party or by which it is bound, including each of tlie agreements which Acuitas has identified to CureVac prior to the License Agreement Effective Date, in each case as would reasonably be expected to have a material adverse effect on the rights granted to CureVac hereunder.

(f) *Litigation.* There is no action, suit, proceeding or investigation pending or, to the knowledge of Acuitas, currently threatened in writing against or affecting Acuitas that questions the validity of this License Agreement or the right of Acuitas to enter into this License Agreement or consummate the transactions contemplated hereby or that relates to the Acuitas LNP Technology.

(g) *Infringement.* Neither Acuitas nor any of its Affiliates has received any notice of any claim, nor does Acuitas or its Affiliates have any knowledge of any basis for any claim, that any Patent, Know-How or other intellectual property owned or controlled by a Third Party would be infringed or misappropriated by the practice of any Acuitas LNP Technology in connection with the production, use, research, development, manufacture or commercialization of any Licensed Product.

(h) *Third Party Infringement.* To Acuitas' knowledge, no Third Party is infringing or has infringed any Patent within the Acuitas LNP Technology or is misappropriating or has misappropriated any Know-how within the Acuitas LNP Technology.

9.3 Disclaimers. Without limiting the respective rights and obligations of the Parties expressly set forth herein, each Party specifically disclaims any guarantee that any Licensed Product will be successful, in whole or in part. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS LICENSE AGREEMENT, THE PARTIES MAKE NO REPRESENTATIONS AND EXTEND NO WARRANTY OF ANY KIND UNDER THIS LICENSE AGREEMENT, EITHER EXPRESS OR IMPLIED.

9.4 No Consequential Damages. NOTWITHSTANDING ANYTHING IN THIS LICENSE AGREEMENT OR OTHERWISE, NEITHER PARTY WILL BE LIABLE TO THE OTHER OR ANY THIRD PARTY WITH RESPECT TO ANY SUBJECT MATTER OF THIS LICENSE AGREEMENT FOR ANY INDIRECT, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES; PROVIDED THAT THIS SECTION 9.4 WILL NOT APPLY TO BREACHES OF A PARTY'S OBLIGATIONS OR UNDER ARTICLE NINE OR THE PARTIES' INDEMNIFICATION RIGHTS AND OBLIGATIONS UNDER SECTION 9.6.

9.5 Performance by Others. The Parties recognize that each Party may perform some or all of its obligations under this License Agreement through Affiliates and permitted subcontractors provided, however, that each Party will remain responsible and liable for the performance by its Affiliates and permitted subcontractors and will cause its Affiliates and permitted subcontractors to comply with the provisions of this License Agreement in connection therewith.

9.6 Indemnification.

(a) *Indemnification by CureVac.* CureVac will indemnify Acuitas, its Affiliates and their respective directors, officers, employees, Third Party licensors and agents, and their respective successors, heirs and assigns (collectively, "Acuitas Indemnitees"), and defend and hold each of them harmless, from and against any and all losses, damages, liabilities, costs and expenses (including reasonable attorneys' fees and expenses) (collectively, "Losses") in connection with any and all suits, investigations, claims or demands of Third Parties (collectively, "Third Party Claims") against the Acuitas Indemnitees to the extent arising from or occurring as a result of: (i) the breach by CureVac of any provision of this License Agreement; (ii) any negligence or willful misconduct on the part of any CureVac Indemnitee; or (iii) the development or commercialization by or on behalf of CureVac or any of its Affiliates or Sublicensees of Licensed Product other than if related to an LNP component thereof, except in each case (i)-(iii) to the extent arising from or occurring as a result of the negligence or willful misconduct on the part of an Acuitas Indemnitee or Acuitas' breach of this License Agreement.

(b) *Indemnification by Acuitas.* Acuitas will indemnify CureVac, its Affiliates and their respective directors, officers, employees and agents, and their respective successors, heirs and assigns (collectively, "CureVac Indemnitees"), and defend and hold each of them harmless, from and against any and all Losses in connection with any and all Third Party Claims against CureVac Indemnitees to the extent arising from or occurring as a result of: (i) the breach by Acuitas of any provision of this License Agreement; or (ii) any negligence or willful misconduct on the part of any Acuitas Indemnitee, except in each case (i) and (ii) to the extent arising from or occurring as a result of the negligence or willful misconduct on the part of a CureVac Indemnitee or CureVac's breach of this License Agreement.

(c) *Notice of Claim.* All indemnification claims provided for in Sections 9.6(a) and 9.6(b) will be made solely by such Party to this License Agreement (the "Indemnified Party"). The Indemnified Party will promptly notify the indemnifying Party (an "Indemnification Claim Notice") of any Losses or the discovery of any fact upon which the Indemnified Party intends to base a request for indemnification under Section 9.6(a) and 9.6(b), but in no event will the indemnifying Party be liable for any Losses that result from any delay in providing such notice. Each Indemnification Claim Notice must contain a description of the claim and the nature and estimated amount of such Loss (to the extent that the nature and amount of such Loss is known at such time). The Indemnified Party will furnish promptly to the indemnifying Party copies of all papers and official documents received in respect of any Losses and Third Party Claims.

(d) *Defense, Settlement, Cooperation and Expenses.*

(i) *Control of Defense.* At its option, the indemnifying Party may assume the defense of any Third Party Claim by giving written notice to the Indemnified Party within [*****] days after the indemnifying Party's receipt of an Indemnification Claim Notice. The assumption of the defense of a Third Party Claim by the indemnifying Party will not be construed as an acknowledgment that the indemnifying Party is liable to indemnify the Indemnified Party in respect of the Third Party Claim, nor will it constitute a waiver by the indemnifying Party of any defenses it may assert against the Indemnified Party's claim for indemnification. Upon assuming the defense of a Third Party Claim, the indemnifying Party may appoint as lead counsel in the defense of the Third Party Claim any legal counsel selected by the indemnifying Party (the indemnifying Party will consult with the Indemnified Party with respect to such counsel and a possible conflict of interest of such counsel retained by the indemnifying Party). In the event the indemnifying Party assumes the defense of a Third Party Claim, the Indemnified Party will immediately deliver to the indemnifying Party all original notices and documents (including court papers) received by the Indemnified Party in connection with the Third Party Claim. In the event that it is ultimately determined that the indemnifying Party is not obligated to indemnify, defend or hold harmless the Indemnified Party from and against the Third Party Claim, the Indemnified Party will reimburse the indemnifying Party for any and all costs and expenses (including reasonable attorneys' fees and costs of suit) and any Third Party Claims incurred by the indemnifying Party in its defense of the Third Party Claim.

(ii) *Right to Participate in Defense.* Without limiting Section 9.6(d)(i), any Indemnified Party will be entitled to participate in, but not control, the defense of such Third Party Claim and to employ counsel of its choice for such purpose; provided, however, that such employment will be at the Indemnified Party's own cost and expense unless (i) the indemnifying Party has failed to assume the defense and employ counsel in accordance with Section 9.6(d)(i) (in which case the Indemnified Party will control the defense) or (ii) the interests of the Indemnified Party and the indemnifying Party with respect to such Third Party Claim are sufficiently adverse to prohibit the representation by the same counsel of both Parties under applicable Law, ethical rules or equitable principles, in which case the indemnifying Party will assume one hundred percent (100%) of any such costs and expenses of counsel for the Indemnified Party.

(iii) *Settlement.* With respect to any Third Party Claims that relate solely to the payment of money damages in connection with a Third Party Claim and that will not result in the Indemnified Party's becoming subject to injunctive or other relief or otherwise adversely affecting the business of the Indemnified Party in any manner, and as to which the indemnifying Party will have acknowledged in writing the obligation to indemnify the Indemnified Party hereunder, the indemnifying Party will have the sole right to agree to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss, on such terms as the indemnifying Party, in its sole discretion, will deem appropriate. With respect to all other Losses in connection with Third Party Claims, where the indemnifying Party has assumed the defense of the Third Party Claim in accordance with Section 9.6(d)(i), the indemnifying Party will have authority to agree to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss provided it obtains the prior written consent of the Indemnified Party (such consent not to be unreasonably withheld, delayed or conditioned). The indemnifying Party will not be liable for any settlement or other disposition of a Loss by an Indemnified Party that is reached without the prior written consent of the indemnifying Party. Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, no Indemnified Party will admit any liability with respect to or settle, compromise or discharge, any Third Party Claim without the prior written consent of the indemnifying Party, such consent not to be unreasonably withheld, delayed or conditioned.

(iv) *Cooperation.* Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, the Indemnified Party will, and will cause each other indemnified party to, cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith, at the indemnifying Party's expense. Such cooperation will include access during normal business hours afforded to the indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party Claim, and making indemnified parties and other employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder, and the indemnifying Party will reimburse the Indemnified Party for all its reasonable out-of-pocket costs and expenses in connection therewith.

(v) *Costs and Expenses.* Except as provided above in this Section 9.6(d), the costs and expenses, including attorneys' fees and expenses, incurred by the Indemnified Party in connection with any claim will be reimbursed on a Calendar Quarter basis by the indemnifying Party, without prejudice to the indemnifying Party's right to contest the Indemnified Party's right to indemnification and subject to refund in the event the indemnifying Party is ultimately held not to be obligated to indemnify the Indemnified Party.

9.7 Insurance. Each Party will maintain at its sole cost and expense, an adequate liability insurance or self-insurance program (including product liability insurance) to protect against potential liabilities and risk arising out of activities to be performed under this License Agreement, and any agreement related hereto and upon such terms (including coverages, deductible limits and self-insured retentions) as are customary in the respective industry of such Party for the activities to be conducted by such Party under this License Agreement. Subject to the preceding sentence, such liability insurance or self-insurance program will insure against all types of liability, including personal injury, physical injury or property damage arising out of the manufacture, sale, use, distribution or marketing of Licensed Product. The coverage limits set forth herein will not create any limitation on a Party's liability to the other under this License Agreement.

10. Term and Termination.

10.1 Term. This License Agreement will commence as of the License Agreement Effective Date and, unless sooner terminated in accordance with the terms hereof or by mutual written consent, will continue on a Licensed Product-by-Licensed Product and a country-by-country basis, until there are no more payments owed Acuitas in such country (the longest such period of time hereunder, the "Term"). Upon there being no more such payments hereunder in such country, the license contained in Section 2.1 will become fully paid up and will remain in effect with respect to such Licensed Product in such country.

10.2 Termination by Acuitas.

(a) *Breach.* Acuitas will have the right to terminate this License Agreement in full upon delivery of written notice to CureVac in the event of any material breach by CureVac of any terms and conditions of this License Agreement, provided that such breach has not been cured within [*****] after written notice thereof is given by Acuitas to CureVac specifying the nature of the alleged breach.

(b) *Disputed Breach.* If CureVac disputes in good faith the existence or materiality of a breach specified in a notice provided in accordance with Section 10.2(a), and CureVac provides Acuitas notice of such dispute within such [*****] period, then Acuitas shall not have the right to terminate this License Agreement under Section 10.2(a) unless and until it is finally determined, in accordance with Section 11.1, that CureVac has materially breached this License Agreement and that CureVac fails to cure such breach within [*****] following such decision. It is understood and agreed that during the pendency of such dispute, all of the terms and conditions of this License Agreement shall remain in effect and the Parties shall continue to perform all of their respective obligations hereunder. During the pendency of any such dispute, CureVac shall pay to Acuitas all Acuitas Milestone payments and royalty payments set forth herein.

10.3 Termination by CureVac.

(a) *Breach.* CureVac will have the right to terminate this License Agreement in full upon delivery of written notice to Acuitas in the event of any material breach by Acuitas of any terms and conditions of this License Agreement, provided that such breach has not been cured within [*****] after written notice thereof is given by CureVac to Acuitas specifying the nature of the alleged breach.

(b) *Discretionary Termination.* CureVac will have the right (i) to terminate this License Agreement in full at its discretion for any reason by delivering written notice to Acuitas, such termination to be effective [*****] following the date of such notice..

(c) *Alternative to Termination Under Section* 10.3(a). If CureVac has the right to terminate this License Agreement under Section 10.3(a) as a result of a material breach by Acuitas (including following expiration of all applicable cure periods thereunder) that fundamentally impairs the value of CureVac's rights hereunder with respect to the Licensed Target, then CureVac may, in lieu of exercising such termination right, elect by written notice to Acuitas before the end of such applicable cure period to have this License Agreement continue in full force and effect for the Term, provided that the following will apply: starting immediately after the end of such applicable cure period, CureVac may [*****] the Acuitas Milestone Payments and the royalty rates set forth in Article Four. In the event Acuitas notifies CureVac within [*****] of receipt of CureVac's notice that Acuitas reasonably and in good-faith disputes CureVac's right to terminate this License Agreement pursuant to Section 10.3(a), CureVac shall instead deposit [*****] of such Acuitas Milestone Payments and royalty payments into an escrow account maintained by a mutually agreeable Third Party pending the resolution of such dispute in accordance with Section 11.1. In the event that it is established through the dispute resolution process that CureVac did have the right to terminate this License Agreement under Section 10.3(a), then the escrowed funds shall be released to CureVac and the [*****] shall apply going forward. In the event that it is established through the dispute resolution process that CureVac did not have the right to terminate this License Agreement under Section 10.3(a), then the escrowed funds shall be released to Acuitas, with interest, and CureVac shall resume full payment under this License Agreement (i.e., as if no [*****] had been made pursuant to this Section 10.3(c)).

10.4 Termination Upon Bankruptcy.

All rights and licenses granted under or pursuant to this License Agreement by Acuitas are, and will otherwise be deemed to be, for purposes of Section 65.11 (7) of the Bankruptcy and Insolvency Act, R.S.C. 1985, c. B-3 and Section 32(6) of the Companies' Creditors Arrangement Act, R.S.C. 1985, c. C-36 (the "Insolvency Legislation"), a grant of "right to use intellectual property" as used in the Insolvency Legislation. The Parties agree that CureVac and its Affiliates and Sublicensees, as licensees of such rights under this License Agreement, will retain and may fully exercise all of their rights and elections under the Insolvency Legislation subject to the payment of amounts provided for herein. Without limiting CureVac's rights under the Insolvency Legislation, if Acuitas becomes insolvent or makes an assignment for the benefit of its creditors or there is filed by or against the Acuitas any bankruptcy, receivership, reorganization or similar proceeding (an "Insolvency Event") pursuant to or under the Insolvency Legislation or otherwise, CureVac shall be entitled to a copy of any and all such intellectual property and all embodiments of such intellectual property, and the same, if not in the possession of Acuitas, shall be promptly delivered to it (i) before this License Agreement is rejected by or on behalf of Acuitas, within [*****] after CureVac's written request, unless Acuitas, or its trustee or receiver, elects within [*****] to continue to perform all of its obligations under this License Agreement, or (ii) after any rejection of this License Agreement by or on behalf of Acuitas, if not previously delivered as provided under clause (i) above. All rights of the Parties under this Section 10.4(b) and under Section 65.11(7) of the Bankruptcy and Insolvency Act, R.S.C. 1985, c. B-3 and Section 32(6) of the Companies' Creditors Arrangement Act are in addition to and not in substitution of any and all other rights, powers, and remedies that each party may have under this License Agreement, the Insolvency Legislation, and any other applicable Laws. CureVac shall have the right to perform the obligations of Acuitas hereunder with respect to such intellectual property, but neither such provision nor such performance by CureVac shall release Acuitas from any such obligation or liability for failing to perform it.

10.5 Effects of Termination. Upon termination (but not expiration pursuant to Section 10.1) of this License Agreement for any reason:

(a) *Termination for Acuitas' Breach.* In the event of a termination by CureVac for Acuitas' breach, the rights and licenses granted to CureVac under this License Agreement shall become perpetual and irrevocable and survive the termination of this License Agreement.

(b) *Cessation of Rights.* Except as otherwise expressly provided herein, including in Sections 8.5, 10.5(a) and 10.5(c), all rights and licenses granted by Acuitas to CureVac in Section 2.1 will terminate.

(c) *Sell Off.* Notwithstanding the termination of CureVac's licenses and other rights under this License Agreement, CureVac shall retain the right to distribute, sell or otherwise dispose of its existing inventory of the Licensed Products, in each case that is intended for distribution, sale or disposition in the Territory, for a period of not more than three (3) months following the date of the effective termination, as though this License Agreement had not been terminated, and such distribution, sale or other disposition shall not constitute infringement of the Patents or other intellectual property or proprietary rights of Acuitas or its Affiliates. CureVac's right to distribute, sell or otherwise dispose of its existing inventory of the Licensed Products pursuant to this Section 10.5 (c) shall be subject to CureVac's continuing obligation to pay royalties with respect to the Net Sales.

10.6 Survival. In addition to the termination consequences set forth in Section 10.5, the following provisions will survive termination or expiration of this License Agreement: Articles 1 and 8 and Sections4.4, 5.1, 9.3, 9.4, 9.6, 9.7, 10.4, 10.5, 10.6, 11.1, 11.2, 11.5, 11.7, 11.8, 11.9, 11.10, 11.11 and 11.12. Termination or expiration of this License Agreement will not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this License Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations will terminate upon expiration of this License Agreement.

11. General Provisions.

11.1 Dispute Resolution.

(a) *Disputes.* Disputes arising under or in connection with this License Agreement will be resolved pursuant to this Section 11.1; provided, however, that in the event a dispute cannot be resolved without an adjudication of the rights or obligations of a Third Party (other than any CureVac Indemnitees or Acuitas Indemnitees identified in Section 9.6), the dispute procedures set forth Sections 11.1(c) and 11.1(c) will be inapplicable as to such dispute.

(b) *Dispute Escalation.* In the event of a dispute between the Parties, the Parties will first attempt in good faith to resolve such dispute by negotiation and consultation between themselves. In the event that such dispute is not resolved on an informal basis within [*****], any Party may, by written notice to the other, have such dispute referred to each Party's Chief Executive Officer or his or her designee (who will be a senior executive), who will attempt in good faith to resolve such dispute by negotiation and consultation for a [*****] period following receipt of such written notice

(c) *Dispute Resolution.* In the event the Chief Executive Officers of the Parties are not able to resolve such dispute as set forth above, the Parties agree to try to solve such dispute amicably by mediation. The Parties shall conduct a mediation procedure according to the Mediation Rules of the World Intellectual Property Organization (WIPO) in effect on the date of the commencement of the mediation proceedings. The location of the mediation proceedings will be London, England. The number of mediators will be one (1). The language of the mediation proceedings will be English. If the dispute has not been settled pursuant to the said rules within [*****] following the filing of a request for mediation or within such other period as the Parties may agree in writing, either Party may submit the dispute to final and binding arbitration. Any dispute relating to the validity performance, construction or interpretation of this Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in this Section 11.1, shall be submitted to arbitration in accordance with the Arbitration Rules of WIPO in effect on the date of the commencement of the arbitration proceedings. The location of the arbitration proceedings will be London, England. The number of arbitrators will be three (3). The language of the arbitration proceeding will be English. The decision of the arbitrators shall be final and binding upon the Parties (absent manifest error on the part of the arbitrator) s)) and enforceable in any court of competent jurisdiction.

(d) *Injunctive Relief.* Notwithstanding the dispute resolution procedures set forth in this Section 11.1, in the event of an actual or threatened breach hereunder, the aggrieved Party may seek equitable relief (including restraining orders, specific performance or other injunctive relief) in any court or other forum, without first submitting to any dispute resolution procedures hereunder.

(e) *Tolling.* The Parties agree that all applicable statutes of limitation and time-based defenses (such as estoppel and laches) will be tolled while the dispute resolution procedures set forth in this Section 11.1 are pending, and the Parties will cooperate in taking all actions reasonably necessary to achieve such a result.

(f) *Prevailing Party.* The prevailing Party in any arbitration under Section 11.1 (c) or any other suit related to this License Agreement will be entitled to recover from the losing Party all out-of-pocket fees, costs and expenses (including those of attorneys, professionals and accountants and all those arising from appeals and investigations) incurred by the prevailing Party in connection with such arbitration or suit.

11.2 Cumulative Remedies and Irreparable Harm. All rights and remedies of the Parties hereunder will be cumulative and in addition to all other rights and remedies provided hereunder or available by agreement, at Law or otherwise. Each Party acknowledges and agrees that breach of any of the terms or conditions of this License Agreement may cause irreparable harm and damage to the other and that such damage may not be ascertainable in money damages and that as a result thereof the non-breaching Party may be entitled to seek from a court equitable or injunctive relief restraining any breach or future violation of the terms contained herein by the breaching Party without the necessity of proving actual damages or posting bond. Such right to equitable relief is in addition to whatever remedies either Party may be entitled to as a matter of Law or equity, including money damages.

11.3 Relationship of Parties. Nothing in this License Agreement is intended or will be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the Parties. No Party will incur any debts or make any commitments for the other, except to the extent, if at all, specifically provided therein. There are no express or implied third party beneficiaries hereunder (except for CureVac Indemnitees and Acuitas Indemnitees for purposes of Section 9.6). For clarity, CureVac does not grant to Acuitas any rights or licenses under this License Agreement to any CureVac technology or intellectual property rights.

11.4 Compliance with Law. Each Party will perform or cause to be performed any and all of its obligations or the exercise of any and all of its rights hereunder in good scientific manner and in compliance with all applicable Law.

11.5 Governing Law. This License Agreement will be governed by and construed in accordance with the Laws of England and Wales, without respect to its conflict of Laws rules, provided that any dispute relating to the scope, validity, enforceability or infringement of any Patents or Know-How will be governed by, and construed and enforced in accordance with, the substantive Laws of the jurisdiction in which such Patents or Know-How apply.

11.6 Counterparts; Facsimiles. This License Agreement may be executed in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this License Agreement by either Party will constitute a legal, valid and binding execution and delivery of this License Agreement by such Party.

11.7 Headings. All headings in this License Agreement are for convenience only and will not affect the meaning of any provision hereof.

11.8 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this License Agreement. Accordingly, the rule of construction that any ambiguity in this License Agreement will be construed against the drafting party will not apply.

11.9 Interpretation. Whenever any provision of this License Agreement uses the term "including" (or "includes"), such term will be deemed to mean "including without limitation" (or "includes without limitations"). "Herein," "hereby," "hereunder," "hereof" and other equivalent words refer to this License Agreement as an entirety and not solely to the particular portion of this License Agreement in which any such word is used. All definitions set forth herein will be deemed applicable whether the words defined are used herein in the singular or the plural. Unless otherwise provided, all references to Sections and Appendices in this License Agreement are to Sections and Appendices of this License Agreement. References to any Sections include Sections and subsections that are part of the related Section.

11.10 Binding Effect. This License Agreement will inure to the benefit of and be binding upon the Parties, their Affiliates, and their respective lawful successors and assigns.

11.11 Assignment. This License Agreement may not be assigned by either Party, nor may either Party delegate its obligations or otherwise transfer licenses or other rights created by this License Agreement, except as expressly permitted hereunder or otherwise without the prior written consent of the other Party, which consent will not be unreasonably withheld; provided that either Party may assign this License Agreement without such consent to an Affiliate or to its successor in connection with sale of all or substantially all of its assets or business or that portion of its business pertaining to the subject matter of this License Agreement (whether by merger, consolidation or otherwise).

11.12 Notices. All notices, requests, demands and other communications required or permitted to be given pursuant to this License Agreement will be in writing and will be deemed to have been duly given upon the date of receipt if delivered by hand, recognized international overnight courier, or registered or certified mail, return receipt requested, postage prepaid to the following addresses:

If to CureVac:	CureVac AG Paul-Ehrlich-Str. 15 72076 Tubingen Germany Attention: CEO and General Counsel
If to Acuitas:	Acuitas Therapeutics Inc. 2714 West 31rst Avenue Vancouver, B.C. Canada V6L 2A1 Attention: President and CEO
With a copy to:	McCarthy Tetrault LLP Suite 2400 745 Thurlow Street Vancouver, B.C. Canada V6E 0C5 Attention: [*****]

Either Party may change its designated address by notice to the other Party in the manner provided in this Section 11.12.

11.13 Amendment and Waiver. This License Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties; provided that any unilateral undertaking or waiver made by one Party in favor of the other will be enforceable if undertaken in a writing signed by the Party to be charged with the undertaking or waiver. Any waiver of any rights or failure to act in a specific instance will relate only to such instance and will not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

11.14 Severability. In the event that any provision of this License Agreement will, for any reason, be held to be invalid or unenforceable in any respect, such invalidity or unenforceability will not affect any other provision hereof, and the Parties will negotiate in good faith to modify the License Agreement to preserve (to the extent possible) their original intent.

11.15 Entire Agreement. This License Agreement together with the Development and Option Agreement and any other license agreements entered into during the Term pursuant to the Development and Option Agreement are the sole agreement with respect to the subject matter hereof and supersedes all other agreements and understandings between the Parties with respect to same.

11.16 Force Majcure. Neither Acuitas nor CureVac will be liable for failure of or delay in performing obligations set forth in this License Agreement (other than any obligation to pay monies when due), and neither will be deemed in breach of such obligations, if such failure or delay is due to natural disasters or any causes reasonably beyond the control of Acuitas or CureVac; provided that the Party affected will promptly notify the other of the force majeure condition and will exert reasonable efforts to eliminate, cure or overcome any such causes and to resume performance of its obligations as soon as possible.

[Remainder of this Page Intentionally Left Blank]

WITNESS WHEREOF, the Parties have caused this License Agreement to be executed by their respective duly authorized officers as of the License Agreement Effective Date.

Acuitas Therapeutics Inc.
By: _____
(Signature)
Name: _____
Title: _____

CureVacAG
By: _____
(Signature)
Name: _____
Title: _____

Signature Page to License Agreement

Appendix 1.1

**Patents within the Acuitas LNP Technology
as of the License Agreement Effective Date**

Appendix 1.53a

Description of the Target

[*****]

Appendix 1.53b

Description of the Vaccine Target

[*****]

Appendix 2.4

Technology Transfer Agreement

Appendix 9.2

Exceptions to Acuitas' Representations and Warranties in Section 9.2

Exhibit 1.54

Nou-Exclusive License Agreement

Non-Exclusive License Agreement

by and between

Acuitas Therapeutics Inc.

and

CureVac AG

dated

[_____]

Table of Contents

Table of Contents
(continued)

List of Appendices

Appendix 1.1	Patents within the Acuitas LNP Technology as of the License Agreement Effective Date
Appendix 1.22	Joint Interest Patents
Appendix 1.53	Description of the Target
Appendix 2.4	Technology Transfer Agreement
Appendix 9.2	Exceptions to Acuitas' Representations and Warranties in Section 9.2

Non-Exclusive License Agreement

This License Agreement ("License Agreement"), dated as of [_____] (the "License Agreement Effective Date"), is made by and between Acuitas Therapeutics inc., a British Columbia corporation ("Acuitas"), and CureVac AG, a German stock corporation with offices at Paul-Ehrlich-Strasse 15, 72076 Tubingen, Germany ("CureVac"). Each of Acuitas and CureVac may be referred to herein as a "Party" or together as the "Parties."

WHEREAS, Acuitas has proprietary LNP Technology;

WHEREAS, CureVac has expertise and intellectual property relating to mRNA Constructs (as defined below);

WHEREAS, Acuitas and CureVac are parties to that certain Development and Option Agreement (dated April 29, 2016) (the "Development and Option Agreement") pursuant to which CureVac has options to take licenses under the Acuitas LNP Technology (as defined below) with respect to CureVac's mRNA Constructs; and

WHEREAS, pursuant to the terms of the Development and Option Agreement, CureVac has exercised an option with respect to the Target (as defined below) and the Parties are now entering into a licensing arrangement whereby CureVac will have a license under the Acuitas LNP Technology to develop and commercialize Licensed Products (as defined below) based on such Target.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the amount and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Definitions.

The following terms and their correlatives will have the following meanings:

1.1 "Acuitas LNP Technology" means any and all LNP Technology Controlled by Acuitas or any of its Affiliates as of the License Agreement Effective Date or at any time during the Term, including Acuitas' right and interest in any Technology created, conceived or reduced to practice under the Development and Option Agreement and/or the Technology Transfer Agreement and Acuitas' interest in any such Technology jointly owned by CureVac or its Affiliates and Acuitas or its Affiliates and necessary or useful for the research, development, manufacturing and commercialization of Licensed Products. Unless otherwise set forth herein, Acuitas LNP Technology will include Joint Interest Patents. For the avoidance of doubt, the rights granted to Acuitas by [*****] shall not fall under this definition. The Acuitas LNP Technology existing as of the License Agreement Effective Date is listed in **Appendix 1.1** attached hereto.

1.2 "Acuitas Indemnitiees" has the meaning set forth in Section 9.6(a).

1.3 "Affiliate" of a person or entity means any other entity which (directly or indirectly) is controlled by, controls or is under common control with such person or entity. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to an entity will mean (i) in the case of a corporate entity, direct or indirect ownership of voting securities entitled to cast at least fifty percent (50%) of the votes in the election of directors or (ii) in the case of a non-corporate entity, direct or indirect ownership of at least fifty percent (50%) of the equity interests with thower to direct the management and policies of such entity, provided that if local Law restricts foreign ownership, control will be established by direct or indirect ownership of the maximum ownership percentage that may, under such local Law, be owned by foreign interests. Regarding CureVac, Affiliate shall not include Mr. Hopp and dievini Hopp BioTech holding GmbH & Co. KG and/or any other entity controlled by Mr. Hopp and/or dievini Hopp BioTech holding GmbH & Co. KG.

1.4 "cGMP" means current Good Manufacturing Practices as specified in the U.S. C.F.R., ICFI Guideline Q7A, or equivalent Laws of an applicable Regulatory Authority at the time of manufacture.

1.5 "Calendar Quarter" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31

1.6 "Change of Control" with respect to Acuitas, shall be deemed to have occurred if during the Term (i) any person or entity is or becomes the "beneficial owner", directly or indirectly, of shares of capital stock or other interests (including partnership interests) of Acuitas then outstanding and normally entitled (without regard to the occurrence of any contingency) to vote in the election of the directors, managers or similar supervisory positions of Acuitas representing fifty percent (50%) or more of the total voting power of all outstanding classes of voting stock of Acuitas or has the power, directly or indirectly, to elect a majority of the members of the Acuitas' board of directors, or similar governing body; or (ii) Acuitas enters into a merger, consolidation or similar transaction with another person or entity; or (iii) Acuitas sells or transfers to any Third Party, in one (1) or more related transactions, properties or assets representing all or substantially all of Acuitas' consolidated total assets to which this Agreement relates; or (iv) the holders of capital stock of Acuitas approve a plan or proposal for the liquidation or dissolution of Acuitas."

1.7 "Combination Product" means a Licensed Product that includes at least one additional active ingredient other than a Licensed Product. Drug delivery vehicles, adjuvants, and excipients shall not be deemed to be "active ingredients", except in the case where such delivery vehicle, adjuvant, or excipient is recognized as an active ingredient in accordance with 21 C.F.R. 210.3(b)(7) or equivalent Laws in other jurisdictions, provided however, should lipid nanoparticles comprised in a Licensed Product be characterized as "active ingredients" at any time during the Term, such lipid nanoparticles will not be considered an "active ingredient" for the purposes of this definition.

1.8 "Competitive Product" shall mean a product that [*****] as a Licensed Product.

1.9 "Indication" shall mean an individual disease or clinical condition with respect to which at least one adequate and well controlled study is required to support inclusion of such disease or condition in the indication statement of an FDA approved package insert for a Licensed Product.

1.10 "Confidential Information" has the meaning set forth in Section 8.1

1.11 "Control" or "Controlled" means, with respect to any Know-How or Patent, the possession (whether by ownership or license, other than by a license or sublicense granted pursuant to this License Agreement or the Development and Option Agreement) by Acuitas or its Affiliates of the ability to grant to CureVac a license or access to such Know-How or Patent as provided herein to such item, without violating the terms of any agreement or other arrangement with any Third Party and without owing any milestone, royalty or other monetary obligations to a Third Party.

1.12 "Covered Product" has the meaning set forth in Section 4.3

1.13 "Covers", with reference to (a) a Patent, means that the manufacture, development or commercialization of a Licensed Product would infringe a Valid Claim of such Patent in the country in which such activity occurs; and (b) Know-How, means that the manufacture, development or commercialization of a Licensed Product incorporates or embodies such Know-How.

1.14 "CureVac Indemnitees" has the meaning set forth in Section 9.6(b)

1.15 "Late-St age Development" means with respect to a product that [*****] Studies have been initiated.

1.16 "Development and Option Agreement" has the meaning set forth in the Preamble.

1.17 "Disclosing Party." has the meaning set forth in Section 8.1

1.18 "Field of Use" means all [*****].

1.19 "First Commercial Sale" means the first sale for use or consumption of any Licensed Product in a country after all required Regulatory Approvals for commercial sale of such Licensed Product have been obtained in such country.

1.20 "Indemnification Claim Notice" has the meaning set forth in Section 9.6(c),

1.21 "Indemnified Party." has the meaning set forth in Section 9.6(c).

1.22 "Joint Interest Patents" means the Patents listed in **Appendix 1.22** hereto, as amended from time to time.

1.23 "Know-How" means all commercial, technical, scientific and other know-how and information, trade secrets, knowledge, technology, methods, processes, practices, formulae, instructions, skills, techniques, procedures, experiences, ideas, technical assistance, designs, drawings, assembly procedures, computer programs, specifications, data and results (including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, preclinical, clinical, safety, manufacturing and quality control data and know-how, including study designs and protocols), in all cases, provided it is confidential and proprietary, and regardless of whether patentable, in written, electronic or any other form.

1.24 "Law" or "Laws" means all laws, statutes, rules, regulations, orders, judgments, or ordinances having the effect of law of any federal, national, multinational, state, provincial, county, city or other political subdivision.

1.25 "License Agreement" has the meaning set forth in the Preamble.

1.26 "License Agreement Effective Date" has the meaning set forth in the Preamble.

1.27 "Licensed Product" means: (i) [*****] product comprised of Lipid Nanoparticles (LNP) containing [*****] mRNA Constructs intended to express the Target and where such product is derived from, is based on, or utilizes any Acuitas LNP Technology; and/or (ii) [*****] Licensed Vaccine Product. If a given protein, e.g., an antibody comprises separated amino acid-chains, or a given Vaccine comprises multiple antigens or antibodies, which might be delivered as separated mRNA Constructs (combined in one LNP or delivered in separated LNPs), such product would be considered as one Licensed Product For the avoidance of doubt, the term "Licensed Product" in respect of the Target encompasses all variants of such Target, including the wild types, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been made (for example, mutated versions, derivatives or fragments) and species homologs and orthologs thereof, provided however that any such naturally occurring variant, engineered variant or species homolog or ortholog possesses [*****] to such Target(s) (for example [*****]).

1.28 "Licensed Vaccine Product" means [*****] product that is comprised of Lipid Nanoparticles (LNP) containing [*****] mRNA Constructs intended to express a [*****] Target and the [*****] Targets in any combination, if any, and where such product is a Vaccine and is derived from, is based on, or utilizes any Acuitas LNP Technology. Licensed Vaccine Products may consist of [*****] mRNA Constructs encoding for the [*****] Target and the [*****] Targets all of which, i.e., the [*****] Target with any combination of the [*****] Targets, if any, are considered the Target (for avoidance of doubt, a Licensed Vaccine Product must contain the [*****] Target and optionally any or all of the [*****] Targets, if any). CureVac may remove or add further [*****] Targets to this License Agreement in accordance with Section 4.2 below.

1.29 "LNP Technology" means Technology that claims, embodies or incorporates delivery systems (and components thereof) based on or incorporating lipid nanoparticles (LNP).

1.30 "LNP Technology Patent(s)" means Patents comprised in the Acuitas LNP Technology, including any future Patent which will become part of the Acuitas LNP Technology during the Term and further including Acuitas' rights in the Joint Interest Patents, unless otherwise set forth herein.

1.31 "Losses" has the meaning set forth in Section 9.6(a).

1.32 "Major Market Country/ies" means the [*****].

1.33 "Mammalian Target" means a Target that is encoded by and expressed by a mammal including a human. For clarity all Targets that are antibodies are "Mammalian Targets".

1.34 "mRNA Construct" means any mRNA construct for the expression of a protein, including the sequence of such construct (which potentially comprises one (1) or more of a cap, 5' UTR, the associated open reading frame, 3'UTR and a poly A tail), the chemistry of natural and non-natural nucleic acids, and other chemical modifications associated with such construct.

1.35 "mRNA Technology" means Technology that claims, embodies or incorporates expression systems (and components thereof), based on or incorporating mRNA.

1.36 "Milestones" means the milestones payable pursuant to Section 4.1.

1.37 "Milestone Event" has the meaning set forth in Section 4.1.

1.38 "Milestone Payment" has the meaning set forth in Section 4.1.

1.39 "Net Sales" means, with respect to any Licensed Product, the amount received by CureVac and its Affiliates and Sublicensees for *bona fide* sales of such Licensed Product to a Third Party (other than Affiliates and Sublicensees but including distributors for resale), less:

(a) discounts (including cash, quantity and patient program discounts), retroactive price reductions, commissions, charge-back payments and rebates granted to managed health care organizations or to federal, state and local governments, their agencies, and purchasers and reimbursers or to trade customers;

(b) credits or allowances actually granted upon claims, damaged goods, rejections or returns of, and for uncollectable amounts on, such Licensed Product, including such Licensed Product returned in connection with recalls or withdrawals;

(c) freight out, postage, shipping and insurance charges for delivery of such Licensed Product;

(d) taxes or duties levied on, absorbed or otherwise imposed on the sale of such Licensed Product, including value-added taxes, or other governmental charges otherwise imposed upon the billed amount, as adjusted for rebates and refunds;

(e) any invoiced amounts from a prior period which are not collected and are written off by CureVac or its Affiliates, including bad debts;

(f) wholesaler and distributor administration fees; and

(g) other customary deductions taken in the ordinary course of business in accordance with IFRS (International Financial Reporting Standards) principles.

Net Sales shall not include any payments among CureVac, its Affiliates and Sublicensees. Net Sales shall be determined in accordance with generally accepted accounting principles, consistently applied. Net Sales for any Combination Product shall be calculated on a country-by-country basis by multiplying actual Net Sales of such Combination Product by the fraction A/(A+B), where A is the weighted average price paid for the Licensed Product contained in such Combination Product sold separately in finished form in such country, and B is the weighted average invoice price paid for the other active ingredients contained in such Combination Product sold separately in finished form in such country, if such Licensed Product and such other active ingredients are each sold separately in such country.

If such other active ingredients are not sold separately in such country, then Net Sales for such Combination Product shall be calculated on a country-by-country basis by multiplying actual Net Sales of such Combination Product by the fraction A/C, where C is the weighted average invoice price paid for such Combination Product in such country. If such Licensed Product is not sold separately in finished form in such country, Net Sales for such Licensed Product will be determined by CureVac's good faith estimate of the relative contribution of such Licensed Product and each such other active ingredients in such Combination Product, and shall take into account in good faith any applicable allocations and calculations that may have been made for the same period in other countries.

1.40 "Non-Mammalian Target" means a Target that is encoded by and expressed by a non-mammalian organism.

1.41 "Patent(s)" means an (i) issued patent, a patent application, and a future patent issued from any such patent application, (ii) a future patent issued from a patent application filed in any country worldwide which claims priority from a patent or patent application of (i), and (iii) any additions, divisions, continuations, continuations-in-part, invention certificates, substitutions, reissues, reexaminations, extensions, registrations, utility models, supplementary protection certificates and renewals based on any patent or patent application under (i) or (ii), but not including any rights that give rise to regulatory exclusivity periods (other than supplementary protection certificates, which will be treated as "Patents" hereunder).

1.42 "Patent Costs" means the reasonable, documented, out-of-pocket costs and expenses paid to outside legal counsel, and filing and maintenance expenses, actually and reasonably incurred by a Party in prosecuting and maintaining Patents and enforcing and defending them.

1.43 "Phase 1 Study" means a human clinical trial of a Licensed Product in any country, the primary purpose of which is the determination of safety and which may include the determination of pharmacokinetic and/or pharmacodynamic profiles in healthy individuals or a diseased patient population. A Phase 1 Study in a diseased patient population may include, in addition to primary determination of safety, dose exploration and a determination of preliminary efficacy of a product in the target patient population. For clarity, a particular human clinical trial of a Licensed Product will not be considered both a Phase 1 Study and a Phase 2 Study for the purposes of Milestone payments under Section 4.1.

1.44 "Phase 2 Study" means a human clinical trial of a Licensed Product in any country, and which is: (a) a human clinical trial (other than a Phase 1 Study) in which the primary purpose is dose exploration, dose response, duration of effect, kinetics or preliminary efficacy and safety of a product in the target patient population, or (b) a controlled dose-ranging clinical trial to evaluate further the efficacy and safety of such product in the target patient population and to define the optimal dosing regimen.

1.45 "Phase 3 Study" means a human clinical trial of a Licensed Product in any country, and which is: (a) a controlled study of a product in the target patient population of the efficacy and safety of such product which is prospectively designed to demonstrate statistically whether such product is effective and safe for use in a particular indication in a manner sufficient to obtain Regulatory Approval to market such product.

1.46 "[*****] Target" will mean the designated [*****] Target of a Licensed Vaccine Product. Each [*****] Target encoded for in the Licensed Vaccine Product will be termed an "[*****] Target".

1.47 "Receiving Party" has the meaning set forth in Section 8.1.

1.48 "Regulatory Approval" means, with respect to a country or extra-national territory, any and all approvals (including BLAs and MAAs), licenses, registrations or authorizations of any Regulatory Authority necessary in order to commercially distribute, sell or market a product in such country or some or all of such extra-national territory, including any pricing or reimbursement approvals.

1.49 "Regulatory Authority" means any national (e.g., the FDA), supra-national (e.g., the EMA), regional, state or local regulatory agency, department, bureau, commission, council or other governmental authority, in any jurisdiction in the world, involved in the granting of Regulatory Approval.

1.50 "Royalty Term" has the meaning set forth in Section 4.3(d).

1.51 "Solely Owned IP" has the meaning set forth in Article 5.

1.52 "Sublicensee" means any Third Party that is granted a sublicense as permitted by Section 2.2, either directly by CureVac or its Affiliates or indirectly by any other Sublicensee hereunder.

1.53 "Target(s)" means the protein(s) as described in **Appendix 1.53 a or b** hereto, together with all variants of such protein(s), including the wild types, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments) and species homologs, orthologs thereof, provided however that any such naturally occurring variant, engineered variant or species homolog or ortholog possesses substantially similar biological activity to such protein(s) (for example antigenicity in case of antigens). If a given protein (e.g., an antibody) comprises separated amino acid chains which might be delivered by separated mRNA Constructs such protein is defined as one Target.

1.54 "Technology" means collectively Patents and Know-How.

1.55 "Technology Transfer Agreement" has the meaning set forth in Section 2.3.

1.56 "[*****]" has the meaning set forth in Section 1.1.

1.57 " [*****] License" has the meaning set forth in Section 1.1.

1.58 "Term" has the meaning set forth in Section 10.1.

1.59 "Territory" means worldwide.

1.60 "Third Party" means any person or entity other than CureVac, Acuitas and their respective Affiliates.

1.61 "Third Party Claims" has the meaning set forth in Section 9.6(a).

1.62 "[*****] Patent Rights" means any and all Patents resulting from the research collaboration conducted between Acuitas and [*****] of the [*****] from about [*****] to the effective date of the Development and Option Agreement together with associated Know-How to the extent this Know-How is known to Acuitas and can be provided by Acuitas without breaching any confidentiality obligations of Acuitas. For avoidance of doubt, such results include those of the research summarized in [*****].

1.63 "Vaccine" means any product primarily intended (i) to elicit an adaptive immune response in the recipient against a specific disease-causing organism or malignancy as the result of presentation of antigen(s) associated with the disease-causing organism or malignancy; or (ii) to provide passive immune protection against a specific disease-causing organism.

1.64 "Valid Claim" means, with respect to a particular country, any claim of (i) an issued and unexpired Patent; or (ii) a pending Patent claim, comprised within the Acuitas LNP Technology in such country that (a) has not been revoked or held unenforceable or invalid by a decision of a court or governmental agency of competent jurisdiction from which no further appeal is possible (other than to the United States Supreme Court or to an equivalent court in the respective jurisdiction) and (b) has not been abandoned, disclaimed, denied or admitted to be invalid or unenforceable through reissue or disclaimer or otherwise in such country; and with respect to a pending Patent claim provided such Patent has been pending for less than five (5) years of the earliest priority date of filing of such pending Patent.

2. License Giants; Technology Transfer.

2.1 Licenses by Acuitas. Subject to the terms and conditions of this License Agreement, Acuitas hereby grants to CureVac a non-exclusive, non-transferrable license, with the right to sublicense only as permitted by Section 2.3(b), under the Acuitas LNP Technology, to develop, have developed, make, have made, use and have used, sell, offer for sale, have sold and import and have imported Licensed Products in the Field of Use in the Territory. For the avoidance of doubt, in case of a Target for Licensed Vaccine Products, the non-exclusivity of the license applies with respect to the [*****] Target, and will cover (i) [*****] Target with or without, and with one or several [*****] Targets; and (ii) the use of the [*****] Target (but not any of the [*****] Targets) for any Licensed Product including but not limited to Vaccines.

2.2 Option for additional Technology licenses. For the event that, in their reasonable judgment CureVac, its Affiliates or sublicensees considers it necessary to [*****] above in order to develop, have developed, make, have made, use and have used (including for research and development), sell, offer for sale, have sold, import and have imported a Licensed Product incorporating Acuitas LNP Technology in the Field of Use in the Territory, Acuitas hereby grants to CureVac the option to acquire one or more sublicenses under any such in-licensed Technology, to the extent Acuitas has the right to grant such sublicenses. Such sublicense will be granted at the terms and conditions of Acuitas' main Third Party license agreement on the effective date of the sublicense agreement, and where such terms and conditions are equivalent to the terms and conditions that would be applicable to Acuitas if Acuitas were developing, making and/or selling the product under the Third Party license. The scope of each such option for a sublicense is equivalent to the scope of the license granted to CureVac under Section 2.1 above, in each case being in respect of such additional Third Party LNP Technology. CureVac is entitled to exercise such an option at any time during the Term, and upon written notice of CureVac that it exercises the option, the Parties shall finalize in good faith the terms and conditions of such sublicense agreement according to the terms and conditions of Acuitas' main Third Party license agreement.

2.3 Sublicensing Rights.

(a) *Transfer.* The license granted in Section 2.1 is transferable only upon a permitted assignment of this License Agreement in accordance with Section 11.11.

(b) *CureVac Sublicenses.* The licenses granted in Section 2.1 may be sublicensed (with the right to sublicense through multiple tiers), in full or in part, by CureVac, its Affiliates or Sublicensees to CureVac's Affiliates and Third Parties provided, that for any sublicense to Third Parties:

(i) Each sublicense will be in writing and on terms consistent with and subject to the terms of this License Agreement,

(ii) CureVac will provide Acuitas with a copy of any sublicense agreement with a Sublicensee within [*****] days of execution thereof, which sublicense agreement may be redacted as necessary to protect commercially sensitive information and shall be treated as CureVac Confidential Information hereunder;

(iii) CureVac will be responsible for any and all obligations of such Sublicensee as if such Sublicensee were CureVac hereunder; and

(iv) Any sublicense granted by CureVac to any rights licensed to it hereunder shall terminate immediately upon the termination of the license from Acuitas to CureVac and its Affiliates with respect to such rights, provided that such sublicensed rights shall not terminate if, as of the effective date of such termination pursuant to Sections 10.2, 10.3(a) or 10.4, a Sublicensee is not in material default of its obligations under its sublicense agreement, and within [*****] days of such termination and a written notice by Acuitas and disclosure of this License Agreement to the Sublicensee, the Sublicensee agrees in writing to be bound directly to Acuitas under a license agreement substantially similar to this License Agreement with respect to the rights sublicensed hereunder, substituting such Sublicensee for CureVac.

(c) *Subcontractors.* For clarity purposes, CureVac is entitled to engage contract research organizations and contract manufacturing organizations for the development and manufacture of Licensed Products on behalf of CureVac. To the extent such contract organizations require a license to perform such subcontracted activities under applicable Laws, CureVac is entitled to grant a limited license without an obligation to meet the conditions of Section 2.3 (b)(ii) and (iv).

2.4 Technology Transfer. After the License Agreement Effective Date and promptly upon written request by CureVac, Acuitas will conduct a full transfer of Acuitas LNP Technology to CureVac and/or its designee(s) (which designee(s) may be an Affiliate or Third Party manufacturers, and which Third Party manufacturers may also be a backup manufacturer or a second manufacturer of Licensed Products) as required for the applicable transferee of the then-current process. The technology transfer activities, the rights and obligations of the Parties, the reimbursement of Acuitas for the technology transfer activities, and the rights and licenses to any Technology generated in the course of the technology transfer are set forth in the Technology Transfer Agreement ("Technology Transfer Agreement") in **Appendix 2.4** hereto, *provided*, *however,* that such Technology Transfer Agreement and its Appendices may be amended to reflect any developments and any specific requirements with respect to the then current process on the effective date of the Technology Transfer Agreement which become known to the Parties only after the effective date of the Development and Option Agreement.

2.5 Updates to Appendix 1.1. Acuitas shall notify CureVac at least once every [*****] months of Patents that are added to the Acuitas LNP Technology following the License Agreement Effective Date or any Patents that have been abandoned or discontinued in accordance with the terms of this License Agreement. Appendix 1.1 shall be automatically updated to include any such added Patents provided that, with written notice to Acuitas, CureVac may elect to exclude any particular Patents from the Acuitas LNP Technology. Following any such notice by CureVac, the Acuitas Patents that CureVac identifies for exclusion from this License Agreement will no longer be licensed to CureVac hereunder, and CureVac shall not have any obligations hereunder with respect to such Patent.

2.6 Documents and Declarations. Acuitas shall execute all documents, give all declarations regarding the licenses granted hereunder and reasonably cooperate with CureVac to the extent such documents, declarations and/or cooperation are required for the recording or registration of the licenses granted hereunder at the various patent offices in the Territory for the benefit of CureVac, its Affiliates or their Sublicensees.

2.7 Conversion to an Exclusive License. In the event CureVac desires to convert the non-exclusive license granted in Section 2.1 to an exclusive license, then CureVac will notify the Escrow Agent thereof. If the Target the subject of this License Agreement is available for an exclusive license, the Escrow Agent will notify CureVac thereof, and thereupon: (i) the license granted in Section 2.1 will become an exclusive license; (ii) the financial provisions of this License Agreement equal to those amounts and percentages as set forth in a corresponding exclusive license agreement under the Development and Option Agreement; and (iii) this License Agreement will be deemed automatically amended to correspond thereto. Within [*****] days of such conversion of this License Agreement to exclusive (the "Conversion Date"), CureVac will pay to Acuitas an amount equal to sum of the difference between: (a) any amounts paid to Acuitas under this License Agreement up to the Conversion Date; and (b) the corresponding amounts CureVac would have paid Acuitas had this License Agreement been exercised on the Effective Date as an exclusive license agreement under the Development and Option Agreement.

3. License Limitations. No licenses or other rights are granted by Acuitas hereunder to use any trademark, trade name, trade dress or service mark owned or otherwise Controlled by Acuitas or any of its Affiliates. All licenses and other rights are or shall be granted only as expressly provided in this License Agreement, and no other licenses or other rights is or shall be created or granted by either Party hereunder by implication, estoppel or otherwise.

4. Payments and Royalties.

4.1 Milestone Payments. CureVac will make milestone payments (each, a "Milestone Payment") to Acuitas upon the first occurrence of each of the milestone events (each, a "Milestone Event") by Licensed Product as set forth below in this Section 4.1. CureVac will notify Acuitas of the achievement of each Milestone Event within [*****] business days of such achievement. Each Milestone Payment will be payable to Acuitas by CureVac within [*****] days of the achievement of the specified Milestone Event and receipt of a respective invoice from Acuitas, and such payments when owed or paid will be non-refundable and non-creditable. If one or more of the Milestone Events set forth below are not achieved or not required for any reason, the payment for such skipped Milestone Event will be due [*****]. The maximum total of all Milestone Payments for all Licensed Products payable under this License Agreement is [*****].

Milestone Event		***Milestone Payment***
[*****]		[*****]
[*****]		[*****]
[*****]		[*****]
[*****]		[*****]
[*****]		[*****]

*[*****] payments are payable for the [*****] [*****] for the [*****] Active Agreements and [*****] for the [*****] Active Agreements. For the avoidance of doubt, only license agreements concluded on the basis of the Development and Option Agreement will count towards the number of Active Agreements for the applicable [*****] payments. Provided a Licensed Product under this License Agreement is the first product comprised of Lipid Nanoparticles (LNP) containing one or more mRNA Constructs intended to express a protein that is a licensed product under this or any other exclusive license agreement entered into between the Parties on the basis of the Development and Option Agreement to reach a Phase 1, Phase 2 or Phase 3 milestone, the first three clinical Milestone Payments (i.e., [*****]) If a Licensed Product under this License Agreement is not the first product under any exclusive license agreement entered into between the Parties on the basis of the Development and Option Agreement, but the first (and any subsequent) exclusive license agreement is terminated and the Licensed Product under this License Agreement therefore becomes the "first product" (i.e., no other exclusive license agreement under the Development and Option Agreement takes such place), [*****] in clinical development milestones will be applied to the Licensed Product under this License Agreement for any clinical milestones not achieved under the first or any subsequent exclusive license agreements.

4.2 License Maintenance Fee for [*****] Targets.

(a) Excess [*****] Targets. Upon the first dosing of the first patient in the first Phase 3 Study for the first Licensed Vaccine Product under this License Agreement anywhere in the Territory, CureVac will notify Acuitas in writing of the identity of any [*****] Target(s) not included in such Licensed Product ("[*****] Target(s)"). At CureVac's election, to be made in such notice, and on an [*****] Target-by- [*****] Target basis, (i) this License Agreement will be amended to remove reference to the [*****] Target and all rights to such [*****] Target will revert back to Acuitas; or (ii) CureVac will retain its rights under this License Agreement to such [*****] Target and will pay to Acuitas a license maintenance fee for such retained Excess [*****] Target of [*****] per year if the [*****] Target is a Non-Mammalian Target and [*****] per year if the [*****] Target is a Mammalian Target and for as long as the Excessed [*****] Target is not part of any other Licensed Vaccine Product developed under this License Agreement. Thereafter, CureVac is entitled to remove any retained [*****] Target from this License Agreement upon prior written notice to Acuitas and upon receipt of such notice the obligation to pay license maintenance fees for such removed [*****] Target terminates.

(b) Inclusion of Further [*****] Targets. In the event CureVac desires to include [*****] Targets for which [*****] was exercised under the Development and Option Agreement or to reintroduce a removed [*****] Target into the License Agreement, CureVac will notify the Escrow Agent of the identify and other information describing each protein as set forth in Appendix 1.53(b) that it desires to be an [*****] Target. If such protein is available, the Escrow Agent will notify CureVac, such protein will become an [*****] Target and CureVac will make the payment for such [*****] Target(s) as though such [*****] Target had been reserved at the time the [*****] Target was reserved and the option to exercise the License Agreement including the [*****] Target had then included such [*****] Target. For avoidance of doubt, the number of [*****] Targets for purposes of calculating the option payment will not be reduced for [*****] Targets that have been removed from the Licensed Agreement, if any. This License Agreement will then be amended to include reference to such further [*****] Target(s).

4.3 Royalties.

(a) *Royalty.* Subject to the remainder of this Section 4.3, on a country-by-country basis and a Covered Product-by-Covered Product basis, **"Covered Product"** being a Licensed Product which is Covered by one or more Valid Claims, CureVac will pay to Acuitas a royalty of [*****] of Net Sales of the Covered Product in [*****] of Net Sales of the Covered Product in [*****] or [*****] of Net Sales of the Covered Product in Tier Three. On a country by country basis, in the event a Licensed Product is not a Covered Product in such country, CureVac will pay to Acuitas a royalty on Net Sales equal to the Minimum Royalty set forth in subsection (c) below.

(b) *Third Party Royalty Payments.* If CureVac or its Affiliate or Sublicensee, in its reasonable judgment, considers it necessary or useful to obtain a license from any Third Party under any LNP Technology that Covers a Licensed Product in order to develop, manufacture or commercialize such Licensed Product the amount of CureVac's royalty obligations under Sections 4.3(a) will be reduced by [*****] of the amount of the royalty payments made to such Third Party ("Third Party Royalty Payments"), *provided*, *however*, that such reduction shall not result in less than the Minimum Royalty due to Acuitas under Section (c) below. For avoidance of doubt, Third Party Royalty Payments will include payments by CureVac in connection with Acuitas sublicenses under Section 2.2.

(c) *Minimum Royalty.* Except as set forth in subsection (d) below, in no event will the Royalty payable by CureVac to Acuitas for any Licensed Product (whether or not a Covered Product) be less than the following according to which [*****] such Licensed Product corresponds to:

(i) [*****]

(ii) [*****]

(iii) [*****]

(d) *Third Party Royalty Reduction/Minimum Royalty applicable in the event of CureVac having rights under the [*****] Patent Rights* If CureVac or its Affiliates or Sublicensees, in their reasonable judgment, consider it necessary or useful to obtain [*****] Patent Rights in order to develop, manufacture and/or commercialize a Licensed Product and CureVac does not obtain such rights from Acuitas under the Acuitas LNP Technology at no additional cost, then the amount of CureVac's royalty obligations under Sections 4.3(a) will be [*****] made by CureVac, its Affiliates or Sublicensees to Acuitas or any Third Party for such rights, provided that the Minimum Royalty payable to Acuitas in accordance with Section 4.3 (c) will not be less than as shown below and according to which [*****] such Licensed Product falls into. Provided however that CureVac or its Affiliates or Sublicensees cannot elect to take [*****] Patent Rights from a Third Party if such [*****] Patent Rights are included in rights from Acuitas under the Acuitas LNP Technology and provided to CureVac its Affiliates or Sublicensees at no additional cost. For greater clarity the minimum royalties owing to Acuitas as shown below are in respect of both royalty reductions arising under Section 4.3 (b) and/or arising under this Section 4.3(d):

(i) [*****]

(ii) [*****]

(iii) [*****]

In the event that [*****] Patent Rights are included in the Acuitas LNP Technology (i.e., are at no additional cost to CureVac) and Cover a Licensed Product then the Minimum Royalty payable to Acuitas in accordance with Section 4.3 (c) will not be less than the following according to which [*****] such Licensed Product corresponds to:

(i) [*****]

(ii) [*****]

(iii) [*****]

(e) *Term.* The royalty term ("Royalty Term") shall expire on a country-by-country and Licensed Product-by-Licensed Product basis, on the last to occur of (i) expiration of the last to expire Valid Claim in the Acuitas LNP Technology that, but for the license described herein from Acuitas to CureVac for the applicable Licensed Product, is infringed by the making, using or sale of such Licensed Product, (ii) expiration of any period of data exclusivity, market exclusivity or supplemental protection certificates covering the Licensed Product in such country; and (iii) ten (10) years after First Commercial Sale of Licensed Product in such country. For the avoidance of doubt, upon exhaustion of the obligation to pay Royalties to Acuitas as set forth above the continued use of Acuitas Know-How comprised in the LNP Technology for the development, manufacture and/or sale of the Licensed Product shall not, in and of itself, obligate CureVac to pay further royalties to Acuitas. Thereafter, CureVac's license under Section 2.1 will become irrevocable, fully paid-up and royalty-free on a country-by-country and Licensed Product-by-Licensed Product basis.

(f) *Blended Royalty.* The Parties acknowledge and agree that the Acuitas LNP Technology licensed under this License Agreement may justify royalty rates and/or Royalty Terms of differing amounts for the sale of Licensed Products in the Territory, depending on the number of LNP Technology Patents and their respective expiry. The Parties have determined in light of such considerations and for reasons of mutual convenience that blended royalty rates for the Acuitas LNP Technology licensed hereunder will apply during a single Royalty Term for sales of a Licensed Product in the Territory. Consequently, the Parties have agreed to adopt the royalty rates set forth in this Section 4.3 with respect to the sales of Licensed Products in the Territory as blended royalty rates.

4.4 Payment Terms.

(a) *Manner of Payment.* All payments to be made by CureVac hereunder will be made in U.S. dollars by wire transfer to such bank account as Acuitas may designate.

(b) *Records and Audits.* CureVac shall keep, and shall cause each of its Affiliates and Sublicensees, as applicable, to keep adequate books and records of accounting for the purpose of calculating all royalties payable to Acuitas hereunder. For the [******] years next following the end of the calendar year to which each shall pertain, such books and records of accounting (including those of CureVac's Affiliates) shall be kept at each of their principal places of business and shall be open for inspection at reasonable times and upon reasonable notice by an independent certified accountant selected by Acuitas, and which is reasonably acceptable to CureVac, for the sole purpose of inspecting the royalties due to Acuitas under this License Agreement. In no event shall such inspections be conducted hereunder more frequently than once every [*****] months. Such accountant must have executed and delivered to CureVac and its Affiliates, a confidentiality agreement as reasonably requested by CureVac, which shall include provisions limiting such accountant's disclosure to Acuitas to only the results and basis for such results of such inspection. The results of such inspection, if any, shall be binding on both Parties. Any underpayments shall be paid by CureVac within [*****] days of notification of the results of such inspection. Any overpayments shall be fully creditable against amounts payable in subsequent payment periods. Acuitas shall pay for such inspections, except that in the event there is any upward adjustment in aggregate royalties payable for any calendar year shown by such inspection of more than [*****] of the amount paid, CureVac shall reimburse Acuitas for any reasonable out-of-pocket costs of such accountant.

(c) *Reports and Royalty Payments.* For as long as royalties are due under Section 4.3, CureVac shall furnish to Acuitas a written report for each Calendar Quarter, showing the amount of Net Sales of Licensed Products and royalty due for such Calendar Quarter. Reports shall be provided within [*****] days of the end of the Calendar Quarter for Net Sales generated by CureVac and its Affiliates, and within [*****] days of the end of the Calendar Quarter for Net Sales generated by Sublicensees,. Royalty payments for each Calendar Quarter shall be due at the same time as the last such written report for the Calendar Quarter. The report shall include, at a minimum, the following information for the applicable Calendar Quarter, each listed by Licensed Product and by country of sale: (i) the number of units of Licensed Products sold by CureVac and its Affiliates and Sublicensees on which royalties are owed to Acuitas hereunder; (ii) the gross amount received for such sales; (iii) Net Sales; (iv) the amounts of any credits or reductions permitted by Section 4.3; and (v) the computations for any Acuitas currency conversions pursuant to subsection (d) below. CureVac will require each Sublicensee to share with Acuitas the information listed in the foregoing clauses as it relates to Net Sales made by such Sublicensee, and to the extent practicable, will include such Sublicensee information in such report. All such reports shall be treated as Confidential Information of CureVac. In the event of a Change of Control by an acquirer that is commercializing a Competitive Product, reports shall be limited to (iii) and (v) above.

(d) *Currency Exchange.* With respect to Net Sales invoiced in U.S. dollars, the Net Sales and the amounts due to Acuitas hereunder will be expressed in U.S. dollars. With respect to Net Sales invoiced in a currency other than U.S. dollars, payments will be calculated based on standard methodologies employed by CureVac or its Affiliates or Sublicensees for consolidation purposes for the Calendar Quarter for which remittance is made for royalties.

(e) *Taxes.* CureVac may withhold from payments due to Acuitas amounts for payment of any withholding tax that is required by Law to be paid to any taxing authority with respect to such payments. CureVac will provide Acuitas all relevant documents and correspondence, and will also provide to Acuitas any other cooperation or assistance on a reasonable basis as may be necessary to enable Acuitas to claim exemption from such withholding taxes and to receive a refund of such withholding tax or claim a foreign tax credit. CureVac will give proper evidence from time to time as to the payment of any such tax. The Parties will cooperate with each other in seeking deductions under any double taxation or other similar treaty or agreement from time to time in force. Such cooperation may include CureVac making payments from a single source in the U.S., where possible. Apart from any such permitted withholding and those deductions expressly included in the definition of Net Sales, the amounts payable by CureVac to Acuitas hereunder will not be reduced on account of any taxes, charges, duties or other levies.

(f) *Blocked Payments.* In the event that, by reason of applicable law in any country, it becomes impossible or illegal for CureVac or its Affiliates or Sublicensees to transfer, or have transferred on its behalf, payments owed to Acuitas hereunder, CureVac will promptly notify Acuitas of the conditions preventing such transfer and such payments will be deposited in local currency in the relevant country to the credit of Acuitas in a recognized banking institution designated by Acuitas or, if none is designated by Acuitas within a period of [*****] days, in a recognized banking institution selected by CureVac or its Affiliate or Sublicensee, as the case may be, and identified in a written notice given to Acuitas.

(g) *Interest Due.* If any payment due to Acuitas under this License Agreement is overdue (and is not subject to a good faith dispute), then CureVac will pay interest thereon (before and after any judgment) at an annual rate of the lesser of [*****] above the prime rate as reported in The Wall Street Journal, Eastern Edition, and the maximum rate permitted by applicable Law, such interest to run from the date upon which payment of such sum became due until payment thereof in full together with such interest.

(h) *Mutual Convenience of the Parties.* The royalty and other payment obligations set forth hereunder have been agreed to by the Parties for the purpose of reflecting and advancing their mutual convenience, including the ease of calculating and paying royalties and other amounts to Acuitas.

5. Ownership and Inventorship of IP.

Solely-Owned IP. As between the Parties, each Party will own and retain all right, title and interest in and to any and all Know-How and Patents arising therefrom that are discovered, created, conceived, developed or reduced to practice solely by or on behalf of such Party under or in connection with this License Agreement ("Solely Owned IP"). Subject to the licenses hereunder and the other terms and conditions of this License Agreement or any other agreement between the Parties, each Party will be solely responsible for the prosecution and maintenance, and the enforcement and defense, of any Patents within its Solely Owned IP.

6. Patent Prosecution and Maintenance.

6.1 Generally. As between the Parties and subject to Section 6.2 below, Acuitas (or its Third Party licensor, if any) will have the sole right, at its sole costs, to prosecute and maintain LNP Technology Patents, other than the Joint Interest Patents. Upon filing, Acuitas will provide CureVac with copies of all applications for all such LNP Technology Patents, and all other material submissions and correspondence with any patent authorities regarding such LNP Technology Patents, in sufficient time (not to be less than [*****] days) to allow for review and comment by CureVac. In addition, Acuitas will provide CureVac and its counsel with an opportunity to consult with Acuitas and its counsel regarding prosecution and maintenance of any such LNP Technology Patents, and Acuitas will not unreasonably refuse to address all reasonable comments timely made by or on behalf of CureVac. As between the Parties, CureVac will have the first right to prosecute and maintain any and all Joint Interest Patents and the Parties will share equally all costs incurred by CureVac in connection with such efforts. Upon filing, CureVac will provide Acuitas with copies of all applications for such Joint Interest Patents, and all other material submissions and correspondence with any patent authorities regarding such Joint Interest Patents, in sufficient time (not to be less than [*****] days) to allow for review and comment by Acuitas. In addition, CureVac will provide Acuitas and its counsel with an opportunity to consult with CureVac and its counsel regarding prosecution and maintenance of any such Joint Interest Patents, and CureVac will consider in good faith all reasonable comments timely made by or on behalf of Acuitas.

6.2 Election Not to Prosecute or Maintain or Pay Patent Costs.

(a) *By Acuitas.* If Acuitas elects not (i) to file, prosecute or maintain any LNP Technology Patents for which it is responsible under Section 6.1 in any particular country before the applicable filing deadline or continue such activities once filed in a particular country, or (ii) to pay the Patent Costs associated with prosecution or maintenance of any such LNP Technology Patents then in each such case Acuitas will so notify CureVac, promptly in writing and in good time to enable Acuitas to meet any deadlines by which an action must be taken to preserve such LNP Technology Patent in such country, if CureVac so requests. Upon receipt of each such notice by Acuitas, CureVac will have the right, but not the obligation, to notify Acuitas in writing on a timely basis that Acuitas should continue the prosecution and/or maintenance of such LNP Technology Patent in the respective country, and thereafter, Acuitas would prosecute and maintain such LNP Technology Patent in such country at the sole direction of CureVac, Acuitas would make available to CureVac all documentation and correspondence with respect to such LNP Technology Patent, and CureVac would compensate the reasonable Patent Costs incurred by Acuitas in connection with such efforts, i.e., Patent Costs which Acuitas would not have had incurred if it had elected not to file, prosecute or maintain the respective LNP Technology Patent. CureVac's license to such LNP Technology Patent hereunder under Section 2.1 will be, irrevocable and royalty free, and such LNP Technology Patent will thereafter no longer be part of the Acuitas LNP Technology for purposes of this License Agreement. CureVac is entitled to discontinue the payment of Patent Costs for any LNP Technology Patents at any time, provided that it will so notify Acuitas in writing in time for such discontinuance.

(b) *By CureVac.* If CureVac elects not (i) to file, prosecute or maintain any Joint Interest Patents for which it is responsible under Section 6.1 in any particular country before the applicable filing deadline or continue such activities once filed in a particular country, or (ii) to pay the Patent Costs associated with prosecution or maintenance of any Joint Interest Patents then in each such case CureVac will so notify Acuitas, promptly in writing and in good time to enable CureVac to meet any deadlines by which an action must be taken to preserve such Joint Interest Patent in such country at Acuitas' expense, if Acuitas so requests. Upon receipt of each such notice by CureVac, Acuitas will have the right, but not the obligation, to notify CureVac in writing on a timely basis that CureVac should transfer the prosecution or maintenance of such Joint Interest Patent to Acuitas and at Acuitas' sole expense and such LNP Technology Patent will thereafter no longer be part of the Acuitas LNP Technology for purposes of this License Agreement. Acuitas is entitled to discontinue the payment of Patent Costs for any Joint Interest Patents at any time, provided that it will so notify CureVac in writing in time for such discontinuance.

6.3 Patent Extensions. If any election for LNP Technology Patent term restoration or extension, supplemental protection certificate or any of their equivalents is to be made with respect to any LNP Technology Patent, then the Parties will discuss and seek to reach mutual agreement whether or not to take such action, provided that if the Parties are not able to reach mutual agreement within [*****] days, then CureVac will have the sole right to make the final decision whether or not to seek such patent term restoration or extension, supplemental protection certificate or any of their equivalents with respect to: (i) Joint Interest Patents; and (ii) any other LNP Technology Patents that, on the date of conclusion of such discussions, [*****] and provided further that the exercise of such right by CureVac will not increase or otherwise change the rights or obligations of the Parties hereunder. Acuitas will have the sole right to make the final decision whether or not to seek Patent term restoration or extension, supplemental protection certificate or any equivalents for any product but the Licensed Products with respect to all other Patents within the Acuitas LNP Technology. Without the prior written consent of CureVac, Acuitas shall not apply for any term restoration or extension, supplemental protection certificate or any of their equivalents for any Licensed Product.

6.4 Regulatory Exclusivity Periods. With respect to any Patent listings required for any regulatory exclusivity periods for Licensed Products the Parties will discuss and seek to reach mutual agreement, subject to Applicable Law, on which LNP Technology Patents to list, provided that if the Parties are not able to agree within [*****] days, CureVac will have the right to make the final decision with respect to: (i) Joint Interest Patents; and (ii) any other LNP Technology Patents that, on the date of conclusion of such discussions, [*****] and provided further that the exercise of such right by CureVac will not increase or otherwise change the rights or obligations of the Parties hereunder. Except where required under Applicable Law, without the written consent of CureVac, Acuitas will not apply for, and is not authorized under this Agreement to apply for, any Patent listings required for any regulatory exclusivity periods for any Licensed Product. For the avoidance of doubt, Acuitas is not restricted from applying for any Patent listings required for any regulatory exclusivity periods for any product but the Licensed Products.

6.5 Cooperation. Each Party will reasonably cooperate with the other Party in those activities involving the LNP Technology Patents set forth in Sections 6.1 to 6.4. Such cooperation includes promptly executing all documents, or requiring inventors, subcontractors, employees and consultants and agents of CureVac and Acuitas and their respective Affiliates and Sublicensees to execute all documents, as reasonable and appropriate so as to enable such activities in respect of any such LNP Technology Patents in any country.

7. Patent Enforcement and Defense.

7.1 Notice. To the extent not in breach of an obligation of confidentiality, each Party will promptly notify, in writing, the other Party upon learning of any actual or suspected infringement of any LNP Technology Patents by a Third Party, or of any claim of invalidity, unenforceability, or non-infringement of any LNP Technology Patents, and will, along with such notice, supply the other Party with any evidence in its possession pertaining thereto.

7.2 Enforcement and Defense.

(a) *Enforcement.* As between the Parties, Acuitas (or its Third Party licensor, or licensee if any) will have the first right, but not the obligation, to seek to abate any infringement of the LNP Technology Patents by a Third Party, or to file suit against any such Third Party for such infringement *provided* that (i) Acuitas shall bear all the expense of such suit or abatement of infringement, and (ii) CureVac shall have the first right but not the obligation to take action or bring suit against such Third party infringer with respect to: (A) Joint Interest Patents; and/or (B) any other LNP Technology Patents that, on the date of first notice of such infringement, are necessary or useful [*****]; *provided* that CureVac shall bear all the expense of such suit or abatement of infringement. If the Party first responsible for such enforcement elects not to take action or to bring suit to prosecute such infringement or to continue such action or suit, it shall notify the other Party of such election within [*****] days after become aware of or receipt of the notice of the infringement or after the election to stop any such action or suit. If after the expiration of the [*****] days period (or, if earlier, the date upon which the responsible Party provides written notice that it does not plan to bring such action) the responsible Party has neither obtained a discontinuance of infringement nor filed suit against any such Third Party infringer of such Patent, then (i) in the case of an election by Acuitas (or its Third Party licensor, or licensee if any) not to prosecute an infringement of an LNP Technology Patent, CureVac shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patents, provided the infringement [*****] being the subject of this License Agreement, and further provided that CureVac shall bear all the expenses of such suit and (ii) in the case of a CureVac election not to prosecute an infringement of a Joint Interest Patents or LNP Technology Patent, Acuitas shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patents, provided that Acuitas shall bear all the expenses of such suit.

(b) *Defense.* As between the Parties, Acuitas (or is Third Party licensor or licensee, if any) will have the first right, but not the obligation, at its sole costs, to defend against a declaratory judgment action or other action challenging any LNP Technology Patents, other than: (i) Joint Interest Patents; and (ii) any other LNP Technology Patents that, on the date of first notice of such action, [*****], and as between the Parties, CureVac will have the first right, but not the obligation, at its sole costs, to defend against a declaratory judgment action or other action challenging Joint Interest Patents and/or such other LNP Technology Patents. If the Party first responsible for such defense does not take steps to defend within a commercially reasonably time, or elects not to continue any such defense (in which case it will promptly provide notice thereof to the other Party), then (i) in the case of an election by Acuitas (or its Third Party licensor, or licensee if any) not to defend an LNP Technology Patent, CureVac shall have the right, but not the obligation, to take defend any LNP Technology Patents that cover Licensed Product and no other product licensed or optioned by Acuitas to a Third Party or commercialized by Acuitas provided that CureVac shall bear all the expenses of such suit and (ii) in the case of a CureVac election not to defend the Joint Interest Patents, Acuitas shall have the right, but not the obligation, to take action or bring suit to defend such Patents, provided that Acuitas shall bear all the expenses of such suit.

(c) Notwithstanding the foregoing, any response to a Third Party infringer's counterclaim of invalidity or unenforceability of any LNP Technology Patents shall be controlled by the Party who controls the relevant enforcement proceeding pursuant to Section 7.2 (a) unless otherwise mutually agreed by the Parties.

(d) *Withdrawal, Cooperation and Participation.* With respect to any infringement or defensive action identified above in this Section 7.2 which may be controlled by either CureVac or Acuitas:

(i) If the controlling Party ceases to pursue or withdraws from such action, it will promptly notify the other Party (in good time to enable the other Party to meet any deadlines by which any action must be taken to preserve any rights in such infringement or defensive action) and such other Party may substitute itself for the withdrawing Party, shall be granted the right and standing to sue in the other Party's name, and proceed under the terms and conditions of this Section 7.2.

(ii) The non-controlling Party will cooperate with the Party controlling any such action (as may be reasonably requested by the controlling Party), including (A) providing access to relevant documents and other evidence, (B) making its and its Affiliates and licensees and Sublicensees and all of their respective employees, subcontractors, consultants and agents available at reasonable business hours and for reasonable periods of time, but only to the extent relevant to such action, and (C) if necessary, by being joined as a party, subject for this clause (C) to the controlling Party agreeing to indemnify such non-controlling Party for its involvement as a named party in such action and paying those Patent Costs incurred by such Party in connection with such joinder. The Party controlling any such action will keep the other Party updated with respect to any such action, including providing copies of all documents received or filed in connection with any such action.

(iii) Each Party will have the right to participate or otherwise be involved in any such action controlled by the other Party, in each case at the participating (i.e., non-controlling) Party's sole cost and expense. If a Party elects to so participate or be involved, the controlling Party will provide the participating Party and its counsel with an opportunity to consult with the controlling Party and its counsel regarding the prosecution of such action (including reviewing the contents of any correspondence, legal papers or other documents related thereto), and the controlling Party will take into account reasonable requests of the participating Party regarding such enforcement or defense.

(e) *Settlement.* Neither Party will settle or consent to an adverse judgment in any action described in this Section 7.2 and controlled by such Party, including any judgment which affects the scope, validity or enforcement of any LNP Technology Patents involved therewith, without the prior written consent of the other Party (such consent not to be unreasonably withheld or delayed).

(f) *Damages*. Unless otherwise agreed by the Parties, all monies recovered upon the final judgment or settlement of any action which may be controlled by either CureVac or Acuitas and described in Section 7.2(a) or 7.2(b) in each case will be used first to reimburse the controlling Party, and thereafter the non-controlling Party, for each of their out-of-pocket costs and expenses relating to the action, with the balance of any such recovery to be divided as follows:

(i) To the extent such recovery reflects [*****]; and

(ii) To the extent such recovery reflects reasonable [*****].

8. Confidentiality.

8.1 Confidential Information. Each Party ("Disclosing Party") may disclose to the other Party ("Receiving Party"), and Receiving Party may acquire during the course and conduct of activities under this License Agreement, certain proprietary or confidential information of Disclosing Party in connection with this License Agreement. The term "Confidential Information" means all information of any kind, whether in written, oral, graphical, machine-readable or other form, whether or not marked as confidential or proprietary, that are disclosed or made available by or on behalf of the Disclosing Party to the Receiving Party in connection with this License Agreement.

8.2 Restrictions. During the Term and for [*****] years thereafter, Receiving Party will keep all Disclosing Party's Confidential Information in confidence with the same degree of care with which Receiving Party holds its own confidential information, but in no event less than reasonable care. Receiving Party will not use Disclosing Party's Confidential Information except for in connection with the performance of its obligations and exercise of its rights under this License Agreement. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent to Receiving Party's Affiliates, and each of their employees, subcontractors, consultants and agents who have a need to know such Confidential Information in order to perform their obligations and exercise their rights under this License Agreement and who are under written obligation to comply with the restrictions on use and disclosure that are no less restrictive than those set forth in this Section 8.2. Receiving Party assumes responsibility for such entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

8.3 Exceptions. Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information will not apply to a specific portion of the Disclosing Party's Confidential Information to the extent that Receiving Party can demonstrate that such portion: (i) was known to Receiving Party or any of its Affiliates prior to the time of disclosure by the Disclosing Party without obligation of confidentiality; (ii) is or becomes public knowledge through no fault or omission of Receiving Party or any of its Affiliates; (iii) is obtained on a non-confidential basis by Receiving Party or any of its Affiliates from a Third Party who to Receiving Party's knowledge is lawfully in possession thereof and under no obligation of confidentiality to Disclosing Party; or (iv) has been independently developed by or on behalf of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information.

8.4 Permitted Disclosures. Receiving Party may disclose Disclosing Party's Confidential Information to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(a) in order and to the extent required to comply with applicable Law (including any securities Law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

(b) in connection with prosecuting or defending litigation, and filing, prosecuting and enforcing LNP Technology Patents in connection with Receiving Party's rights and obligations pursuant to this License Agreement; and

(c) to acquirers or permitted assignees; investment bankers, investors and lenders, including potential acquirers, assignees, investment bankers, and lenders;

(d) in the case of CureVac, to (i) subcontractors; or (ii) potential licensees or collaboration partners, but in case (ii) only such information that is reasonably necessary or useful for the potential licensee or partner to evaluate the applicable Licensed Product, and LNP/Licensed Product manufacturing processes, but excluding the particular chemical structure and formulation of any LNPs (which excluded information may be disclosed to such potential licensee or partner upon Acuitas' prior written consent);

provided that (1) where reasonably possible, Receiving Patty will notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant to subsections (a) and (b) sufficiently prior to making such disclosure so as to allow Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to subsections (c) and (d), each of those entities are required to comply with the restrictions on use and disclosure in Section 8.2 (other than investment bankers, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

8.5 Return of Confidential Information. Upon expiry or earlier termination of this License Agreement, upon written request of a Party (such request, if made, to be made within three (3) months of such expiry or termination) the other Party will destroy or return (as shall be specified in such request) to the requesting Party all copies of the Confidential Information of the requesting Party; provided that the Party may retain: (i) one copy of such Confidential Information for record-keeping purposes, for the sole purpose of ensuring compliance with this Agreement; (ii) any copies of such Confidential Information as is required to be retained under applicable Law; (iii) any copies of such Confidential Information as is necessary or useful for such Party to exercise a right or fulfill an obligation under another License Agreement, if any, or as set forth in this License Agreement; and (iv) any copies of any computer records and files containing Confidential Information that have been created by such Party's routine archiving/backup procedures.

8.6 Publications. Notwithstanding anything in this License Agreement to the contrary, CureVac is permitted to publish the results of its development under this License Agreement, provided, however, that it will not disclose Acuitas Confidential Information in any publication by CureVac of the results of any Licensed Product development by CureVac without Acuitas' prior written consent, which will not be unreasonably withheld, conditioned or delayed.

8.7 Terms of this License Agreement; Publicity. The Parties agree that the existence and terms of the Parties' relationship and this License Agreement will be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 8.4. Except as required by Law, each Party agrees not to issue any press release or public statement disclosing information relating to the existence of this License Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party.

9. Warranties; Limitations of Liability; Indemnification.

9.1 Representations and Warranties. Each Party represents and warrants to the other as of the License Agreement Effective Date that:

(a) it is a corporation duly organized, validly existing, and in good standing under the Laws of the jurisdiction in which it is incorporated,

(b) it has the legal right and power to enter into this License Agreement, to extend the rights and licenses granted or to be granted to the other in this License Agreement, and to fully perform its obligations hereunder,

(c) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this License Agreement and the performance of its obligations hereunder and

(d) this License Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms.

9.2 Additional Representations of Acuitas. Except as set forth on **Appendix 9.2,** Acuitas hereby represents and warrants to CureVac as of the License Agreement Effective Date as follows:

(a) *Impairment.* Neither Acuitas nor any of its Affiliates has entered into any agreement or otherwise licensed, granted, assigned, transferred, conveyed or otherwise encumbered or disposed of any right, title or interest in or to any of its assets, including any intellectual property rights including Know-How, that would in any way conflict with or impair the scope of any rights or licenses granted to CureVac hereunder, including under any of the agreements which Acuitas has identified to CureVac prior to the License Agreement Effective Date.

(b) *Patents.* **Appendix 1.1** sets forth a complete and accurate list of all LNP Technology Patents. Acuitas Controls, and will Control during the Term, the LNP Technology Patents listed on Appendix 1.1 and the Know-How within the Acuitas LNP Technology, and is entitled to grant the licenses specified herein. To Acuitas' knowledge, the LNP Technology Patents have been procured or are being procured from the respective patent offices in accordance with applicable Law. None of the LNP Technology Patents is or has been involved in any opposition, cancellation, interference, reissue or reexamination proceeding, and to Acuitas' knowledge as of the License Agreement Effective Date, no Acuitas LNP Technology is the subject of any judicial, administrative or arbitral order, award, decree, injunction, lawsuit, proceeding or stipulation. As of the License Agreement Effective Date, neither Acuitas nor any of its Affiliates has received any notice alleging that the LNP Technology Patents are invalid or unenforceable, or challenging Acuitas' ownership of or right to use any such rights.

(c) *Entire LNP Technology.* The Acuitas LNP Technology licensed to CureVac under this License Agreement comprises all Technology owned or in-licensed by Acuitas which is required to develop, manufacture and commercialize the Licensed Products.

(d) *Encumbrances.* Acuitas and its Affiliates are not subject to any payment obligations to Third Parties as a result of the execution or performance of this License Agreement. As of the License Agreement Effective Date, neither Acuitas nor any of its Affiliates has granted any liens or security interests on the Acuitas LNP Technology, and the Acuitas LNP Technology as licensed hereby is free and clear of any mortgage, pledge, claim, security interest, covenant, easement, encumbrance, lien or charge of any kind.

(e) *Defaults.* The execution, delivery and performance by Acuitas of this License Agreement and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any understanding, contract or agreement to which Acuitas is a party or by which it is bound, including each of the agreements which Acuitas has identified to CureVac prior to the License Agreement Effective Date, in each case as would reasonably be expected to have a material adverse effect on the rights granted to CureVac hereunder.

(f) *Litigation.* There is no action, suit, proceeding or investigation pending or, to the knowledge of Acuitas, currently threatened in writing against or affecting Acuitas that questions the validity of this License Agreement or the right of Acuitas to enter into this License Agreement or consummate the transactions contemplated hereby or that relates to the Acuitas LNP Technology.

(g) *Infringement.* Neither Acuitas nor any of its Affiliates has received any notice of any claim, nor does Acuitas or its Affiliates have any knowledge of any basis for any claim, that any Patent, Know-How or other intellectual property owned or controlled by a Third Party would be infringed or misappropriated by the practice of any Acuitas LNP Technology in connection with the production, use, research, development, manufacture or commercialization of any Licensed Product.

(h) *Third Party Infringement.* To Acuitas' knowledge, no Third Party is infringing or has infringed any Patent within the Acuitas LNP Technology or is misappropriating or has misappropriated any Know-how within the Acuitas LNP Technology.

9.3 Disclaimers. Without limiting the respective rights and obligations of the Parties expressly set forth herein, each Party specifically disclaims any guarantee that any Licensed Product will be successful, in whole or in part. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS LICENSE AGREEMENT, THE PARTIES MAKE NO REPRESENTATIONS AND EXTEND NO WARRANTY OF ANY KIND UNDER THIS LICENSE AGREEMENT, EITHER EXPRESS OR IMPLIED.

9.4 No Consequential Damages. NOTWITHSTANDING ANYTHING IN THIS LICENSE AGREEMENT OR OTHERWISE, NEITHER PARTY WILL BE LIABLE TO THE OTHER OR ANY THIRD PARTY WITH RESPECT TO ANY SUBJECT MATTER OF THIS LICENSE AGREEMENT FOR ANY INDIRECT, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES; PROVIDED THAT THIS SECTION 9.4 WILL NOT APPLY TO BREACHES OF A PARTY'S OBLIGATIONS OR UNDER ARTICLE NINE OR THE PARTIES' INDEMNIFICATION RIGHTS AND OBLIGATIONS UNDER SECTION 9.6.

9.5 Performance by Others. The Parties recognize that each Party may perform some or all of its obligations under this License Agreement through Affiliates and permitted subcontractors provided, however, that each Party will remain responsible and liable for the performance by its Affiliates and permitted subcontractors and will cause its Affiliates and permitted subcontractors to comply with the provisions of this License Agreement in connection therewith.

9.6 Indemnification.

(a) *Indemnification by CureVac*. CureVac will indemnify Acuitas, its Affiliates and their respective directors, officers, employees, Third Party licensors and agents, and their respective successors, heirs and assigns (collectively, "Acuitas Indemnitees"), and defend and hold each of them harmless, from and against any and all losses, damages, liabilities, costs and expenses (including reasonable attorneys' fees and expenses) (collectively, "Losses") in connection with any and all suits, investigations, claims or demands of Third Parties (collectively, "Third Party Claims") against the Acuitas Indemnitees to the extent arising from or occurring as a result of: (i) the breach by CureVac of any provision of this License Agreement; (ii) any negligence or willful misconduct on the part of any CureVac Indemnitee; or (iii) the development or commercialization by or on behalf of CureVac or any of its Affiliates or Sublicensees of Licensed Product other than if related to an LNP component thereof, except in each case (i)-(iii) to the extent arising from or occurring as a result of the negligence or willful misconduct on the part of an Acuitas Indemnitee or Acuitas' breach of this License Agreement.

(b) *Indemnification by Acuitas.* Acuitas will indemnify CureVac, its Affiliates and their respective directors, officers, employees and agents, and their respective successors, heirs and assigns (collectively, "CureVac Indemnitees"), and defend and hold each of them harmless, from and against any and all Losses in connection with any and all Third Party Claims against CureVac Indemnitees to the extent arising from or occurring as a result of: (i) the breach by Acuitas of any provision of this License Agreement; or (ii) any negligence or willful misconduct on the part of any Acuitas Indemnitee, except in each case (i) and (ii) to the extent arising from or occurring as a result of the negligence or willful misconduct on the part of a CureVac Indemnitee or CureVac's breach of this License Agreement.

(c) *Notice of Claim.* All indemnification claims provided for in Sections 9.6(a) and 9.6(b) will be made solely by such Party to this License Agreement (the "Indemnified Party"). The Indemnified Party will promptly notify the indemnifying Party (an "Indemnification Claim Notice") of any Losses or the discovery of any fact upon which the Indemnified Party intends to base a request for indemnification under Section 9.6(a) and 9.6(b), but in no event will the indemnifying Party be liable for any Losses that result from any delay in providing such notice. Each Indemnification Claim Notice must contain a description of the claim and the nature and estimated amount of such Loss (to the extent that the nature and amount of such Loss is known at such time). The Indemnified Party will furnish promptly to the indemnifying Party copies of all papers and official documents received in respect of any Losses and Third Party Claims.

(d) *Defense, Settlement, Cooperation and Expenses.*

(i) *Control of Defense.* At its option, the indemnifying Party may assume the defense of any Third Party Claim by giving written notice to the Indemnified Party within [*****] days after the indemnifying Party's receipt of an Indemnification Claim Notice. The assumption of the defense of a Third Party Claim by the indemnifying Party will not be construed as an acknowledgment that the indemnifying Party is liable to indemnify the Indemnified Party in respect of the Third Party Claim, nor will it constitute a waiver by the indemnifying Party of any defenses it may assert against the Indemnified Party's claim for indemnification. Upon assuming the defense of a Third Party Claim, the indemnifying Party may appoint as lead counsel in the defense of the Third Party Claim any legal counsel selected by the indemnifying Party (the indemnifying Party will consult with the Indemnified Party with respect to such counsel and a possible conflict of interest of such counsel retained by the indemnifying Party). In the event the indemnifying Party assumes the defense of a Third Party Claim, the Indemnified Party will immediately deliver to the indemnifying Party all original notices and documents (including court papers) received by the Indemnified Party in connection with the Third Party Claim. In the event that it is ultimately determined that the indemnifying Party is not obligated to indemnify, defend or hold harmless the Indemnified Party from and against the Third Party Claim, the Indemnified Party will reimburse the indemnifying Party for any and all costs and expenses (including reasonable attorneys' fees and costs of suit) and any Third Party Claims incurred by the indemnifying Party in its defense of the Third Party Claim.

(ii) *Right to Participate in Defense.* Without limiting Section 9.6(d)(i), any Indemnified Party will be entitled to participate in, but not control, the defense of such Third Party Claim and to employ counsel of its choice for such purpose; provided, however, that such employment will be at the Indemnified Party's own cost and expense unless (i) the indemnifying Party has failed to assume the defense and employ counsel in accordance with Section 9.6(d)(i) (in which case the Indemnified Party will control the defense) or (ii) the interests of the Indemnified Party and the indemnifying Party with respect to such Third Party Claim are sufficiently adverse to prohibit the representation by the same counsel of both Parties under applicable Law, ethical rules or equitable principles, in which case the indemnifying Party will assume one hundred percent (100%) of any such costs and expenses of counsel for the Indemnified Party.

(iii) *Settlement.* With respect to any Third Party Claims that relate solely to the payment of money damages in connection with a Third Party Claim and that will not result in the Indemnified Party's becoming subject to injunctive or other relief or otherwise adversely affecting the business of the Indemnified Party in any manner, and as to which the indemnifying Party will have acknowledged in writing the obligation to indemnify the Indemnified Party hereunder, the indemnifying Party will have the sole right to agree to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss, on such terms as the indemnifying Party, in its sole discretion, will deem appropriate. With respect to all other Losses in connection with Third Party Claims, where the indemnifying Party has assumed the defense of the Third Party Claim in accordance with Section 9.6(d)(i), the indemnifying Party will have authority to agree to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss provided it obtains the prior written consent of the Indemnified Party (such consent not to be unreasonably withheld, delayed or conditioned). The indemnifying Party will not be liable for any settlement or other disposition of a Loss by an Indemnified Party that is reached without the prior written consent of the indemnifying Party. Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, no Indemnified Party will admit any liability with respect to or settle, compromise or discharge, any Third Party Claim without the prior written consent of the indemnifying Party, such consent not to be unreasonably withheld, delayed or conditioned.

(iv) *Cooperation.* Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, the Indemnified Party will, and will cause each other indemnified party to, cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith, at the indemnifying Party's expense. Such cooperation will include access during normal business hours afforded to the indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party Claim, and making indemnified parties and other employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder, and the indemnifying Party will reimburse the Indemnified Party for all its reasonable out-of-pocket costs and expenses in connection therewith.

(v) *Costs and Expenses.* Except as provided above in this Section 9.6(d), the costs and expenses, including attorneys' fees and expenses, incurred by the Indemnified Party in connection with any claim will be reimbursed on a Calendar Quarter basis by the indemnifying Party, without prejudice to the indemnifying Party's right to contest the Indemnified Party's right to indemnification and subject to refund in the event the indemnifying Party is ultimately held not to be obligated to indemnify the Indemnified Party.

9.7 Insurance. Each Party will maintain at its sole cost and expense, an adequate liability insurance or self-insurance program (including product liability insurance) to protect against potential liabilities and risk arising out of activities to be performed under this License Agreement, and any agreement related hereto and upon such terms (including coverages, deductible limits and self-insured retentions) as are customary in the respective industry of such Party for the activities to be conducted by such Party under this License Agreement. Subject to the preceding sentence, such liability insurance or self-insurance program will insure against all types of liability, including personal injury, physical injury or property damage arising out of the manufacture, sale, use, distribution or marketing of Licensed Product. The coverage limits set forth herein will not create any limitation on a Party's liability to the other under this License Agreement.

10. Term and Termination.

10.1 Term. This License Agreement will commence as of the License Agreement Effective Date and, unless sooner terminated in accordance with the terms hereof or by mutual written consent, will continue on a Licensed Product-by-Licensed Product and a country-by-country basis, until there are no more payments owed Acuitas in such country (the longest such period of time hereunder, the "Term"). Upon there being no more such payments hereunder in such country, the license contained in Section 2.1 will become fully paid up and will remain in effect with respect to such Licensed Product in such country.

10.2 Termination by Acuitas.

(a) *Breach.* Acuitas will have the right to terminate this License Agreement in full upon delivery of written notice to CureVac in the event of any material breach by CureVac of any terms and conditions of this License Agreement, provided that such breach has not been cured within [*****] days after written notice thereof is given by Acuitas to CureVac specifying the nature of the alleged breach.

(b) *Disputed Breach.* If CureVac disputes in good faith the existence or materiality of a breach specified in a notice provided in accordance with Section 10.2(a), and CureVac provides Acuitas notice of such dispute within such [*****] day period, then Acuitas shall not have the right to terminate this License Agreement under Section 10.2(a) unless and until it is finally determined, in accordance with Section 11.1, that CureVac has materially breached this License Agreement and that CureVac fails to cure such breach within [*****] days following such decision. It is understood and agreed that during the pendency of such dispute, all of the terms and conditions of this License Agreement shall remain in effect and the Parties shall continue to perform all of their respective obligations hereunder. During the pendency of any such dispute, CureVac shall pay to Acuitas all Acuitas Milestone payments and royalty payments set forth herein.

10.3 Termination by CureVac.

(a) *Breach.* CureVac will have the right to terminate this License Agreement in full upon delivery of written notice to Acuitas in the event of any material breach by Acuitas of any terms and conditions of this License Agreement, provided that such breach has not been cured within [*****] days after written notice thereof is given by CureVac to Acuitas specifying the nature of the alleged breach.

(b) *Discretionary Termination.* CureVac will have the right (i) to terminate this License Agreement in full at its discretion for any reason by delivering written notice to Acuitas, such termination to be effective [*****] days following the date of such notice..

(c) *Alternative to Termination Under Section* 10.3(a). If CureVac has the right to terminate this License Agreement under Section 10.3(a) as a result of a material breach by Acuitas (including following expiration of all applicable cure periods thereunder) that fundamentally impairs the value of CureVac's rights hereunder with respect to the Licensed Target, then CureVac may, in lieu of exercising such termination right, elect by written notice to Acuitas before the end of such applicable cure period to have this License Agreement continue in full force and effect for the Term, provided that the following will apply: starting immediately after the end of such applicable cure period, CureVac may [*****] the Acuitas Milestone Payments and the royalty rates set forth in Article Four. In the event Acuitas notifies CureVac within [*****] days of receipt of CureVac's notice that Acuitas reasonably and in good-faith disputes CureVac's right to terminate this License Agreement pursuant to Section 10.3(a), CureVac shall instead deposit [*****] of such Acuitas Milestone Payments and royalty payments into an escrow account maintained by a mutually agreeable Third Party pending the resolution of such dispute in accordance with Section 11.1. In the event that it is established through the dispute resolution process that CureVac did have the right to terminate this License Agreement under Section 10.3(a), then the escrowed funds shall be released to CureVac and the [*****] shall apply going forward. In the event that it is established through the dispute resolution process that CureVac did not have the right to terminate this License Agreement under Section 10.3(a), then the escrowed funds shall be released to Acuitas, with interest, and CureVac shall resume full payment under this License Agreement (i.e., as if [*****] had been made pursuant to this Section 10.3(c)).

10.4 Termination Upon Bankruptcy.

All rights and licenses granted under or pursuant to this License Agreement by Acuitas are, and will otherwise be deemed to be, for purposes of Section 65.11(7) of the Bankruptcy and Insolvency Act, R.S.C. 1985, c. B-3 and Section 32(6) of the Companies' Creditors Arrangement Act, R.S.C. 1985, c. C-36 (the "Insolvency Legislation"), a grant of "right to use intellectual property" as used in the Insolvency Legislation. The Parties agree that CureVac and its Affiliates and Sublicensees, as licensees of such rights under this License Agreement, will retain and may fully exercise all of their rights and elections under the Insolvency Legislation subject to the payment of amounts provided for herein. Without limiting CureVac's rights under the Insolvency Legislation, if Acuitas becomes insolvent or makes an assignment for the benefit of its creditors or there is filed by or against the Acuitas any bankruptcy, receivership, reorganization or similar proceeding (an "Insolvency Event") pursuant to or under the Insolvency Legislation or otherwise, CureVac shall be entitled to a copy of any and all such intellectual property and all embodiments of such intellectual property, and the same, if not in the possession of Acuitas, shall be promptly delivered to it (i) before this License Agreement is rejected by or on behalf of Acuitas, within [*****] days after CureVac's written request, unless Acuitas, or its trustee or receiver, elects within [*****] days to continue to perform all of its obligations under this License Agreement, or (ii) after any rejection of this License Agreement by or on behalf of Acuitas, if not previously delivered as provided under clause (i) above. All rights of the Parties under this Section 10.4(b) and under Section 65.11(7) of the Bankruptcy and Insolvency Act, R.S.C. 1985, c. B-3 and Section 32(6) of the Companies' Creditors Arrangement Act are in addition to and not in substitution of any and all other rights, powers, and remedies that each party may have under this License Agreement, the Insolvency Legislation, and any other applicable Laws. CureVac shall have the right to perform the obligations of Acuitas hereunder with respect to such intellectual property, but neither such provision nor such performance by CureVac shall release Acuitas from any such obligation or liability for failing to perform it.

10.5 Effects of Termination. Upon termination (but not expiration pursuant to Section 10.1) of this License Agreement for any reason:

(a) *Termination for Acuitas' Breach.* In the event of a termination by CureVac for Acuitas' breach, the rights and licenses granted to CureVac under this License Agreement shall become perpetual and irrevocable and survive the termination of this License Agreement.

(b) *Cessation of Rights.* Except as otherwise expressly provided herein, including in Sections 8.5, 10.5(a) and 10.5(c), all rights and licenses granted by Acuitas to CureVac in Section 2.1 will terminate.

(c) *Sell Off.* Notwithstanding the termination of CureVac's licenses and other rights under this License Agreement, CureVac shall retain the right to distribute, sell or otherwise dispose of its existing inventory of the Licensed Products, in each case that is intended for distribution, sale or disposition in the Territory, for a period of not more than three (3) months following the date of the effective termination, as though this License Agreement had not been terminated, and such distribution, sale or other disposition shall not constitute infringement of the Patents or other intellectual property or proprietary rights of Acuitas or its Affiliates. CureVac's right to distribute, sell or otherwise dispose of its existing inventory of the Licensed Products pursuant to this Section 10.5 (c) shall be subject to CureVac's continuing obligation to pay royalties with respect to the Net Sales.

10.6 Survival. In addition to the termination consequences set forth in Section 10.5, the following provisions will survive termination or expiration of this License Agreement: Articles 1 and 8 and Sections4.4, 5.1, 9.3, 9.4, 9.6, 9.7, 10.4, 10.5, 10.6, 11.1, 11.2, 11.5, 11.7, 11.8, 11.9, 11.10, 11.11 and 11.12. Termination or expiration of this License Agreement will not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this License Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations will terminate upon expiration of this License Agreement.

11. General Provisions.

11.1 Dispute Resolution.

(a) *Disputes.* Disputes arising under or in connection with this License Agreement will be resolved pursuant to this Section 11.1; provided, however, that in the event a dispute cannot be resolved without an adjudication of the rights or obligations of a Third Party (other than any CureVac Indemnitees or Acuitas Indemnitees identified in Section 9.6), the dispute procedures set forth Sections 11.1(c) and 11.1(c) will be inapplicable as to such dispute.

(b) *Dispute Escalation.* In the event of a dispute between the Parties, the Parties will first attempt in good faith to resolve such dispute by negotiation and consultation between themselves. In the event that such dispute is not resolved on an informal basis within [*****] days, any Party may, by written notice to the other, have such dispute referred to each Party's Chief Executive Officer or his or her designee (who will be a senior executive), who will attempt in good faith to resolve such dispute by negotiation and consultation for a [*****] day period following receipt of such written notice

(c) *Dispute Resolution.* In the event the Chief Executive Officers of the Parties are not able to resolve such dispute as set forth above, the Parties agree to try to solve such dispute amicably by mediation. The Parties shall conduct a mediation procedure according to the Mediation Rules of the World Intellectual Property Organization (WIPO) in effect on the date of the commencement of the mediation proceedings. The location of the mediation proceedings will be London, England. The number of mediators will be one (1). The language of the mediation proceedings will be English. If the dispute has not been settled pursuant to the said rules within [*****] days following the filing of a request for mediation or within such other period as the Parties may agree in writing, either Party may submit the dispute to final and binding arbitration. Any dispute relating to the validity performance, construction or interpretation of this Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in this Section 11.1, shall be submitted to arbitration in accordance with the Arbitration Rules of WIPO in effect on the date of the commencement of the arbitration proceedings. The location of the arbitration proceedings will be London, England. The number of arbitrators will be three (3). The language of the arbitration proceeding will be English. The decision of the arbitrators shall be final and binding upon the Parties (absent manifest error on the part of the arbitrator(s)) and enforceable in any court of competent jurisdiction.

(d) *Injunctive Relief.* Notwithstanding the dispute resolution procedures set forth in this Section 11.1, in the event of an actual or threatened breach hereunder, the aggrieved Party may seek equitable relief (including restraining orders, specific performance or other injunctive relief) in any court or other forum, without first submitting to any dispute resolution procedures hereunder.

(e) *Tolling.* The Parties agree that all applicable statutes of limitation and time-based defenses (such as estoppel and laches) will be tolled while the dispute resolution procedures set forth in this Section 11.1 are pending, and the Parties will cooperate in taking all actions reasonably necessary to achieve such a result.

(f) *Prevailing Party.* The prevailing Party in any arbitration under Section 11.1(c) or any other suit related to this License Agreement will be entitled to recover from the losing Party all out-of-pocket fees, costs and expenses (including those of attorneys, professionals and accountants and all those arising from appeals and investigations) incurred by the prevailing Party in connection with such arbitration or suit.

11.2 Cumulative Remedies and Irreparable Harm. All rights and remedies of the Parties hereunder will be cumulative and in addition to all other rights and remedies provided hereunder or available by agreement, at Law or otherwise. Each Party acknowledges and agrees that breach of any of the terms or conditions of this License Agreement may cause irreparable harm and damage to the other and that such damage may not be ascertainable in money damages and that as a result thereof the non-breaching Party may be entitled to seek from a court equitable or injunctive relief restraining any breach or future violation of the terms contained herein by the breaching Party without the necessity of proving actual damages or posting bond. Such right to equitable relief is in addition to whatever remedies either Party may be entitled to as a matter of Law or equity, including money damages.

11.3 Relationship of Parties. Nothing in this License Agreement is intended or will be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the Parties. No Party will incur any debts or make any commitments for the other, except to the extent, if at all, specifically provided therein. There are no express or implied third party beneficiaries hereunder (except for CureVac Indemnitees and Acuitas Indemnitees for purposes of Section 9.6). For clarity, CureVac does not grant to Acuitas any rights or licenses under this License Agreement to any CureVac technology or intellectual property rights.

11.4 Compliance with Law. Each Party will perform or cause to be performed any and all of its obligations or the exercise of any and all of its rights hereunder in good scientific manner and in compliance with all applicable Law.

11.5 Governing Law. This License Agreement will be governed by and construed in accordance with the Laws of England and Wales, without respect to its conflict of Laws rules, provided that any dispute relating to the scope, validity, enforceability or infringement of any Patents or Know-How will be governed by, and construed and enforced in accordance with, the substantive Laws of the jurisdiction in which such Patents or Know-How apply.

11.6 Counterparts; Facsimiles. This License Agreement may be executed in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this License Agreement by either Party will constitute a legal, valid and binding execution and delivery of this License Agreement by such Party.

11.7 Headings. All headings in this License Agreement are for convenience only and will not affect the meaning of any provision hereof.

11.8 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this License Agreement. Accordingly, the rule of construction that any ambiguity in this License Agreement will be construed against the drafting party will not apply.

11.9 Interpretation. Whenever any provision of this License Agreement uses the term “including” (or “includes”), such term will be deemed to mean “including without limitation” (or “includes without limitations”). “Herein,” “hereby,” “hereunder,” “hereof and other equivalent words refer to this License Agreement as an entirety and not solely to the particular portion of this License Agreement in which any such word is used. All definitions set forth herein will be deemed applicable whether the words defined are used herein in the singular or the plural. Unless otherwise provided, all references to Sections and Appendices in this License Agreement arc to Sections and Appendices of this License Agreement. References to any Sections include Sections and subsections that arc part of the related Section.

11.10 Binding Effect. This License Agreement will inure to the benefit of and be binding upon the Parties, their Affiliates, and their respective lawful successors and assigns.

11.11 Assignment. This License Agreement may not be assigned by either Party, nor may either Party delegate its obligations or otherwise transfer licenses or other rights created by this License Agreement, except as expressly permitted hereunder or otherwise without the prior written consent of the other Party, which consent will not be unreasonably withheld; provided that either Party may assign this License Agreement without such consent to an Affiliate or to its successor in connection with sale of all or substantially all of its assets or business or that portion of its business pertaining to the subject matter of this License Agreement (whether by merger, consolidation or otherwise).

11.12 Notices. All notices, requests, demands and other communications required or permitted to be given pursuant to this License Agreement will be in writing and will be deemed to have been duly given upon the date of receipt if delivered by hand, recognized international overnight courier, or registered or certified mail, return receipt requested, postage prepaid to the following addresses:

If to CureVac:
CureVac AG
Paul-Ehrlich-Str. 15
72076 Tübingen
Germany
Attention: CEO and General Counsel

If to Acuitas:
Acuitas Therapeutics Inc.
2714 West 31 rst Avenue
Vancouver, B.C.
Canada V6L 2A1

Attention: President and CEO

With a copy to: McCarthy Tetrault LLP
Suite 2400 745 Thurlow Street
Vancouver, B.C.
Canada V6E 0C5
Attention: [*****]

Either Party may change its designated address by notice to the other Party in the manner provided in this Section 11.12.

11.13 Amendment and Waiver. This License Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties; provided that any unilateral undertaking or waiver made by one Party in favor of the other will be enforceable if undertaken in a writing signed by the Party to be charged with the undertaking or waiver. Any waiver of any rights or failure to act in a specific instance will relate only to such instance and will not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

11.14 Severability. In the event that any provision of this License Agreement will, for any reason, be held to be invalid or unenforceable in any respect, such invalidity or unenforceability will not affect any other provision hereof, and the Parties will negotiate in good faith to modify the License Agreement to preserve (to the extent possible) their original intent.

11.15 Entire Agreement. This License Agreement together with the Development and Option Agreement and any other license agreements entered into during the Term pursuant to the Development and Option Agreement are the sole agreement with respect to the subject matter hereof and supersedes all other agreements and understandings between the Parties with respect to same.

11.16 Force Majeure. Neither Acuitas nor CureVac will be liable for failure of or delay in performing obligations set forth in this License Agreement (other than any obligation to pay monies when due), and neither will be deemed in breach of such obligations, if such failure or delay is due to natural disasters or any causes reasonably beyond the control of Acuitas or CureVac; provided that the Party affected will promptly notify the other of the force majeure condition and will exert reasonable efforts to eliminate, cure or overcome any such causes and to resume performance of its obligations as soon as possible.

[*Remainder of this Page Intentionally Left Blank*]

WITNESS WHEREOF, the Parties have caused this License Agreement to be executed by their respective duly authorized officers as of the License Agreement Effective Date.

Acuitas Therapeutics Inc.

By: _____
(Signature)

Name: _____

Title: _____

Date: _____

CureVac AG

By: _____
(Signature)

Name: _____

Title: _____

Date: _____

Signature Page to License Agreement

Appendix 1.1

Patents within the Acuitas LNP Technology as of the License Agreement Effective Date

Appendix 1.53a

Description of the Target

[*****]

Appendix 1.53b

Description of the Vaccine Target

[*****]

Appendix 2.4

Technology Transfer Agreement

[*****]

Appendix 9.2

Exceptions to Acuitas' Representations and Warranties in Section 9.2

Exhibit 3.1 (a)

Work Plan

[*****]

Exhibit 3.1 (f)

[*****]

Exhibit 4.2A

Target Reservation Request Form

[*****]

Exhibit 4.2B

Vaccine Target Reservation Request Form

[*****]

Confidential

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

EXECUTION COPY

SIDE AGREEMENT AND AMENDMENT NUMBER ONE

to the

DEVELOPMENT AND OPTION AGREEMENT

THIS SIDE AGREEMENT AND AMENDMENT ("**Amendment Agreement**") to the DEVELOPMENT AND OPTION AGREEMENT is entered into effective as of December I, 2016 (the "**Amendment One Date**"), by and between ACUITAS THERAPEUTICS INC., with offices at 2714 West 31st Avenue, Vancouver, British Columbia, V6L 2Al, Canada ("**Acuitas**"), and CUREVAC AG, a company incorporated in Germany whose registered office is at Paul-Ehrlich-Straf3e 15, 72076 Tübingen, Germany ("**CureVac**").

RECITALS

WHEREAS, Acuitas and CureVac entered into that certain Development and Option Agreement effective April 29th 2016 (the "**D&O Agreement**") relating to the evaluation of and options to licence Acuitas LNP Technology for the research, development, manufacture and/or commercialisation of products incorporating Acuitas LNP Technology and CureVac Technology;

WHEREAS, both Acuitas and CureVac desire to include in the Work Plan the evaluation of Acuitas LNP Technology together with CureVac Technology relating to Gene Editing; and

WHEREAS, to enable the prompt commencement of such evaluation both Acuitas and CureVac desire to agree to certain side terms and conditions to, and to make certain amendments to the provisions of, the D&O Agreement so that a limited such evaluation may be commenced.

NOW, THEREFORE, in consideration of the mutual covenants and representations contained herein, and for other good and valuable consideration, the amount and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

AGREEMENT

1. **Definitions**.

1.1. "**DNA Sequence**" means, for the purpose of this Amendment Agreement only, any sequence of DNA [*****] as such DNA Sequence(s) and Gene Target(s) are specified in Exhibit 3.1 or are subsequently reserved in accordance with Paragraph 2.3 hereof.

1.2. "**Gene Target**" means, for the purpose of this Amendment Agreement only [*****] and/or pre-defined variants thereof, as such coding or non-coding sequence(s) and/or variant(s) are specified in Exhibit 3.1 or are subsequently reserved in accordance with Paragraph 2.3 hereof.

1.3. "**DNA Editing Protein**" means, for the purpose of this Amendment Agreement only, a Target encoded by an mRNA that upon delivery to a cell or micro-organism is intended to Gene Edit a human, animal, microorganism or virus coding or non-coding sequence within the genome of the human or animal cell, or microorganism or virus.

1.4. "**Gene Edit**" means, for the purpose of this Amendment Agreement only, to correct, modify, insert, delete, activate, inactivate or repair a coding or non-coding sequence within the genome of a human or animal cell, or microorganism or virus; and "**Gene Editing**" has the corresponding meaning.

1.5. "**Guide RNA**" means, for the purpose of this Amendment Agreement only, [*****]

1.6. The definition of "**Approved Partner**" in Section 1.11 of the D&O Agreement shall be replaced in its entirety by the following:

> "**1.11 "Approved Partner"** means with respect to any Third Party to whom CureVac wishes to disclose Acuitas Confidential Information or transfer Acuitas LNP Technology or Materials provided by Acuitas to CureVac: (i) any Third Party licensee of CureVac Technology; (ii) any Third Party providing services set forth in the Work Plan to CureVac; or (iii) [*****].

1.7. All capitalised terms used in this Amendment Agreement and not otherwise defined in this Amendment Agreement have the meanings assigned them in the D&O Agreement.

2. **Target Reservation**.

2.1. On the Amendment One Date, the DNA Editing Protein [*****] on the Reserved Target List as a non-exclusive Target.

2.2. Until the conclusion of the Gene Editing Work Plan, CureVac hereby covenants to not submit any Target Notice for any other DNA Editing Protein.

2.3. In addition to the DNA Editing Protein Target, for the purpose of this Amendment Agreement only CureVac may non-exclusively reserve up to [*****] Gene Targets, and optionally up to [*****] DNA Sequences for each Gene Target, in each case at [*****]. The DNA Editing Protein Target counts as a single Reserved Target, however, [*****] available to CureVac under Article 4 of the D&O Agreement. CureVac will however be required to submit to the Escrow Agent for clearance and reservation all Gene Targets and DNA Sequences in accordance with Gene Target/DNA Sequence preclearance and reservation requirements analogous to those set forth for Targets in Sections 4.2 of the D&O Agreement.

3. **Program extension and Work-Plan for Gene Editing.**

3.1. The Parties hereby append Exhibit 3.1 (the "**Gene Editing Work Plan**") as attached to this Amendment Agreement to the Work-Plan.

3.2. On the Amendment One Date, the Gene Editing Work Plan relates: (i) only to the use of [*****] as a DNA Editing Protein; and (ii) only to the Gene Targets and (iii) only to the DNA Sequences, such Gene Targets and DNA Sequences having been pre-cleared by the Escrow Agent by a mechanism analogous to that set forth in Section 4.2 of the D&O Agreement.

3.3. Acuitas hereby acknowledges that certain parts of the Gene Editing Work Plan include the evaluation of: (i) LNPs containing [*****] mRNA Constructs intended to express the DNA Editing Protein [*****] without containing [*****] Guide RNA(s), and/or without containing [*****] DNA Sequences; and (ii) separate LNPs containing [*****] Guide RNA(s), and/or containing [*****] DNA Sequences, in each case without containing said mRNA Construct(s), although the LNPs of (ii) are intended to be evaluated only in connection with those of (i).

3.4. Until the conclusion of the Gene Editing Work Plan, CureVac hereby covenants to neither: (i) submit any additional DNA Editing Proteins for pre-clearance by the Escrow Agent; nor (ii) change the scope of the Gene Editing Work Plan beyond that stated in (i) to (iii) of Paragraph 3.2 hereof, without obtaining the prior consent of Acuitas, such consent not to be unreasonably withheld or conditioned.

3.5. For the period during which [*****] is on the Reserved Target List, Acuitas hereby covenants not to provide any Third Party with any exclusive right, or option to obtain any exclusive right, under the Acuitas LNP Technology that would prevent CureVac from taking non-exclusive rights to any Gene Target or DNA Sequence which has been reserved in accordance with Section 2.3.

3.6. The second to last sentence of Section 3.4 of the D&O Agreement shall be replaced in its entity by the following:

> "CureVac shall use commercially reasonable efforts to obtain the foregoing assignment for Approved Partners, and if CureVac is unable to obtain such assignment, CureVac shall obtain: (x) [*****]; or (y) [*****], or seek to protect any such Know-How by any other form of intellectual property, without prior written permission from CureVac. CureVac shall not give such permission without the prior consent of Acuitas, such consent not to be unreasonably withheld or conditioned."

4. **Licensed Product Option for Gene Editing**. Acuitas and CureVac shall discuss and negotiate in good faith, for the duration of the Gene Editing Work Plan, on the terms and conditions under which the D&O Agreement (and associated License Agreements) will be amended to encompass Licensed Products useful for Gene Editing for the purposes of Article 5 CureVac License Options; it being hereby agreed between the Parties that, with reference to the D&O Agreement (and associated License Agreements) on the Amendment One Date, the financial terms (including reservation costs, option exercise fees, milestones and royalties applied to any such Licensed Products useful for Gene Editing will be consistent with the corresponding financial terms already provided for in the D&O Agreement (and associated License Agreements) *provided*, that: (i) [*****] (ii) [*****] will be applied for Guide RNAs (with the applicability of such reservation costs for multiple Gene Targets to be discussed during such negotiations); and (iii) each DNA Editing Protein as a Target will count as a single Reserved Target, [*****] Reserved Targets available to CureVac under Article 4 of the D&O Agreement. For clarity, the terms "DNA Sequence" and "Gene Target" (and correspondingly, "Guide RNA"), as used in this Paragraph 4, will not be limited to those sequences specified in Exhibit 3. I hereof, but will be redefined by such amendment based on the definitions herein.

5. **Amendment of Section 3.5(c) of the D&O Agreement**.

5.1. Section 3.5(c) of the D&O Agreement is hereby amended to add the following at the end of such section:

> "Acuitas shall not be required to maintain the licenses to In-Licensed Technology with respect to which CureVac shall not have exercised the option set forth in this subsection (c). Accordingly, Acuitas is free to enter into new licenses and modify or terminate existing licenses to any In-Licensed Technology until such time as it is licensed to CureVac; *provided*, that Acuitas has given CureVac at least [*****] days' prior written notice of any modification or termination of any existing license to any In-Licensed Technology, such notice to specify the In-Licensed Technology to be modified or terminated. The parties acknowledge that any exercise of a sublicense to any In-Licensed Technology must be in accordance with the terms of Acuitas' main Third Party license agreement."

5.2. Acuitas represents and warrants that, on the Amendment One Date, it has no intent to immediately modify or terminate any existing license to any In-Licensed Technology to which CureVac has the option under Section 3.5(c) of the D&O Agreement.

6. **Miscellaneous**.

6.1. Except as expressly stated in this Amendment Agreement, the D&O Agreement remains unchanged and in full force and effect.

6.2. The provisions of ARTICLE IO of the D&O Agreement shall be applied by analogy to this Amendment Agreement.

IN WITNESS WHEREOF, the Parties have caused Amendment Agreement to be executed by their respective duly authorised officers as of the Amendment One Date.

CUREVAC AG

By:	/s/ Dr. Florian von der Mülbe	/s/ Pierre Kemula
Name:	Dr. Florian von der Mülbe	Pierre Kemula
Title:	Chief Operating Officer	Chief Financial Officer

CUREVAC AG

By:	/s/ Thomas Madden
Name:	Thomas Madden
Title:	President and CEP

EXHIBIT 3.1: Gene Editing Work Plan

[*****]

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

DEVELOPMENT AND INTELLECTUAL PROPERTY AGREEMENT

THIS DEVELOPMENT AND INTELLECTUAL PROPERTY AGREEMENT (the "**Agreement**") is effective as of November 24, 2015 (the "**Effective Date**"), by and between **TESLA GROHMANN AUTOMATION GMBH**, a company established under the laws of Germany with offices at Rudolf-Diesel-Straße 14, 54595 Prüm ("**TGA**"), and **CUREVAC AG**, a German stock corporation with its principal place of business located at Paul-Ehrlich-Straße 15, 72076 Tübingen, Germany ("**CureVac**"). CureVac and TGA are each referred to herein as a "**Party**" and collectively as the "**Parties**."

PREAMBLE

WHEREAS, CureVac is a biotechnology company that is a pioneer and technology leader in mRNA-based pharmaceutical products and vaccination approaches using its RNActive® technology. CureVac discovers, designs and develops first-in-class mRNA vaccines and therapies for the treatment of diseases with unmet medical need. CureVac has substantial knowledge and expertise in the area of the messenger RNA technology;

WHEREAS, TGA has intellectual property and more than thirty years of expertise in the engineering, development and manufacturing of state-of-the-art automation solutions for processes in the automotive, consumer electronics, and biotechnological industry;

WHEREAS, CureVac wishes for TGA to perform services and deliver products as defined in one or more Approved Work Orders, and TGA is willing to perform such services and deliver such products;

WHEREAS, the Parties have planned [*****] for development - including (i) the [*****] further detailed in [*****] ("**Work Order I**," enclosed herewith as **Annex 1**) and (ii) the [*****] as described in [*****] ("**Work Order II**," enclosed herewith as **Annex 2**) - and may agree to additional phases of development in connection herewith; and

WHEREAS, TGA and CureVac wish to allocate rights in any Intellectual Property developed in connection with the Work under this Agreement as set forth herein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto, intending to be legally bound, agree as follows:

1) DEFINITIONS AND INTERPRETATION.

1.1 Definitions. Terms used herein with initial capitalization have the meanings specified below or where used in this Agreement:

(a) "**Acceptance**" or "**Accepted**" shall have the meaning set forth in § 640 BGB (German Civil Code) and shall relate to both the Deliverable(s) and the Engineering Report I in **Annex 1**.

(b) "**Affiliate(s)**" means and includes with respect to any Party, (i) any legal entity of which the securities or other ownership interests representing fifty percent (50%) or more of the equity or fifty percent (50%) or more of the ordinary voting power or fifty percent (50%) or more of the general partnership interest are, at the time such determination is being made, owned, controlled or held, directly or indirectly, by such legal entity, or (ii) any legal entity which, at the time such determination is being made, is controlling or under common control with, such Party. As used in this definition, the term "control", whether used as a noun or verb, refers to the possession, directly or indirectly, of the power to direct, or cause the direction of, the management or policies of a legal entity, whether through the ownership of voting securities, by contract or otherwise. Notwithstanding the foregoing, with respect to CureVac, Affiliate shall not include Mr. Dietmar Hopp or dievini Hopp BioTech Holding GmbH & Co. KG, or any other person controlled by Mr. Dietmar Hopp or dievini Hopp BioTech Holding GmbH & Co. KG (other than CureVac or its Affiliates other than the foregoing).

(c) "**Approved Work Order**" means a Work Order that describes certain Work that TGA and CureVac will perform in connection with this Agreement and that is approved in writing by authorized representatives of both Parties.

(d) "**Background IP**" means, collectively, the CureVac Background IP and the TGA Background IP.

(e) "**Claim**" means any demand, or any civil, criminal, administrative or investigative claim, action or proceeding (including arbitration) asserted, commenced or threatened against an entity or person by a Third Party.

(f) "**Commercially Reasonable Efforts**" means taking all such steps and performing in such a manner as a well-managed and diligent company would undertake where it was acting in a determined, prudent and reasonable manner to achieve a particular desired result for its own benefit.

(g) **"Confidential Information"** as defined in Annex 4.

(h) "**CureVac Background IP**" means, collectively, (i) any and all Intellectual Property or Know-How that was created, conceived, acquired, owned, or controlled by CureVac and/or any Affiliate of CureVac prior to the Effective Date of the Agreement and (ii) any and all Intellectual Property or Know-How that is created, conceived, acquired, owned, or controlled by CureVac and/or any Affiliate of CureVac, independently from TGA and TGA's Confidential Information, after the Effective Date of the Agreement which is independent of, and not derived from, the Parties' efforts under this Agreement, excluding Joint Inventions and Joint IP, both (i) and (ii) being reasonably necessary or useful for the development, manufacturing and commercialization of the Deliverables and/or Machine in accordance with this Agreement and/or to practice the Joint IP.

(i) "**Development Fee**" has the meaning given in Section 10.3(a) below.

(j) "**Development Fee Period**" has the meaning given in Section 10.3(b) below.

(k) "**Deliverable**" means, any (tangible) result of Work which includes collectively, the machinery, controllers, computers, component parts, materials, drawings, manuals, and other personal property specifically identified as a TGA deliverable in an Approved Work Order, and may include prototypes and/or final manufacturing versions of the foregoing.

(l) "**Engineering Report**" means the final Deliverable under Work Order I (see page 18 of **Annex 1**), including the "Feinkonzept".

(m) "**Intellectual Property**" means (i) Patents, trade names, trademarks, copyright, trade dress, industrial and other designs, rights in Confidential Information, Know-How, and other forms of intellectual property throughout the world, all whether or not registered or protected, or capable of such registration or protection (ii) all applications (or rights to apply) for, and renewals or extensions of, any of the rights described in the foregoing clause (i) and (ii) and all rights and applications that are similar or equivalent to the rights and application described in the foregoing clauses (i) and (ii), which exist now, or which come to exist in the future, in any part of the world.

(n) "**IP Milestone Fee**" has the meaning given in Section 10.3(a)(ii) below.

(o) **"IP Milestone Fee Period"** has the meaning given in Section 10.3(c).

(p) "**Joint IP**" means, collectively, Intellectual Property in or arising from a Joint Invention.

(q) "**Joint IP Fee Period**" means, as applicable the Development Fee Period or IP Milestone Fee Period.

(r) "**Joint Invention**" means any of the following conceived or first reduced to practice by TGA, CureVac, or any person employed by or working under the direction of TGA or CureVac under this Agreement, excluding Background IP: (i) any invention, process, information (e.g. Know-How), or any experimental, development or research activities, including engineering related thereto, whether or not patentable; or (ii) any improvement in the design of the Deliverable(s) or any alternative or improved method of accomplishing the objectives of this Agreement; or (iii) derivatives of any of the foregoing.

(s) "**Know-How**" means any and all technical information and know-how owned or controlled by a Party, including without limitation, inventions, trade secrets, systems, programs, specifications, methods, improvements, data, instructions, processes, formulae, expert opinions and other information (in written or other tangible form) including, without limitation, any biological, chemical, pharmacological, toxicological, clinical, assay, control and manufacturing data, biological materials, manufacturing or related technology, analytical methodology, chemical and quality control procedures, protocols, techniques, improvements and results of experimentation and testing.

(t) "**Machine**" means a functional unit comprising one or more Deliverables required for its functionality and/or incorporates, requires the use of, or derives from any Joint IP, Joint Invention, and/or TGA Background IP. For the avoidance of doubt, each prototype machine Deliverable which is used for non-evaluative machine production and each TGA Machine shall be deemed to be a Machine.

(u) "**Medical Product**" means, collectively, any and all drug candidate or product that is developed or to be developed and/or commercialized by CureVac or licensed or sublicensed by CureVac to any Third Party, made by a Machine.

(v) "**Net Sales**" means the gross amounts received by CureVac, its Affiliates, distributors and sublicensees (including their respective affiliates) (each, a "**Selling Party**") from Third Party customers for sales or distribution of one or more Medical Products, less the Net Sales Deductions actually incurred, allowed, paid, accrued, or specifically allocated in its financial statements in accordance with generally-accepted accounting principles.

(w) "**Net Sales Deductions**" means:

(i) any and all of the following deductions, but shall not include any such deduction(s) to the extent resulting from or related to a Selling Party's intention or attempt, in whole or in part, to avoid paying any IP Milestone Fees hereunder:

(a) discounts (including trade, quantity and cash discounts) actually allowed, cash and non-cash coupons, retroactive price reductions, and charge-back payments and rebates granted to any Third Party (including to governmental entities or agencies, purchasers, reimbursers, customers, distributors, wholesalers, and group purchasing and managed care organizations or entities (and other similar entities and institutions)) which effectively reduced the selling price or gross sales of the Medical Product(s) and when they have not already been deducted on the invoiced amount;

(b) credits or allowances, if any, on account of price adjustments, recalls, justified claims of Third Party customers, justified rejections or returns of items previously sold (including Medical Product returned in connection with recalls or withdrawals) and amounts written off by reason of uncollectible debt; provided, that, if the debt is thereafter paid, the corresponding amount shall be added to the Net Sales of the period during which it is paid;

(c) insurance, customs charges, freight, postage, shipping, handling, and other transportation costs incurred by a Selling Party in shipping Medical Product to a Third Party when they are not invoiced to the Third Party; and

(d) import taxes, export taxes, excise taxes (including annual fees due under Section 9008 of the United States Patient Protection and Affordable Care Act of 2010 (Pub. L. No. 111-48) and other comparable laws), sales tax, value-added taxes, consumption taxes, duties or other governmental taxes levied on, absorbed, determined and/or imposed with respect to such sales (excluding income or net profit taxes or franchise taxes of any kind).

(ii) The calculations set forth in this Section shall be determined in accordance with applicable accounting principles (such as GAAP or IFRS). Transfers of the Medical Product(s) among CureVac, its Affiliates, its distributors and Sublicensees for the purpose of subsequent resale to Third Parties will not generate Net Sales; with respect to such transfers, only the gross amounts invoiced in connection with the subsequent resale of the Medical Product(s) to Third Parties will be included in the calculation of Net Sales.

(x) "**Patents**" means patents and patent applications, including without limitation utility patents, model patents and design patents and certificates of invention, provisional applications, divisional applications, continuations, continuations-in-part, reissues, extensions (including supplemental protection certificates), reexaminations or renewals thereof.

(y) **"Requirements**" as defined in Section 2.5.

(z) "**Term**" as defined in Section 13.

(aa) **"TGA Background IP**" means, collectively, (i) any and all Intellectual Property or Know-How that was created, conceived, acquired, owned, or controlled by TGA and/or any Affiliate of TGA prior to the Effective Date of the Agreement, and (ii) any and all Intellectual Property or Know-How that is created, conceived, acquired, owned, or controlled by TGA and/or any Affiliate of TGA, independently from CureVac and CureVac's Confidential Information, after the Effective Date of the Agreement which is independent of, and not derived from, the Parties' efforts under this Agreement, excluding Joint Inventions and Joint IP, both (i) and (ii) being reasonably necessary or useful for the development, manufacturing and commercialization of the Deliverables and/or Machine in accordance with this Agreement and/or to practice the Joint IP.

(bb) "**TGA Machine**" means, a Machine produced by or for TGA and sold or delivered hereunder to CureVac and/or CureVac's authorized purchaser(s) or licensee(s), or other authorized parties. For the avoidance of doubt, the term TGA Machine does not include any Machines produced by or for any Third Party under a direct or indirect license from CureVac.

(cc) **"Third Party"** means any party other than any of the Parties hereto and its Affiliates; employees of any of the Parties shall be considered Third Parties.

(dd) "**Work**" means, collectively, the research, design, and development of Deliverable(s) and any related services and functions for which TGA is responsible, as each of the foregoing is described in the applicable Approved Work Order.

1.2 Interpretation. The division of this Agreement into Articles and Sections and the insertion of headings are for convenience of reference only and will not affect the construction or interpretation of this Agreement. Section references are to sections of the document in which the reference is contained and will be deemed to refer to and include all subsections of the referenced section. Unless the context requires otherwise, words importing the singular include the plural and vice versa and words importing gender include all genders. Unless the context requires otherwise, (a) "including" (and any of its derivative forms) means including but not limited to, (b) "may" means has the right, but not the obligation to do something and "may not" means does not have the right to do something, and (c) "will" and "shall" apply to a mandatory obligation, not a permissive statement. In the event of a conflict between the English language version of this Agreement and any translations hereof, the English language version shall control.

2) SUBJECT MATTER OF THE AGREEMENT.

2.1 Starting on the Effective Date and continuing through the Term, TGA will perform the Work in accordance with the terms of this Agreement and of the applicable Approved Work Order. Upon signature or written approval of an Approved Work Order by both Parties, the terms of the applicable Approved Work Order, together with the terms of this Agreement, will become a binding contract between the Parties with respect to its subject matter. The Parties intend to memorialize each Work Order using the form attached hereto as Annex 3 (Form of Work Order).

2.2 TGA has already completed the Work under Annex 1 (Work Order I) as of the Effective Date, and CureVac has granted Acceptance for the resulting Engineering Report provided by TGA. Work Order I is an Approved Work Order.

2.3 For purposes of Annex 2 (Work Order II), TGA will perform the Work for which it is responsible thereunder for [*****] each Deliverable as described therein. CureVac will support TGA in performing its obligations hereunder. The Parties acknowledge that the Work is for [*****]. Notwithstanding anything to the contrary in Work Order II, TGA shall render services laid out in Work Order II, but only be obligated to use Commercially Reasonable Efforts with regard to Deliverables and to (a) meet the detailed Requirements set forth therein, and (b) provide reasonable post-Acceptance support, sustained engineering support, upgrades, and training to CureVac with respect to the Deliverables at fees or rates quoted by TGA or, if applicable, at fees or rates mutually agreed by the Parties.

2.4 The Parties shall meet quarterly to review the Work under each Approved Work Order either in person, by videoconference, or by telephone. The Parties will at least meet once per year in person. Each Party may propose a meeting date and time, and the other Party will use Commercially Reasonable Efforts to accommodate such date and time.

2.5 The target requirements for the Deliverables, such as design and development process, verification and validation requirements, regulatory, functional and technical needs, development and manufacturing cost objectives (collectively, the "**Requirements**") will be set forth in the applicable Approved Work Order.

2.6 If and to the extent that the Parties wish to enter into an additional Work Order and/or if CureVac wishes to order one or more TGA Machines from TGA, the Parties shall negotiate in good faith the terms and conditions (including pricing and volumes if applicable) for such an agreement; provided, however, that neither Party shall be obligated to enter into any such agreement. The Parties will reference the agreed terms and conditions in Annex 6 in connection with any discussion about orders for TGA Machines.

3) TGA OBLIGATIONS.

3.1 TGA covenants that the Deliverables will comply with the electrical, mechanical and engineering certifications, regulations, and standards as defined under the Approved Work Order and as applicable at the location of delivery of Deliverables. Unless agreed otherwise in an Approved Work Order, TGA shall deliver each Deliverable Ex Works (Incoterms 2010) at its facility located at [*****].

3.2 TGA will: (a) use Commercially Reasonable Efforts to ensure that the Deliverables (i) are free from defects in material and workmanship and (ii) conform to the Requirements; and (b) perform the Work in a good, professional and workmanlike manner, in accordance with industry standards.

3.3 TGA shall provide, at CureVac's cost, CureVac with all the documents as reasonably requested for CureVac to comply with the applicable laws, rules, and regulations for the location of application of Machines, if and to the extent that such documents are available to TGA and/or that TGA can reasonably generate such documents.

4) CHANGES.

4.1 Either Party may propose one or more reasonable change(s) under this Agreement (including changes with respect to the Deliverables or the Requirements) by delivering a written proposal to the other Party. The other Party shall respond in writing to any such proposal within a reasonable time, taking into account the level of complexity and priority of the contemplated changes(s), and shall use Commercially Reasonable Efforts to estimate the following in connection with the proposed change: (a) any anticipated impact(s) on the Deliverables or Requirements; (b) any estimated impact(s) on the implementation schedule; and (c) any necessary adjustment to the price.

4.2 The Parties shall negotiate in good faith each proposed change under this Agreement. No change shall be effective unless approved and signed by authorized representatives of each Party using a form substantially similar to Annex 6 to memorialize the change.

5) FINANCIAL CONDITIONS.

5.1 The consideration and payment terms under Work Order I are set forth in **Annex 1.**

5.2 The consideration and payment terms under Work Order II are set forth in **Annex 2**.

5.3 Unless expressly stated otherwise in an Approved Work Order, CureVac will pay undisputed amounts for all Work and Deliverables within [*****] net upon receipt of a related invoice. The consideration and payment terms shall be set forth either in an Approved Work Order signed by both Parties or, in the absence of such Approved Work Order, in the TGA proposal Accepted in writing by CureVac against which CureVac is supposed to issue an order which TGA is supposed to accept. Any wrongfully withheld amounts due shall be subject to statutory interest per applicable law.

5.4 CureVac will pay all Development Fees and IP Milestone Fees as set forth in Section 10) below.

5.5 The Parties intend that, if CureVac orders TGA Machines, the pricing will take into account volumes and economies of scale of producing the TGA Machines.

6) LIABILITY.

6.1 Exclusions of Liability. Subject to Section 6.3 below and except as expressly set forth herein or in an Approved Work Order, the Parties agree as follows to the maximum extent permitted by applicable laws: [*****].

6.2 Limitations of Liability. Subject to Section 6.3 below and except as expressly set forth herein or in an Approved Work Order, the Parties agree as follows: (a) TGA's total liability under this Agreement shall not exceed an amount equal to [*****]; and (b) CureVac's total liability under this Agreement shall not exceed an amount equal to the following: (1) for Work and Deliverables, the [*****]; and (2) with respect to Intellectual Property, the [*****].

6.3 Exceptions. The limitations and exclusions set forth in Sections 6.1 and 6.2 will not apply with respect to: [*****].

6.4 Force Majeure. "**Force Majeure Event**" means an event beyond the reasonable control of a Party that delays or prevents the Party from performing its obligations under the Agreement potentially including embargoes, war, acts of war (whether war be declared or not), acts of terrorism, insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, fire, floods, earthquakes or other acts of God, or generally applicable action or inaction by any governmental authority, but excluding any government action or inaction that is specific to such Party, provided that (a) the affected Party is without fault in causing or failing to prevent the event, (b) the event cannot be circumvented through the use of commercially reasonable alternative sources, workaround plans or other means. In the event of a Force Majeure Event, the affected Party shall not be liable for any failure or delay in performing any of its obligations under or pursuant to this Agreement, and such a failure or delay shall not constitute a breach of this Agreement. The Party seeking to rely on this clause shall notify the other Party in writing of such force majeure circumstances as soon as reasonably practical and use reasonable endeavors in any situation where it has invoked this clause to cure such force majeure circumstances or to perform its relevant obligations as soon as possible. The time for performance of the affected obligations or the applicable Work Order shall be extended by a period equivalent to the period of the delay. Should a Force Majeure Event prevent any of the Parties from performing part or all of its obligations under any Approved Work Order for a period of [*****] or more, the unaffected Party shall have the right to terminate the Approved Work Order upon giving [*****] prior written notice. In the event of such termination, the other Party shall be paid for all Work or services performed prior to the date of termination. If the Force Majeure Event leads to a prevention of any Party from performing under this Agreement as a whole, such Party may terminate all Approved Work Orders and this Agreement if the Force Majeure Event continues for more than [*****].

7) REPRESENTATIONS AND WARRANTIES. Each Party represents and warrants to the other as follows: (a) it is duly incorporated, validly existing, in good standing, and has the power and authority to carry on its business, to hold property and to enter into this Agreement; (b) the terms of the Agreement are not inconsistent with its other contractual arrangements; and (c) the person executing this Agreement on its behalf has the full power and authority to enter into this Agreement on its behalf.

8) INDEMNIFICATION.

8.1 TGA shall defend and indemnify CureVac, CureVac's Affiliates, and their respective directors, officers, employees, agents, successors, and assigns (collectively, the "**CureVac Indemnitees**") from and against any and all costs, fees, penalties, expenses, damages, reasonable attorneys' fees and all other liabilities whatsoever ("**Losses**") arising out of or relating to the following against any Indemnified Party: (i) any Claim that any Deliverable or Machine infringes any Intellectual Property of a Third Party, where such Claim is based solely on TGA Background IP; and (ii) any Claim with respect to the gross negligence or willful misconduct of any of the TGA Indemnitees. The foregoing is subject to Section 8.4 below.

8.2 CureVac shall defend and indemnify TGA, TGA's Affiliates, and their respective directors, officers, employees, agents, successors, and assigns (collectively, the "**TGA Indemnitees**") from and against any and all Losses arising out of or relating to any of the following against any Indemnified Party: (a) any Claim that any Deliverable or Machine infringes any Intellectual Property of a Third Party, where such Claim is based solely on CureVac Background IP; (b) any Claim for death or bodily injury, or the damage, loss or destruction of real or tangible personal property of any Third Party or any Affiliate of CureVac (including CureVac's, Affiliates, and their respective subcontractors) caused by, or alleged to be caused by or related to, the operation or use of any Machine, Deliverable, or Medical Product; or (c) any Claim by, on behalf of, or relating to any employees, agents, independent contractors, and/or directors of CureVac, its Affiliates, or any of their respective subcontractors in connection with this Agreement and/or the use, development, or production of Machine(s), Deliverable(s), or Medical Product(s). The foregoing is subject to Section 8.4 below.

8.3 The Party seeking indemnification hereunder (as applicable, the "**Indemnified Party**") will give the other Party (the "**Indemnifying Party**") prompt written notice of any Claim for which indemnification is sought hereunder. Failure to give notice will not diminish the Indemnifying Party's obligation under this Section if the Indemnifying Party has or receives knowledge of the existence of such Claim by any other means or if the failure does not materially prejudice its ability to defend the Claim. The Indemnifying Party may select legal counsel to represent the Indemnified Party (said counsel to be reasonably satisfactory to the Indemnified Party) and otherwise control the defense of such Claim. If the Indemnifying Party elects to control the defense of such Claim, the Indemnified Party may participate in the defense at its own expense. If the Claim is one that cannot by its nature be defended solely by the Indemnifying Party, then the Indemnified Party will make available information and assistance as the Indemnifying Party may reasonably request. The Indemnifying Party may not, without the prior written consent of the Indemnified Party, (i) consent to the entry of any judgment or enter into any settlement that provides for injunctive or other non-monetary relief affecting any indemnitee hereunder, or (ii) consent to the entry of any judgment or enter into any settlement unless such judgment or settlement provides for an unconditional and full release of the Indemnified Party and the other indemnitees hereunder and does not diminish any of the Indemnified Party's rights under this Agreement or result in additional fees or charges to the Indemnified Party.

8.4 Each Party's respective obligations to indemnify (exclusive of the obligation to defend) will not apply if and to the extent that Losses were caused by the willful misconduct, intentional misconduct, or gross negligence of such Party, but only as expressly agreed in writing by such Party or as determined by a court of competent jurisdiction in a final judgment which is not subject to appeal.

9) CONFIDENTIALITY. The confidentiality terms set forth in **Annex 4** (Confidentiality) shall govern the Parties' respective obligations with respect to confidentiality under this Agreement.

10) INTELLECTUAL PROPERTY.

10.1 Background IP.

(a) Each Party reserves sole and exclusive ownership of its Background IP. Each Party's Background IP shall be deemed to be such Party's Confidential Information for purposes of this Agreement. BACKGROUND IP IS PROVIDED HEREUNDER "AS-IS, WHERE IS", WITHOUT WARRANTY OF ANY KIND.

(b) The Parties each acknowledge that (i) neither the Deliverables nor the Machines may be manufactured without rights to the Joint IP and TGA Background IP, and (ii) neither the Deliverables nor the Machines may be operated without rights to the Joint IP, TGA Background IP, and CureVac Background IP. Accordingly, the Parties agree to the license and other terms herein.

(c) TGA grants to CureVac, and CureVac hereby accepts, a non-exclusive, royalty-free except as otherwise specified in this Section, perpetual, irrevocable as to existing Machines, world-wide license to use, sublicense, and distribute TGA Background IP that is incorporated into any Deliverable or Joint IP or is reasonably required to use or maintain any Deliverable or Joint IP in a cost-effective or efficient manner (*e.g.*, tools).

(d) CureVac grants to TGA, and TGA hereby accepts, a limited, non-exclusive, non-transferable, no-charge license during the Term to CureVac Background IP as required for TGA to perform its obligations with respect to (i) the Work under any Approved Work Order and/or (ii) any order for the manufacture and sale of Machines to CureVac or its authorized purchasers.

10.2 Joint Inventions.

(a) Ownership of Inventions. All Intellectual Property generated under this Agreement shall be Joint IP. TGA and CureVac shall each have an equal and undivided one-half (1/2) joint ownership interest in any and all Joint Inventions and Joint IP. Inventorship of Joint Inventions will be determined in accordance with the patent laws of the country in which the Invention is created.

(b) Licenses in Joint IP.

(i) TGA grants to CureVac, and CureVac hereby accepts, an exclusive (only with respect to Machines, and for the duration of the Joint IP Fee Period, after which the license shall be non-exclusive), royalty-free except as otherwise specified in this Section, perpetual, irrevocable as to existing Machines, world-wide license to TGA's interest in Joint IP. For the avoidance of doubt, nothing in this Agreement shall be construed to limit CureVac's ability and right to use such Joint IP subject to compliance with the terms of this Section 10.

(ii) CureVac grants to TGA, and TGA hereby accepts, a non-exclusive, royalty-free, perpetual, irrevocable as to existing Machines, worldwide license to CureVac's interest in Joint IP (A) to perform its obligations under this Agreement, and (B) for applications and use unrelated to Machines. For the avoidance of doubt, nothing in this Agreement shall be construed to limit TGA's ability and right to use Joint IP in applications and context unrelated to Machines.

(c) Rights in Joint IP. The Parties agree as follows with respect to the Joint Inventions and Joint IP:

(i) CureVac may sublicense (in multiple tiers) Joint IP to one or more Third Parties that commit in writing to be subject to obligations substantially similar to the ones under this Agreement, including confidentiality obligations at least as protective as those set forth in Annex 4 and audit provisions similar to Section 14.2; and

(ii) Subject to CureVac's compliance with the terms of this Section 10), TGA shall not, without CureVac's prior written consent, (A) license any rights in Joint IP to any Third Party, or (B) manufacture for and deliver to any Third Party one or more Machines.

(d) Prosecution. The Parties shall discuss in good faith the filing and protection of Joint IP. Unless otherwise agreed by the Parties, the Parties agree that neither Party may file an application, registration, extension, renewal, or re-issuance for Joint IP without first giving notice to, and offering to discuss the filing in good faith with, the other Party. Each Party agrees to refrain from submitting any such filing until after it has made reasonable efforts to discuss the filing with the other Party, with the expectation that the Parties will allow at least [*****] to review and discuss the filing. The filing Party shall bear its own costs and expenses for any such filing.

(e) Infringement. The Parties shall discuss in good faith the protection of Joint IP against infringement or misappropriation by Third Parties. TGA may at its expense take steps to protect Joint IP to the extent related to the manufacture of Machines, and CureVac may at its expense take steps to protect Joint IP to the use of Machines for production of Medical Products.

10.3 Joint IP Fees.

(a) In consideration of the Work, TGA's contributions to Joint IP and Joint Inventions, and the rights, and obligations in Sections 10.1 (Background IP) and 10.2(b) above, CureVac shall pay TGA the following during the applicable Joint IP Fee Period:

(i) [*****] (the "**Development Fee**"); and

(ii) [*****] (the "**IP Milestone Fee**").

(b) Development Fees. During the period of time beginning on the Effective Date and continuing until 10 years after the date that a Machine is first used commercially (i.e., for commercial, as opposed to testing or evaluation of the Machine, purposes) to produce one or more Medical Products intended (or the charitable equivalent of a sale) to generate Net Sales, ("**Development Fee Period**"), CureVac will pay a Development Fee per Machine [*****] For example:

(i) [*****];

(ii) [*****];

(iii) [*****]

TABLE 1: DEVELOPMENT FEES	
Incremental Volumes of Machines (Aggregate)	**Development Fee**
Machines [*****]	[*****] per Machine
Machines [*****]	[*****] per Machine
Machines [*****]	[*****] per Machine
Machines [*****] and more	[*****] per Machine

(c) IP Milestone Fees. During the period of time beginning on the Effective Date and continuing until the earlier of (i) 10 years after the date that a Machine is first used commercially (i.e., for commercial, as opposed to testing or evaluation of the Machine, purposes) to produce one or more Medical Products intended (or the charitable equivalent of a sale) to generate Net Sales, and (ii) [*****] in aggregate Net Sales (the "**IP Milestone Fee Period**"), CureVac will pay [*****] per Table 2 below based [*****] by any and all Medical Products, provided that each "Net Sales" bracket and each related "IP Milestone Fee" bracket in the table below may only be consummated once. Once the IP Milestone fee of [*****] for reaching [*****] in Net Sales is reached and paid, [*****] For example:

(i) [*****]

TABLE 2: IP MILESTONE FEES	
Net Sales (aggregate)	**IP Milestone Fee (USD)**
[*****]	[*****]

(d) Reporting and Payment.

(i) For each year during the Joint IP Fee Period, CureVac shall report to TGA no later than [*****] of the subsequent year the following:

(a) [*****] and

(b) [*****]

(ii) CureVac shall pay the Development Fee and the IP Milestone Fee, if applicable, for each year to TGA no later than the end of April of the subsequent year.

(iii) If and to the extent that CureVac knowingly fails to report any [*****] for any year during the Joint IP Fee Period or fails to pay any Development Fee(s) when due and fails to promptly cure (and in any event within [*****] after learning of such failure), the applicable Development Fee shall be subject to [*****].

(iv) The provisions of this Section are essential to TGA's agreement. This Section 10.3 shall survive the expiration or termination of this Agreement or of any Approved Work Orders for any reason whatsoever. Further, the Parties agree that the provisions of this Section 10.3, including CureVac's obligations to pay Development Fees and IP Milestone Fees in accordance with the terms hereof, shall remain fully enforceable and valid notwithstanding any of the following: the expiration, invalidity of, or challenges to the validity of any Background IP and/or Joint IP, including Patents; any change(s) in market conditions or business environment; any change(s) to CureVac's corporate and/or ownership structure; as far as legally possible the insolvency or status of CureVac and/or any of its Affiliates as debtor(s) in bankruptcy, insolvency, receivership, or similar proceedings.

10.4 After expiration of the Joint IP Fee Period, CureVac shall have a non-exclusive, fully paid-up, worldwide, irrevocable, perpetual, transferable and sublicensable (in multiple tiers) license under Joint IP and Joint Inventions (including TGA's interest in such Joint IP and Joint Inventions), and to the TGA Background IP that is incorporated into any Deliverable, Joint IP, or Joint Invention, and/or that is reasonably required to use or practice any Joint IP or Joint Invention.

10.5 Personnel. Each Party is responsible for having in place with each of its employees, agents, contractors, subcontractors, and other personnel (either directly or indirectly through their respective employers) such agreements respecting Intellectual Property as are necessary to comply with this Agreement. Without limiting the foregoing, in the event that a Party engages a subcontractor to perform any activities assigned to it under this Agreement, such Party shall use Commercially Reasonable Efforts to ensure that such subcontractor has agreed to assign to the Party engaging such subcontractor (and if not possible to grant a fully-paid, exclusive, royalty-free, worldwide license to such Party, with the right to sublicense through multiple tiers, under) all inventions made by such subcontractor in the course of performing such subcontracted work that relate to any activities covered by this Agreement.

10.6 General. Except for the rights expressly granted in this Agreement, nothing in this Agreement will operate to transfer interest in any Intellectual Property by implication, estoppel or otherwise. All licenses and rights of use granted under or pursuant to this Agreement shall be deemed to be licenses to rights in "intellectual property" for the purposes of Section 365(n) of the United States Bankruptcy Code.

11) INSURANCE. Each Party shall procure and maintain insurance as required by applicable law.

12) SUBCONTRACTING.

12.1 TGA shall not subcontract the performance of any Work under this Agreement or an Approved Work Order to a Third Party without the prior written consent of CureVac. CureVac shall not unreasonably withhold, condition, or delay its consent to any such proposed arrangement; provided, however, that CureVac may condition its consent on certification by TGA that the subcontractor is subject to confidentiality obligations no less protective than those applicable to TGA under this Agreement. If CureVac wishes to verify the existence of such confidentiality obligation, the Parties shall designate by mutual agreement a Third Party to confirm the existence of such obligation.

12.2 TGA may, in the ordinary course of business, procure and use Third Party services and products that are not dedicated to performance of the Work, and TGA may procure and use Third Party parts, components, material, and equipment in connection with the Work. TGA may also engage individual independent contractors to supplement its employee workforce. Such arrangements do not constitute subcontracting for the purposes of this Section.

13) TERM AND TERMINATION.

13.1 This Agreement shall commence as of the Effective Date and shall remain in force until the expiration of the last Joint IP Fee Period, unless terminated earlier under this Section or by mutual written agreement of the Parties as applicable (such period is the "**Term**"). The Parties may agree to extend Term in writing. This Agreement and each Approved Work Order may only be terminated as provided in this Section 13) and Section 6.4 (Force Majeure). The term of each Approved Word Order (each a "**Work Order Term**") will be set forth therein.

13.2 The Parties may terminate an Approved Work Order as follows:

(a) The Parties may terminate an Approved Work Order by mutual written consent, as signed by an authorized representative of each Party;

(b) If one Party materially breaches its obligations under this Agreement or an Approved Work Order and does not cure such breach within a reasonable period (not to be less than [*****] following written notice of such breach by the other Party, then the Party that is not in breach may terminate the affected Approved Work Order(s) and, in the event of any such termination:

(i) the breaching Party will reimburse the terminating Party for any non-cancellable costs reasonably incurred by the terminating Party, in reliance on the terminated Approved Work Order(s), subject to Section 6) (Liability) above;

(ii) for termination by TGA due to CureVac's material breach with respect to that Approved Work Order, (A) CureVac shall pay TGA a termination fee [*****] (B) CureVac grants and TGA accepts a non-exclusive, fully paid-up, sublicenseable (in multiple tiers), worldwide, irrevocable and perpetual license to the CureVac Background IP and to CureVac's interest in Joint IP to manufacture Machines relevant to or deriving from that Approved Work Order, and (C) CureVac will provide the information and existing documentation with respect to such CureVac Background IP and Joint IP as reasonably required for TGA or a Third Party to enable such manufacturing of the Machines; and

(iii) for termination by CureVac due to TGA's material breach with respect to that Approved Work Order, TGA grants and CureVac accepts a fully paid-up, sublicenseable (in multiple tiers), worldwide, irrevocable and perpetual license to the TGA Background IP and to TGA's interest in Joint IP reasonably required for CureVac to complete the Work under the Approved Work Order either on its own or with another supplier (to the extent such rights are not already granted hereunder), and (C) TGA will provide the information and existing documentation (but without any continuation of Work or other services) with respect to such TGA Background IP and Joint IP as reasonably required for CureVac or a Third Party to enable the completion of such Work.

(c) Either Party may terminate an Approved Work Order for convenience (i.e. without cause) by giving written notice to the other Party and agreeing to the following:

(i) for termination by TGA, TGA grants CureVac and CureVac accepts a fully paid-up, sublicenseable (in multiple tiers), worldwide, irrevocable and perpetual license to the TGA Background IP and its interest in Joint IP to the extent reasonably required for CureVac to complete the Work under the Approved Work Order either on its own or with another supplier (to the extent such rights are not already granted hereunder) and TGA will provide the information and existing documentation (but without any continuation of Work or other services) with respect to such TGA Background IP and Joint IP as reasonably required for CureVac or a Third Party to enable the completion of such Work; and

(ii) for termination by CureVac, CureVac shall pay TGA a termination fee [*****].

(d) If a Party terminates an Approved Work Order for the other Party's breach according to Section 13.2(b) above, the terminating Party may in its discretion convert such termination to a termination for convenience hereunder upon written notice to the other Party.

(e) Either Party may terminate all Approved Work Orders hereunder upon written notice if the other Party is declared insolvent, becomes a debtor in a bankruptcy, insolvency, receivership, or similar proceeding commenced by a Third Party that is not dismissed within [*****] after commencement, proceedings in bankruptcy or insolvency are instituted by or against it, undergoes voluntary or involuntary dissolution, and undergoes serious financial difficulties that may lead to the opening of insolvency proceedings in the near future or makes an assignment for the benefit of its creditors. In that case, the effects of termination laid out in Section 13.2(b) above shall apply. In the event of a Party's insolvency, the affected Party shall be treated as a breaching Party under Section 13.2(b) above.

(f) As set forth in Section 6.4 with respect to a Force Majeure Event.

13.3 This Agreement contemplates the long-term allocation of certain rights with respect to Intellectual Property, Indemnification, and other issues. Accordingly, the Parties agree that any termination of Approved Work Order(s) hereunder shall not affect the Parties' other rights and obligations under this Agreement.

14) GENERAL.

14.1 Advertising. Neither Party will use the other Party's name nor marks, refer to or identify the other Party in any advertising or publicity releases or promotional or marketing correspondence to others without such other Party's written approval.

14.2 Audit.

(a) During business hours and upon reasonable advance notice not more than once each calendar year, TGA's appointed independent auditor may inspect, examine and audit the records and data of CureVac, CureVac's Affiliates, and their respective agents and subcontractors that pertain to CureVac's obligations under Section 10) (Intellectual Property) of this Agreement to verify (a) the accuracy of CureVac's reports and payments per Section 10) (Intellectual Property) and (b) CureVac's compliance with this Agreement. In support of the foregoing right, CureVac will keep and maintain (i) financial records relating to the Agreement in accordance with generally accepted accounting principles, (ii) records substantiating CureVac's invoices, (iii) records pertaining to CureVac's compliance with the Agreement, and (iv) such other operational records with respect to Intellectual Property and related fees and other monetary amounts as CureVac keeps in the ordinary course of its business. TGA may not audit a time period for a particular issue more than once. CureVac will retain such records for the longer of [*****] after the end of each year of a Joint IP Fee Period or as required by applicable Laws. CureVac will make such records available to TGA's auditors for examination and copying upon request. TGA shall bear its own costs and expenses for any audit pursuant to this provision; provided, however, that if an audit reveals that CureVac has not paid TGA in aggregate amounts due under this Agreement (including Development Fees and IP Milestone Fees) for any calendar year shown by such inspection of more than [*****] CureVac shall promptly reimburse TGA for the actual costs and expenses of such audit. Any underpayments shall be paid by CureVac within [*****] of notification of the results of such audit.

(b) Upon notice by TGA of its intention to conduct an audit of IP Milestone Fees, but no more than once per calendar year, CureVac shall at its expense provide an annual certification by a reputable Third Party accounting firm as to the accuracy of the reports submitted by CureVac with respect to Net Sales and IP Milestone Fees.

14.3 Non-Solicitation. The Parties recognize that the employees of the other Party, and such employees' loyalty and service to such Party, constitute a valuable asset of such Party. Accordingly, during the Term of this Agreement and for a period of [*****] thereafter, CureVac as well as TGA agrees not to actively solicit employment with any person who was employed by the related other Party within [*****] of such person's employment by such Party.

14.4 Relationship of Parties. The relationship between the Parties is that of independent contractors and neither Party will have the authority to bind or act on behalf of the other Party without its prior written consent. This Agreement will not constitute, create, or in any way be interpreted as a joint venture, partnership or business organization of any kind.

14.5 Entire Agreement. This Agreement, its Annexes, and all documentation attached hereto or expressly incorporated by reference herein, will constitute the entire understanding of the Parties relating to the subject matter of this Agreement and will not be changed or modified except in writing and signed by authorized representatives of the Parties. All prior agreements, whether written or oral between the Parties relating to the subject matter of this Agreement, are superseded by this Agreement and are of no further force or effect. For clarity, other than the terms and provisions in this Agreement no commercial or legal terms, in particular no general terms and conditions, of one Party will apply. The preamble and recitals on page 1 of this Agreement and Annexes 3, 4, 5 and 6 hereto form an integral part of this Agreement and are hereby incorporated by reference herein. Work Orders I and II are attached hereto for reference as, respectively, Annexes 1 and 2, and per Section 2.1 above each Work Order is a separate contract which incorporates the terms and conditions of this Agreement.

14.6 Conflict of Terms. In the event of a conflict between the terms of this Agreement and the terms of any Approved Work Order or Annex (including any agreements incorporated by reference through an Annex), the terms of this Agreement will govern.

14.7 Severability. If any provision of this Agreement will be deemed void or unenforceable in whole or in part for any reason whatsoever, the remaining provisions will remain in full force and effect, and the Parties will negotiate in good faith to modify the Agreement to preserve (to the extent possible) their original intent and the surviving clauses of this Agreement shall be construed to give maximum effect to the intention of the Parties as of the date last signed below.

14.8 Non-Waiver. No failure or delay of one of the Parties to insist upon strict performance of any of its rights or powers under this Agreement will operate as a waiver thereof, nor will any other single or partial exercise of such right or power preclude any other further exercise of any rights or remedies provided by law.

14.9 Governing Law and Dispute Resolution.

(a) This Agreement will be governed by and construed in accordance with the laws of Germany, excluding its conflict of laws rules. The United Nations Convention on Contracts for the International Sale of Goods will not apply in any way to this Agreement or to the transactions contemplated by this Agreement or otherwise to create any rights or to impose any duties or obligations on any Party to this Agreement.

(b) In the event of a dispute between the Parties, the Parties will first attempt in good faith to resolve such dispute by negotiation and consultation between themselves or the liaison. In the event that such dispute is not resolved on an informal basis within [*****] any Party may, by written notice to the other, have such dispute referred to each Party's managing executive or director or his or her designee (who will be a senior executive), who will attempt in good faith to resolve such dispute by negotiation and consultation for an additional [*****] period following receipt of such written notice.

(c) If the Parties are unable to resolve such dispute in connection with this Agreement or its validity through good-faith negotiations within [*****], the dispute shall be finally settled in accordance with the Arbitration Rules of the German Institution of Arbitration (DIS) ("**Arbitrator**") in accordance with the then-current DIS-Arbitration Rules 98, available at http://www.disarb.org/en/16/rules/dis-arbitration-rules-98-id10, without recourse to the ordinary courts of law. The existence, content and result of the arbitration shall be held in confidence by the Parties, their representatives, any other participants, and the Arbitrator. The arbitration will be conducted by three arbitrator(s) selected in accordance with the Arbitrator rules. Any demand for arbitration and any counterclaim will specify in reasonable detail the facts and legal grounds forming the basis for the claimant's request for relief and will include a statement of the total amount of damages claimed, if any, and any other remedy sought by the claimant. The arbitration will be conducted in the German language in Frankfurt am Main, Germany. Each Party will bear its own expenses in the arbitration and will share equally the costs of the arbitration; provided, however, that (i) the Arbitrators may, in their discretion, award reasonable costs and fees to the prevailing Party, and (ii) the Arbitrator shall award reasonable costs and fees to TGA if TGA prevails in an action for unreported and/or unpaid Development Fees and/or IP Milestone Fees. The Arbitrators will have full power and authority to determine issues of arbitrability and to interpret or construe the applicable provisions of this Agreement and to fashion appropriate remedies for breaches hereof (including interim or permanent injunctive relief); provided that the Arbitrators will not have any right or authority: (i) in excess of the authority of a court having jurisdiction over the Parties and the dispute would have absent this arbitration agreement; (ii) to award damages in excess of the types and limitation of damages found in this Agreement; or (iii) to modify the terms of this Agreement. The award of the Arbitrators will be issued within [*****] of the completion of the hearing, shall be in writing, and shall state the reasoning on which the award is based. The Parties further consent to the jurisdiction of any state or federal court with subject matter jurisdiction located within a district that encompasses assets of a Party against whom a judgment (or award) has been rendered for the enforcement of the judgment (or award) against the assets of such Party.

14.10 Assignment.

(a) Unless otherwise provided for in this Agreement, each Party agrees that it shall not assign or transfer this Agreement, any Approved Work Order, or any of its rights or obligations thereunder (including legal and beneficial ownership stakes in Joint IP and Joint Inventions) without the other Party's prior written consent, and any attempt to do so shall be void.

(b) Each Party may propose to assign this Agreement, delegate performance of any obligations under this Agreement, or transfer any ownership rights in Joint IP and/or Joint Inventions to an Affiliate of such Party or any other Third Party (the "**Proposed Assignee**") upon prior written consent by the other Party, provided that either Party may assign this Agreement without such consent to an Affiliate or to its successor in connection with sale of all or substantially all of its assets or business or that portion of its business pertaining to the subject matter of this Agreement (whether by merger, consolidation or otherwise). Each Party agrees that it shall not unreasonably withhold, condition, or delay its consent to such proposal (each, a "**Proposed Transfer**") by the other Party; provided, however, that each Party may withhold consent in its sole discretion in the following circumstances: (i) the Proposed Assignee does not agree in writing to be subject to the terms and conditions of this Agreement; (ii) the Proposed Assignee does not agree in writing to assume the corresponding obligations hereunder, including without limitation the obligations in Sections 10) (Intellectual Property) and 14.2 (Audits); (iii) the Proposed Assignee is not financially solvent and capable of complying with such terms and conditions and of performing such obligations hereunder; or (iv) if the Proposed Transfer entails transfer of CureVac's interest in any Joint IP and the Proposed Transfer would, or is reasonably likely to, impair, frustrate, or avoid the timely payment to TGA of Development Fees and/or IP Milestone Fees. TGA may condition its consent to a Proposed Transfer in any of the foregoing circumstances on CureVac guaranteeing the payment of the Development Fees and IP Milestone Fees and/or the performance of the obligations under this Agreement by the Proposed Assignee, using a form of guarantee approved by TGA. The Party seeking to assign and/or delegate to an Affiliate pursuant to this Subsection shall provide copies of the written commitments by the assignee or delegate (as applicable) and provide evidence establishing such entity's financial solvency and capacity for performance under the Agreement. Any attempted or actual assignment or delegation which is not made in full compliance with this Subsection shall be void.

(c) Any assignment or delegation of rights, duties, or obligations shall not relieve the applicable Party (i.e. TGA or CureVac) of any responsibility under this Agreement, and such Party shall be responsible as if the assigned or delegated rights, duties, or obligations were retained by such Party except in case of all or substantially all of its assets or business or that portion of its business pertaining to the subject matter of this Agreement (whether by merger, consolidation or otherwise). This Agreement will be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns.

14.11 Survival. Any provision of this Agreement that contemplates or governs performance or observance subsequent to termination or expiration will survive the expiration or termination thereof for any reason, including without limitation Section 8) (Indemnification), Section 10, and Section 13.2(d).

14.12 Expenses. Each Party shall bear its own fees and other expenses (including attorneys' fees) in connection with the negotiation, preparation and execution of this Agreement.

14.13 Counterparts, Execution of Agreement. This Agreement may be executed in several counterparts, all of which shall constitute one and the same Agreement. In the event that any signature is delivered by facsimile transmission or by an e-mail which contains a portable document format (.pdf) file of an executed signature page, such executed signature page shall create a valid and binding obligation of the Party executing it (or on whose behalf such signature page is executed) with the same force and effect as if such executed signature page were an original thereof. Changes to this Agreement shall be executed in the same way as laid out in this paragraph.

List of Annexes

Annex 1: Work Order I
Annex 2: Work Order II
Annex 3: Form of Work Order
Annex 4: Confidentiality
Annex 5: TGA Machine Terms and Conditions
Annex 6: Form of Change Order

[Signature Page Follows]

Each undersigned Party executes this Development and Intellectual Property Agreement by causing its duly authorized representative(s) to sign below.

Tesla Grohmann Automation GmbH

By: _____
Printed: _____
Title: _____
Date: _____

CureVac AG

By: _____
Printed: _____
Title: _____
Date: _____

By: _____
Printed: _____
Title: _____
Date: _____

Each undersigned Party executes this Development and Intellectual Property Agreement by causing its duly authorized representative(s) to sign below.

Tesla Grohmann Automation GmbH

By:	/s/ Lothar Thommes, /s/ Michael Meens
Printed:	Lothar Thommes, Michael Meens
Title:	Managing Director, Managing Director
Date:	2017-12-22

CureVac AG

By:	
Printed:	
Title:	
Date:	
By:	
Printed:	
Title:	
Date:	

Each undersigned Party executes this Development and Intellectual Property Agreement by causing its duly authorized representative(s) to sign below.

Tesla Grohmann Automation GmbH	
By:	
Printed:	
Title:	
Date:	

CureVac AG	
By:	/s/ Dr. Franz-Werner Haas
Printed:	Dr. Franz-Werner Haas
Title:	Chief Corporate Officer
Date:	***December 22, 2017***
By:	/s/ Dr. Andreas Kirsch
Printed:	Dr. Andreas Kirsch
Title:	**VP Legal**
Date:	***December 22, 2017***

ANNEX 1: Work Order I

[Attachment]

ANNEX 2: Work Order II

Upon finalization and signature by both Parties, Work Order II shall be automatically included in this Annex 2 without any further action of the Parties.

ANNEX 3: Form of Work Order

APPROVED WORK ORDER NO. __

1. Introduction. This Work Order ("Work Order") is issued under and pursuant to the Development and Intellectual Agreement dated June 16, 2016 (the "Agreement") by and between Tesla Grohmann Automation GmbH ("TGA") and CureVac AG ("CureVac"). Capitalized terms used but not defined in this Work Order will have the meanings given them in the Agreement. The Term of this Work Order shall be from *[date]* (the "Work Order Effective Date") through *[date]*.

2. Services and Performance Measurement.

(a) TGA will perform the following Work pursuant to this Work Order *[describe Work, any required resources, any Deliverables, and any deadlines or milestones]*:

3. Acceptance Tests. The Deliverables must pass the following Acceptance tests (if any). If no Acceptance tests are described in this space, each Deliverable shall be deemed to be Accepted if and to the extent that it conforms to the applicable Requirements.

4. Charges. CureVac will pay TGA for performance of the Work under this Work Order as follows *[e.g., fixed price, time and materials, and any deadlines or milestones]*:

5. Additional Services. CureVac may request additional Work after the Work Order Effective Date. Unless otherwise agreed by the Parties in writing, the fees for such Work will be calculated by multiplying the hours worked by TGA personnel by TGA's then-current billing rates or, if applicable, by the rates quoted by TGA.

Intending to be legally bound, each of the undersigned parties has caused its duly authorized representative to execute this Approved Work Order as of the date last entered below.

Tesla Grohmann Automation GmbH		**CureVac AG**	
By:		By:	
Printed:		Printed:	
Title:		Title:	
Date:		Date:	

ANNEX 4: Confidentiality

1. Various Confidentiality Agreements.

a. TGA and CureVac previously signed Exchange of Confidential Information and Non Disclosure Agreement by and between TGA and CureVac dated November 24, 2015 (the "2015 NDA").

b. TGA, CureVac, and Vici AG International ("Vici") signed a Multiparty Non-Disclosure Agreement dated July 31, 2017 (the "Multiparty NDA") superseding the 2015 NDA.

c. TGA and CureVac now agree to the confidentiality obligations of this Annex 4 for purposes of this Agreement. Notwithstanding anything to the contrary in the 2015 NDA and the Multiparty NDA, TGA and CureVac may retain copies of Confidential Information disclosed pursuant to the 2015 NDA or the Multiparty NDA provided that such Confidential Information shall be henceforth subject to the terms and conditions of this Annex 4.

d. Each Party agrees that, as of the date of signature of this Agreement, it shall not disclose to Vici any Confidential Information received subject to this Annex 4 or the 2015 NDA, except to the extent expressly authorized by the original Disclosing Party (i.e. upon disclosure or later in writing). If and to the extent that a Party discloses any such Confidential Information to Vici, the disclosed Confidential Information shall then be subject to the Multiparty NDA.

2. Confidential Information. "Confidential Information" shall mean information disclosed by one Party ("Disclosing Party") to the other Party ("Receiving Party") including, but not limited to, trade secrets, physical samples, financial, business, sales or technical information, terms of agreements, negotiations or proposals, all data, and such other information disclosed (a) in written or other tangible form and marked "Confidential" or with words of similar import, (b) orally or visually and identified as confidential or proprietary information at the time of disclosure, or (c) under circumstances by which Receiving Party should reasonably understand such information is to be treated as confidential, whether or not marked "Confidential" or otherwise. Confidential Information shall be deemed to include any such information disclosed by TGA or CureVac pursuant to the 2015 NDA or Multiparty NDA (but excluding any information disclosed by a Third Party under the Multiparty NDA).

3. Purpose. Disclosing Party may disclose Confidential Information to Receiving Party for purposes of fulfilling and facilitating the rights and obligations and objectives of the Parties under the Development and Intellectual Property Agreement ("Purpose").

4. Non-Use and Non-Disclosure Obligations. Subject to Section 5 of this NDA and subject to the licenses granted under the Development and Intellectual Property Agreement, Receiving Party shall not: (a) use Disclosing Party's Confidential Information for any reason, other than as required for the Purpose; or (b) disclose Disclosing Party's Confidential Information to any individual or third party except to its employees, consultants, directors, and such of their Affiliates that (i) have a "need to know" such Confidential Information for furtherance of the Purpose, and (ii) are bound to confidentiality under terms no less protective than the terms of this NDA (collectively, "Authorized Recipients"). Receiving Party shall implement and maintain appropriate organizational, technical, and administrative security measures, exercising the same degree of care in protecting Disclosing Party's Confidential Information that it uses for its own confidential information of a similar nature, but in no event less than reasonable care. Promptly after becoming aware of any unauthorized use or disclosure of, and/or unauthorized attempts to access or modify, any of Disclosing Party's Confidential Information in the custody or control of Receiving Party or its Authorized Recipients, Receiving Party shall notify Disclosing Party in writing and cooperate with Disclosing Party to investigate and mitigate any adverse effects therefrom. Receiving Party shall be responsible for any unauthorized use or disclosure of Confidential Information by any of its Authorized Recipients.

5. Exceptions. The obligations of Section 4 of this NDA shall not apply to information that: (a) is already known to Receiving Party at the time of disclosure without obligation of confidentiality to Disclosing Party, (b) is or becomes publicly known through no wrongful act or omission of Receiving Party, (c) is rightfully received by Receiving Party from a third party which is without obligation of confidentiality, (d) is approved for release by written authorization of Disclosing Party, or (e) was developed by Receiving Party independently and without the use or benefit of any of the Confidential Information.

6. A disclosure of Confidential Information that is required to be made by Receiving Party pursuant to any request, order or requirement of a court, administrative agency or any other governmental agency shall not be deemed a breach of this NDA, provided that Receiving Party has: (x) immediately notified Disclosing Party in writing of such, request, order or requirement, to the extent permitted by law, (y) given Disclosing Party a reasonable opportunity to contest disclosure or seek an appropriate protective order, and (z) cooperated reasonably with Disclosing Party to narrow the scope of such disclosure to only that portion of the Confidential Information that is necessary to fulfill the request, order or requirement. Each Party is hereby given notice of the immunity set forth in 18 USC § 1833(b).

7. Ownership. Subject to the licenses granted under this Development and Intellectual Property Agreement all Confidential Information and derivations thereof shall remain the sole and exclusive property of Disclosing Party and no license or other right to such Confidential Information or either Party's Intellectual Property is granted or implied hereby unless otherwise provided for in the Development and Intellectual Property Agreement.

8. As-Is Disclosures. Each Disclosing Party warrants that it has the right to disclose any Confidential Information to Receiving Party. Except for the foregoing and unless stated otherwise in this Development and Intellectual Property Agreement: (a) no other warranties are made whether express, implied or statutory, (b) all Confidential Information is provided on an "AS IS" basis, and (c) no representation, warranty, assurance, or guarantee is made by Disclosing Party with respect to the accuracy, performance, completeness, or suitability of the Confidential Information or non-infringement of third-party rights based on use of the Confidential Information by Receiving Party.

9. Return of Confidential Information. Subject to the licenses granted under this Development and Intellectual Property Agreement Confidential Information, and all copies thereof, remain the property of Disclosing Party. Upon termination of this NDA, expiration of this NDA, or the written request of Disclosing Party, Receiving Party shall promptly return to Disclosing Party all documents, presentations, and other tangible items of Confidential Information furnished by Disclosing Party or, at the request of Disclosing Party, certify in writing that all such Confidential Information has been destroyed; provided, however, that the Receiving Party may retain and use such Confidential Information if and to the extent permitted by this Development and Intellectual Property Agreement. Receiving Party shall also use reasonable efforts to delete all electronic copies of Disclosing Party's Confidential Information under the Receiving Party's control. Notwithstanding anything to the contrary herein: (a) no Party will be required to delete electronic Confidential Information stored in back-up/archival storage in accordance with its policies, provided that any such retained Confidential Information will continue to be subject to the terms of this Agreement; and (b) each Party may retain copies of the Confidential Information to the extent required to comply with applicable legal and regulatory requirements, provided, however, that such Confidential Information shall remain subject to the terms and conditions herein.

10. Survival. Notwithstanding any expiration or termination of this Agreement, the clauses in this Annex shall survive for [*****] following the date of any such expiration or termination of this Development and Intellectual Property Agreement.

11. Injunctive Relief. The Parties acknowledge and agree that any breach of this NDA by Receiving Party would cause irreparable harm to Disclosing Party for which monetary damages would not provide an adequate remedy. The Parties agree that in the event of such a breach of this NDA, in addition to any other available remedies, Disclosing Party will be entitled to temporary and permanent injunctive relief restraining Receiving Party from disclosing or using, in whole or in part, any Confidential Information.

ANNEX 5: TGA Machine Terms and Conditions

With reference to Section 2.6 of the Agreement, the Parties agree to the following terms and conditions in connection with any orders for non-prototype and non-developmental TGA Machines.

1. Equipment Warranty.

a. TGA represents and warrants that TGA Machines shall, during the Warranty Period: (i) conform to and operate in accordance with the applicable Specifications, and (ii) be free from defects in material and workmanship (this is the "**Equipment Warranty**").

b. Defined Terms.

i. The "**Warranty Period**" for each TGA Machine shall be a period of [*****] after delivery, unless expressly agreed otherwise in writing by the Parties.

ii. "**Specifications**" means the specifications and requirements applicable to a TGA Machine, as agreed in writing by both Parties.

c. EXCEPT AS EXPRESSLY SET FORTH HEREIN, TGA MAKES NO REPRESENTATION NOR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE TGA MACHINES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, WHETHER ARISING BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, TRADE USAGE, OR OTHERWISE, AND WHETHER ORAL, WRITTEN EXPRESS, IMPLIED, OR STATUTORY, ALL OF WHICH ARE HEREBY WAIVED BY CUREVAC, ON BEHALF OF ITSELF AND EACH OF ITS AFFILIATES, AUTHORIZED PURCHASERS, AND LICENSEES.

d. The EQUIPMENT Warranty shall not apply to any of the following (each, an "**Excluded Issue**"):

i. equipment or any products not furnished by TGA;

ii. if applicable, operation of a system into which the TGA Machine is incorporated where TGA has not provided or expressly approved in writing all components of such system;

iii. prototype versions of TGA Machines (i.e. Deliverables);

iv. unless expressly agreed otherwise in writing by the Parties, hardware, equipment, software, and any other items provided to TGA by or for CureVac;

v. defects or non-conformities to the extent caused by any of the following:

1. normal wear and tear;

2. design, software, equipment, data, or material expressly required by CureVac for which TGA does not have any design, development, or verification responsibilities;

3. installation, maintenance, or use by any party other than TGA or its subcontractors in a manner that does not conform with reasonable and industry-standard written instructions furnished by TGA upon delivery of the TGA Machine;

4. abnormal use or use by CureVac for a purpose other than the specified and/or agreed purposes at Final Acceptance; or

5. uncorrected misuse, negligence, modification by CureVac in a manner not approved or authorized by TGA (either in writing, in person or by phone), or any accident for which CureVac is responsible.

e. Procedure for Equipment Warranty.

i. CureVac will inspect each TGA Machine within a reasonable time after receipt, using Commercially Reasonable Efforts to evaluate whether the TGA Machine conforms to the Equipment Warranty within [*****] after receipt.

ii. CureVac shall give prompt written notice to TGA if and to the extent that a TGA Machine fails to conform to the Equipment Warranty. If CureVac gives any such notice during the Warranty Period, CureVac shall provide all available information regarding the alleged non-conformity and cooperate reasonably with TGA's efforts to confirm the existence and nature of the non-conformity. In the event of a disagreement or dispute as to the existence of a non-conformity with respect to the Equipment Warranty, the Parties will designate by mutual agreement a third party that will make the technical determination of the existence of the non-conformity and whether such non-conformity resulted from a breach of the Equipment Warranty.

iii. If and to the extent that a TGA Machine fails to conform to the Equipment Warranty, TGA will – at TGA's sole cost, as CureVac's sole remedy, and as determined by TGA in its sole but reasonable discretion – repair or replace the TGA Machine within a reasonable time after confirming the existence and nature of the non-conformity.

iv. If TGA repairs or replaces a TGA Machine hereunder which has an Excluded Issue (defined above), TGA may charge its standard rates and fees for such repair or replacement and the repaired or replaced TGA Machine (as applicable) shall count as an additional Machine for purposes of the Development Fee.

ANNEX 6: Form of Change Order

Vendor:	**Project Name/Description:**
Original P.O. #:	**Change Order #:**
Budget Code:	**C.O. Date of Issue:**
TGA Lead:	**C.O. Effective Date:**
Contract Type: Choose an item. If "Other", please describe:	
TGA VP/Management Approval Required?	Yes ☐ No ☐
Description of Change(s): (e.g., add or remove scope, adjust schedule, adjust pricing, etc.)	
Reason for Change(s):	
Attachments: (list and attach documents supporting change and justifying cost and schedule impact)	

Price Adjustment (no change if blank)	**Schedule Adjustment** (no change if blank)
Original Contract Price (describe or attach):	Original Schedule (describe or attach):
$	
Price Prior to this C.O., with earlier Changes:	Schedule Prior to this C.O., with earlier Changes:
$	
New Contract Price based on this Change Order:	New Schedule based on this Change Order:
$	

TGA will issue a Change Purchase Order based on the fully-signed Change Order Memorandum.

Tesla Grohmann Automation, GmbH		**CureVac AG**	
Signed:		Signed:	
Printed:		Printed:	
Title:		Title:	
Date:		Date:	

Exhibit 10.14

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed

EXECUTION COPY

DEVELOPMENT AND OPTION AGREEMENT

by and between

CUREVAC AG

and

ARCTURUS THERAPEUTICS INC.

Dated

1 January 2018

Table of Contents

List of Exhibits

Exhibit 1.3	Patents and Know-How in the Arcturus Background Technology
Exhibit 1.5	Arcturus LMD Technology
Exhibit 1.34	Exclusive License Agreement
Exhibit 1.61	Non-Exclusive License Agreement
Exhibit 3.1(a)	Work Plan
Exhibit 4.2	Target Reservation Request Form

Development and Option Agreement

This Development and Option Agreement (this "Agreement"), dated as of 1 January 2018 (the "Effective Date"), is made by and between CureVac AG, a German stock corporation with offices at Paul-Ehrlich-Strasse 15, 72076 Tübingen, Germany ("CureVac"), and Arcturus Therapeutics Inc., a Delaware corporation with offices at 10628 Science Center Drive # 200, San Diego, CA 92121, USA ("Arcturus"). Each of CureVac and Arcturus may be referred to herein as a "Party" or together as the "Parties".

WHEREAS, Arcturus has expertise and intellectual property relating to the development of LMD Technologies that embody or incorporate delivery systems (and components thereof) for molecular therapeutics based on or incorporating lipid- enabled and unlocked nucleomonomer agents for delivery of nucleic acids as specified in Exhibit 1.5, the Arcturus LMD Technology (as defined below); and

WHEREAS, CureVac has expertise and intellectual property relating to mRNA Constructs (as defined below); and

WHEREAS, the Parties believe that certain proprietary Arcturus LMD Technology (as defined below) could be useful for the formulation and delivery of CureVac's proprietary mRNA Constructs; and

WHEREAS, the Parties are interested in evaluating the development of products incorporating Arcturus LMD Technology and CureVac Technology (as defined below), and Arcturus wishes to grant to CureVac, and CureVac wishes to obtain, an option to obtain a license under the Arcturus LMD Technology to develop and commercialize one or more specific products of CureVac, all in accordance with the terms and conditions set forth below.

WHEREAS, the Parties intend to also co-develop an ornithine transcarbamylase ("OTC") deficiency product and possibly other products under a contemporaneously executed co-development and co-commercialization agreement ("Co- Development Agreement").

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the amount and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE 1

Definitions

The following terms and their correlatives will have the following meanings:

1.1 "Affiliate" of a person or entity means any other entity which (directly or indirectly) is controlled by, controls or is under common control with such person or entity. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to an entity will mean (i) in the case of a corporate entity, direct or indirect ownership of voting securities entitled to cast at least fifty percent (50%) of the votes in the election of directors or (ii) in the case of a non-corporate entity, direct or indirect ownership of at least fifty percent (50%) of the equity interests with the power to direct the management and policies of such entity, provided that if local Law restricts foreign ownership, control will be established by direct or indirect ownership of the maximum ownership percentage that may, under such local Law, be owned by foreign interests. [*****].

1.2 "Agreement" has the meaning set forth in the Preamble.

1.3 "Arcturus Background Technology" means any and all LMD Technology for delivering RNA therapeutics that is Controlled by Arcturus or any of its Affiliates as of the Effective Date or during the Term, including the LUNAR™ platform, but excluding any Arcturus Program Know-How and Arcturus Program Patents, and necessary or useful for the research, development, manufacturing and commercialization of Licensed Products. The Patents and Know-How comprised in the Arcturus Background Technology as of the Effective Date are listed in **Exhibit 1.3** attached hereto.

1.4 "Arcturus Indemnitees" has the meaning set forth in Section 8.7(b).

1.5 "Arcturus Lipid-Mediated Delivery Technology" or "Arcturus LMD Technology" means Arcturus Background Technology and Arcturus Program Technology.

1.6 "Arcturus Program Know-How" means any and all Program Know-How owned by Arcturus in accordance with Section 6.2, including Arcturus' right and interest in any Jointly-Owned Program Know-How (as defined in Section 6.2(c)).

1.7 "Arcturus Program Patents" means any and all Patents that claim any of the Arcturus Program Know-How, including Arcturus' right and interest in any Jointly-Owned Program Patents (as defined in Section 6.2(c)).

1.8 "Arcturus Program Technology" means the Arcturus Program Know-How and the Arcturus Program Patents.

1.9 "Arcturus Work Plan Leader" has the meaning set forth in Section 2.2.

1.10 "Business Day" means a day other than a Saturday, Sunday, or bank or other public holiday in San Diego, California, USA or Tübingen, Germany or Boston, Massachusetts, USA.

1.11 "Calendar Quarter" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.12 "Change of Control" shall be deemed to have occurred if during the Term (i) any person or entity is or becomes the "beneficial owner", directly or indirectly, of shares of capital stock or other interests (including partnership interests) of Arcturus' then outstanding and normally entitled (without regard to the occurrence of any contingency) to vote in the election of the directors, managers or similar supervisory positions of Arcturus representing fifty percent (50%) or more of the total voting power of all outstanding classes of voting stock of Arcturus or has the power, directly or indirectly, to elect a majority of the members of Arcturus' board of directors, or similar governing body; or (ii) Arcturus enters into a merger, consolidation or similar transaction with another person or entity; or (iii) Arcturus sells or transfers to any Third Party, in one (1) or more related transactions, properties or assets representing all or substantially all of Arcturus' consolidated total assets to which this Agreement relates; or (iv) the holders of capital stock of Arcturus approve a plan or proposal for the liquidation or dissolution of Arcturus; *provided*, *however*, that

(a) subsections (i) to (iii) shall only apply if the person or entity or Third Party acquiring control is (i) a pharmaceutical company which has experience in developing and/or commercializing pharmaceutical products (*i.e.*, is a strategic, not financial investor or partner) or (ii) a competitor, i.e., a company in the business of mRNA development, manufacturing and/or commercialization and

(b) a bona fide financing transaction with Third Parties that does not otherwise meet the requirements of subsection (a) shall not constitute a Change of Control.

1.13 "Co-Development Agreement" has the meaning set forth in the Preamble.

1.14 "Concurrent Reserved List Limits" has the meaning set forth in Section 4.2(d).

1.15 "Confidential Information" of a Party means all proprietary Know-How, unpublished patent applications and other non-public information and data of a financial, commercial, business, operational, scientific or technical nature of such Party that is disclosed by or on behalf of such Party or any of its Affiliates or otherwise made available to the other Party or any of its Affiliates, whether made available orally, in writing or in electronic form in connection with this Agreement, including information comprising or relating to concepts, discoveries, inventions, data, designs or formulae in connection with this Agreement. In addition, any non-public information related to this Agreement or the Products hereunder and disclosed by a Party to the other Party (or their respective Affiliates) under the Confidentiality Agreement will be deemed such Party's Confidential Information hereunder. Program Know-How will be considered the Confidential Information of the Party (or Parties) owning such Program Know-How, and Jointly-Owned Program Know-How will be considered Confidential Information of both Parties.

1.16 "Confidentiality Agreement" means that certain Confidentiality Agreement between the Parties dated as of [*****].

1.17 "Contract Year" will refer to the twelve (12)-month period beginning with the Effective Date and on each anniversary thereafter.

1.18 "Control" or "Controlled" means, with respect to Technology, that a Party owns or has a license to use and practice the respective Patent or Know-How without violating the terms of any agreement with any Third Party.

1.19 "CTA" means a clinical trial application.

1.20 "CureVac Background Technology" means any and all mRNA Technology that is Controlled by CureVac or any of its Affiliates as of the Effective Date or during the Term, but excluding any CureVac Program Know-How and CureVac Program Patents, and necessary or useful for the research, development, manufacturing and commercialization of a Licensed Product.

1.21 "CureVac Indemnitees" has the meaning set forth in Section 8.7(a).

1.22 "CureVac Program Know-How" means any and all Program Know-How owned by CureVac in accordance with Section 6.2, including CureVac's right and interest in any Jointly-Owned Program Know-How.

1.23 "CureVac Program Patents" means any and all Patents that claim any of the CureVac Program Know-How, including CureVac's right and interest in any Jointly-Owned Program Patents (as defined in Section 6.2(c)).

1.24 "CureVac Program Technology" means the CureVac Program Know-How and the CureVac Program Patents.

1.25 "CureVac Technology" means, collectively, CureVac Background Technology and CureVac Program Technology.

1.26 "CureVac Work Plan Leader" has the meaning set forth in Section 2.2.

1.27 "Diligent Efforts" means, with respect to the efforts to be expended by each Party with respect to any activity set forth in the Work Plan, active and sustained efforts as such Party would normally use to accomplish a similar task or obligation under similar circumstances to conduct the applicable activity, or to attempt to achieve the applicable requirement or goal, in a reasonable manner that is consistent with the achievement of the goals set forth in the Work Plan (including the level of FTE funding and budget for out-of-pocket and Third Party contractors set forth therein) and the terms of this Agreement.

1.28 "Disclosing Party" has the meaning set forth in Section 7.1.

1.29 "DNA Sequence" means any sequence of DNA intended to be inserted or copied into a DNA Target as set forth on **Exhibit 4.2**.

1.30 "DNA Target" means a defined coding and/or non-coding sequence (e.g., a gene) within the genome of a human or animal cell or virus and/or variants thereof.

1.31 "DNA Editing Protein" means a Target encoded by an mRNA that upon delivery to a cell is intended to Gene Edit a human, animal or virus coding or non-coding sequence within the genome of the human or animal cell or virus.

1.32 "Dual Improvement Technology" is an Improvement to both the Arcturus Background Technology and the CureVac Background Technology at the time such Improvement is discovered, created, conceived, developed or reduced to practice.

1.33 "Effective Date" has the meaning set forth in the Preamble.

1.34 "Escrow Agent" shall be the agent selected by Arcturus in good faith to maintain in confidence the Restricted Target List and to respond to CureVac's Target Notices on behalf of Arcturus.

1.35 "Exclusive License Agreement" means an exclusive license agreement in the form attached hereto as **Exhibit 1.34**.

1.36 "Executive Officers" has the meaning set forth in Section 2.3(d).

1.37 "Formulated Product(s)" means a product (including Licensed Products) manufactured by or on behalf of Arcturus in accordance with the Work Plan that incorporate CureVac mRNA Constructs formulated with Arcturus Lipid-Mediated Delivery Technology.

1.38 "FTE" means a full-time person, or more than one person working the equivalent of a full-time person, where "full-time" is determined by the standard practices in the biopharmaceutical industry in the geographic area in which such personnel are working, consisting of a total of 1880 hours per year of Work directed to the Work Plan or work pursuant to this Agreement. Any person who devotes less than 1880 hours per year on the applicable activities shall be treated as an FTE on a pro-rated basis, based upon the actual number of hours worked by such person on such activities, divided by 1880. Any person who devotes more than 1880 hours per year on the applicable activities shall be treated as one (1) FTE, i.e., in no event shall one person be counted as more than one FTE. FTE activities shall include the performance of the Work and scientific management oversight, as reasonably required, but, for clarity, exclude (i) the work of general corporate or administrative personnel, overhead (including facilities costs), insurances and similar costs and (ii) the manufacture of Formulated Product for research and clinical activities as set forth in the Work Plan.

1.39 "FTE Costs" means an initial rate of [*****] Dollars ($[*****]) per FTE per year, which shall apply through [*****]. Thereafter, the FTE Rate shall be changed bi-annually at the end of each second calendar year to reflect any percentage increase or decrease (as the case may be) in the Consumer Price Index in the U.S. (index for all items) ("**CPI**") (based on the change in the CPI from the most recent index available as of the Effective Date to the most recent index available as of the date of the calculation of such revised FTE Cost rate).

1.40 "Gene Edit" means to correct, modify, insert, delete, activate, inactivate or repair a coding or non-coding sequence within the genome of a human or animal cell or virus and "Gene Editing" has the corresponding meaning.

1.41 "Guide RNA" means a modified or unmodified RNA sequence intended to direct a DNA Editing Protein to a specific DNA Target.

1.42 "Improvement" means, with respect to the Arcturus Background Technology and/or the CureVac Background Technology any change, modification, variation or revision of such Technology, whether patentable, copyrightable or not.

1.43 "Initial Term" has the meaning set forth in Section 9.1(a).

1.44 "IND" means an investigational new drug.

1.45 "Indemnified Party" has the meaning set forth in Section 8.7(c).

1.46 "Indemnification Claim Notice" has the meaning set forth in Section 8.7(c).

1.47 "IP Subcommittee" has the meaning set forth in Section 6.4.

1.48 "JDC" has the meaning set forth in Section 2.3(a).

1.49 "JDC Deadlock" has the meaning set forth in Section 2.3(d).

1.50 "Jointly-Owned Program Patents" has the meaning set forth in Section 6.2(c).

1.51 "Know-How" means all commercial, technical, scientific and other know-how and information, trade secrets, knowledge, technology, methods, processes, practices, formulae, instructions, skills, techniques, procedures, experiences, ideas, technical assistance, designs, drawings, assembly procedures, computer programs, specifications, data and results (including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, preclinical, clinical, safety, manufacturing and quality control data and know-how, including study designs and protocols), in all cases, provided it is confidential and proprietary, and regardless of whether patentable, in written, electronic or any other form now known or hereafter developed.

1.52 "Law" or "Laws" means all laws, statutes, rules, regulations, orders, judgments, or ordinances having the effect of law of any federal, national, multinational, state, provincial, county, city or other political subdivision.

1.53 "License Agreement" means an Exclusive License Agreement or Non-Exclusive License Agreement.

1.54 "Licensed Product" means [*****] product comprised of (i) Lipid-mediated delivery systems, which are covered by Arcturus Lipid-Mediated Delivery Technology; and containing (ii) one or more mRNA Constructs as the active pharmaceutical ingredient(s) intended to express a Target which is subject to a License Agreement. In case of two or more mRNA Constructs these constructs may be contained in the same or separate LMDs. Licensed Product includes mRNA-LMD products which are administered jointly or separately, and mRNA-LMD products which are administered simultaneously or sequentially as a combination medicinal product or treatment. For Gene Editing purposes, a Licensed Product may contain other RNA(s) (i.e., Guide RNA(s)) and/or DNA Sequence(s) which can be delivered together or separately (combined in one LMD or delivered in separate LMDs), in addition to the one or more mRNA Constructs intended to express the DNA Editing Protein.

1.55 "LMD Technology" means Technology that claims, embodies or incorporates delivery systems (and components thereof) based on or incorporating lipid-mediated delivery (LMD) systems.

1.56 "Losses" has the meaning set forth in Section 8.7(a).

1.57 "Material Transfer Agreement" means the Material Transfer Agreement dated [*****], as amended from time to time.

1.58 "Materials" means any tangible chemical or biological material, including any compounds, LMD, DNA, RNA (including mRNA), clones, cells, and any expression product, progeny, derivative or other improvement thereto, along with any tangible chemical or biological material embodying any Know-How, Controlled by a Party.

1.59 "Maximum Target" has the meaning set forth in Section 4.2(d).

1.60 "mRNA Construct" means any mRNA construct for the expression of a protein, including the sequence of such construct (which potentially comprises one (1) or more of a cap, 5' UTR, the associated open reading frame, 3'UTR and a poly A tail), the chemistry of natural and non-natural nucleic acids, and other chemical modifications associated with such construct.

1.61 "mRNA Technology" means Technology that claims, embodies or incorporates expression systems (and components thereof), based on or incorporating mRNA.

1.62 "Non-Exclusive License Agreement" means a form Non-Exclusive License Agreement to be negotiated by the Parties within [*****] days following the execution of this Agreement, on the basis of the terms and conditions of the Exclusive License Agreement and taking into account the specific circumstances of a non-exclusive licensing Option exercise by CureVac. Such form Non-Exclusive License Agreement shall be incorporated by reference into this Agreement as **Exhibit 1.61**.

1.63 "Non-Rare Disease Target" means a Target that addresses at a first place an indication related to a Licensed Product with an incidence of equal to or more than [*****] in [*****] people in the U.S. or EU. The indication for which the first IND or CTA application will be filed will determine whether a Target is a Non-Rare Disease Target.

1.64 "Option" has the meaning set forth in Section 5.1

1.65 "Option Exercise Fee" has the meaning set forth in Section 5.3.

1.66 "Option Notice" has the meaning set forth in Section 5.1.

1.67 "Option Period" has the meaning set forth in Section 5.1.

1.68 "Patent(s)" means an (i) issued patent, a patent application, and a future patent issued from any such patent application, (ii) a future patent issued from a patent application filed in any country worldwide which claims priority from a patent or patent application of (i), and (iii) any additions, divisions, continuations, continuations-in-part, invention certificates, substitutions, reissues, reexaminations, extensions, registrations, utility models, supplementary protection certificates and renewals based on any patent or patent application under (i) or (ii), but not including any rights that give rise to regulatory exclusivity periods (other than supplementary protection certificates, which will be treated as "Patents" hereunder).

1.69 "Pre-Existing Restrictions" means, with respect to a Target on the Restricted Target List pursuant to Section 4.2(a), that Arcturus or its Affiliates have granted to a Third Party with respect to a Target a non-exclusive, co-exclusive or an exclusive license or option pursuant to a *bona fide* written agreement that is in effect at the time of a request by CureVac pursuant to Section 4.2.

1.70 "Program" means each program of activities using Arcturus LMD Technology and CureVac Technology for the development of a Licensed Product incorporating CureVac's mRNA Constructs that the Parties engage in under this Agreement pursuant to the Work Plan. "Programs" shall mean several or all of these programs, as the context admits.

1.71 "Program Improvement Technology" means Program Technology which constitutes an Improvement to either Party's or both Parties' Technology at the time such Improvement is discovered, created, conceived, developed or reduced to practice. Program Improvement Technology will be either Sole Improvement Technology of a Party or Dual Improvement Technology of the Parties. For the avoidance of doubt, Program Improvement Technology will not include any Improvement arising out of a Party's independent research and development efforts or collaborations with Third Parties, in each case conducted outside of the Program; *provided* that such Improvement is not developed based upon, using or with reference to the Technology, Confidential Information or Material of the other Party.

1.72 "Program Know-How" means all Know-How, including Know-How embodied in Materials, created, conceived, developed or reduced to practice in connection with activities performed pursuant to the Work Plan or using Formulated Product as set forth in the Work Plan under this Agreement (whether solely by or on behalf of one Party or jointly by or on behalf of the Parties).

1.73 "Program Technology" means all Program Know-How and all Patents directed to or disclosing such Program Know-How.

1.74 "Rare Disease Target" means a Target that addresses at a first place an indication related to a Licensed Product with an incidence of less than [*****] in [*****] people in the U.S. or EU. The indication for which the first IND or CTA application will be filed will determine whether a Target is a Rare Disease Target.

1.75 "Receiving Party" has the meaning set forth in Section 7.1.

1.76 "Records" has the meaning set forth in Section 3.3(a).

1.77 "Reserved Target" means a Target with respect to which CureVac shall have delivered to the Escrow Agent a Target Notice and in response thereto the Escrow Agent shall have delivered to CureVac a Target Response Notice under Section 4.2(c)(i) for such Target to become a Reserved Target. A Reserved Target that is replaced pursuant to Section 4.2 will no longer be deemed a Reserved Target.

1.78 "Reserved Target List" means collectively, the list of all Reserved Targets.

1.79 "Restricted Target List" has the meaning set forth in Section 4.2(a).

1.80 "Sole Improvement Technology" means, without regard to inventorship, an Improvement to one Party's Technology that is not also an Improvement to the other Party's Technology at the time such Improvement is discovered, created, conceived, developed or reduced to practice. For clarity, Sole Improvement Technology of a Party shall exist only with respect to activities of the Parties pursuant to this Agreement (i.e., not to any Improvement or Technology independently developed by one Party without the use of Technology of the respective other Party).

1.81 "Solely-Owned Program Know-How" has the meaning set forth in Section 6.2(c).

1.82 "Solely-Owned Program Patents" has the meaning set forth in Section 6.2(c).

1.83 "Solely-Owned Program Technology" has the meaning set forth in Section 6.2(c).

1.84 "Target" means

(a) up to N proteins (N = [*****]), including all possible combinations resulting from removing one of the N proteins (N minus [*****] proteins), together with all variants of such proteins, including the wild type, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments), and species homologs, orthologs thereof; provided, however, that any such naturally occurring variant, engineered variant, or species homolog or ortholog possesses substantially similar biological activity to the naturally occurring protein; and

(b) [*****] antigens of a given pathogen, including [*****] antigen and any combination of such antigens, together with all variants of such antigens, including the wild type, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments), and species homologs, orthologs thereof provided, however, that any such naturally occurring variant, engineered variant, or species homolog or ortholog possesses substantially similar biological activity to the naturally occurring antigen; and

(c) a DNA Target, provided, however, that the first DNA Target for each DNA Editing Protein would not count as a Target. Each subsequent DNA Target for this DNA Editing Protein would count as a Target. For clarity, a DNA Editing Protein would be defined as a Target under (a) above and count as a single Target.

If a given protein, *e.g.*, an antibody or enzyme, comprises separated amino acid chains which might be delivered by separated mRNA Constructs, such protein would be defined as one Target.

1.85 "Target Notice" has the meaning set forth in Section 4.2(b).

1.86 "Target Reservation Request Form" has the meaning set forth in Section 4.2 (b).

1.87 "Target Response Notice" has the meaning set forth in Section 4.2(c).

1.88 "Technology" means collectively Patents and Know-How.

1.89 "Term" has the meaning set forth in Section 9.1.

1.90 "Third Party" means any person or entity other than CureVac, Arcturus and their respective Affiliates.

1.91 "Third Party Claims" has the meaning set forth in Section 8.7(a).

1.92 "Work Plan" has the meaning set forth in Section 3.1(a).

1.93 "Work Plan Leaders" has the meaning set forth in Section 2.2.

1.94 "Work" means the activities to be performed by Arcturus pursuant to the Work Plan.

ARTICLE 2

Fee and Governance

2.1 **One-Time Fee**. In consideration for the rights granted by Arcturus to CureVac hereunder, including the right to reserve Targets in accordance with Section 4 below, within thirty (30) days as of the Effective Date, CureVac shall pay to Arcturus a one-time non-refundable fee of [*****].

2.2 Management. Management of the Program activities will be under the responsibility of the individual designated in writing within [*****] days of the Effective Date for Arcturus (the "Arcturus Work Plan Leader") and of the individual designated in writing within [*****] days of the Effective Date for CureVac (the "CureVac Work Plan Leader", and together with the Arcturus Work Plan Leader, the "Work Plan Leaders"). Each Work Plan Leader will be the primary point of contact for the other Party on all matters relating to the Program activities.

2.3 Joint Development Committee.

(a) ***Development Committee.*** As soon as practicable, the Parties will establish a Joint Development Committee, comprised of up to [*****] representatives of CureVac and up to [*****] representatives of Arcturus (the "JDC"). One such representative from each Party will be such Party's Work Plan Leader. Each Party may replace its Work Plan Leader and other JDC representatives at any time upon written notice to the other Party, provided, however, that each Party shall use Diligent Efforts to ensure continuity on the JDC. With the consent of the other Party (which will not be unreasonably withheld, delayed or conditioned), each Party may invite non-voting employees and consultants to attend meetings of the JDC, subject to their agreement to be bound to the same extent as a permitted subcontractor under Section 3.4.

(b) ***Meetings.*** While in existence, the JDC will meet each Calendar Quarter by teleconference, videoconference or in person and, at a minimum, one of such meetings each calendar year will be in person (which in-person meeting will be held on an alternating basis in Tubingen, Germany and in San Diego, CA), unless agreed otherwise by the JDC representatives. The JDC will have a quorum if at least one (1) representative of each Party is present or participating. Each Party will be responsible for all of its own expenses of participating in the committee meetings. The Parties will endeavor to schedule meetings of the JDC at least [*****] months in advance. The Parties will alternate in preparing the meeting agenda, and the Party that was responsible for preparing the meeting agenda will prepare and circulate for review and approval by the other Party written minutes of such meeting within [*****] days after such meeting. The Parties will agree on the minutes of each meeting promptly, but in no event later than the next meeting of the JDC.

(c) ***Responsibilities.*** The JDC will oversee and supervise the overall performance of the Work Plan, prepare and maintain minutes of meetings and provide a forum for discussion of the Programs and Work Plans, and within such scope will:

(i) review the efforts of the Parties and allocate those resources under the Work Plan committed by the Parties hereunder;

(ii) revise and approve any revisions to the Work Plan regularly and in any event at least [*****] days before the start of each Calendar Quarter during the Term;

(iii) coordinate the activities of the Parties under the Work Plan and oversee the implementation thereof;

(iv)form such other committees as the JDC may deem appropriate, provided that such committees may make recommendations to the JDC but may not be delegated JDC decision-making authority;

(v)address such other matters relating to the activities of the Parties under this Agreement as either Party may bring before the JDC, including any matters that are delegated to the JDC to decide as provided in this Agreement, such as CureVac's consent to subcontractors; and

(vi)attempt to resolve any disputes on an informal basis.

(d) ***Decision-making.*** The JDC will make decisions only by unanimous consent, with each Party having only one vote by its representatives (regardless of the number of each such representatives present from a Party). In the event the JDC is unable to reach agreement as to a matter within the JDC's jurisdiction (such event, a "JDC Deadlock"), upon the written request of a Party, such matter will be referred to a senior executive of each Party (the "Executive Officers") (or their designees, which designee is required to have decision-making authority on behalf of such Party), who will attempt in good faith to resolve such JDC Deadlock by negotiation and consultation for a [*****]- day period following receipt of such written notice. If, despite such efforts, agreement on a particular matter cannot be reached by the Executive Officers within such [*****]- day period, then CureVac shall have the final decision-making authority with respect to such JDC Deadlock, provided, however, that

(i)CureVac's final decision-making authority shall not apply if CureVac proposes (a) to amend the Work Plan to materially accelerate, decelerate, increase, add or remove planned activities to be performed by Arcturus thereunder, including significantly reducing or eliminating Arcturus' responsibilities for an activity thereunder; (b) to materially change the Arcturus resources required to perform the Work Plan activities, including the timing of such resources; or (c) to require allocation by Arcturus of FTEs materially greater than or less than those provided for in the Work Plan. For purposes of this Section 2.3(d), the term "materially" shall mean, in relation to resources and FTE amounts set forth in the Work Plan, [*****] percent ([*****]%) or more of the relevant resource or FTE, and

(ii)In the event that CureVac desires Work with respect to which it does not have final decision- making authority pursuant to Section 2.3(d)(i) or is otherwise materially outside of the Work Plan with respect to a Program, Arcturus shall consider any proposal from CureVac in writing in good faith.

(e) ***Limits on JDC Authority*****.** Each Party will retain the rights, powers and discretion granted to it under this Agreement and no such rights, powers, or discretion will be delegated to or vested in the JDC unless such delegation or vesting of rights is expressly provided for in this Agreement or the Parties expressly so agree in writing. The JDC will not have the power to amend, modify or waive compliance with this Agreement (other than as expressly permitted hereunder). Notwithstanding anything herein to the contrary, the JDC will not have the power to require any Party to perform any activities that are materially greater in scope or more costly than those provided for in the Work Plan then in effect
or otherwise under this Agreement.

ARTICLE 3

The Program

3.1 **Programs Generally**. The Parties will jointly conduct each Program. It is intended that Arcturus will be responsible for the lipid chemistry and LMD formulation using the Arcturus LMD Technology, and for characterization work, CureVac will be responsible for mRNA Construct development, and Arcturus and CureVac will each undertake preclinical studies as allocated in each Work Plan.

(a) ***Work Plan Preparation*.** The development activities to be undertaken by the Parties with respect to a Program will be described in a detailed written development plan (the "Work Plan"). The initial Work Plan includes a description of activities undertaken by the Parties under the Material Transfer Agreements and prior to the execution of this Agreement. The initial Work Plan, which will cover the initial twelve (12) months of the Program, is attached hereto as **Exhibit 3.1(a)**.

(b) ***Work Plan Contents*.** Each Work Plan will include (i) all activities to be undertaken by each Party with respect to a Program, including Arcturus' manufacture and supply of Formulated Product, (ii) a detailed budget of the FTE activities, FTE Costs and out-of-pocket costs to be incurred by Arcturus for which CureVac will reimburse Arcturus in connection with the performance of the Work, (iii) the Materials to be provided by one Party to the other, (iv) forecasting and ordering procedures for the Formulated Product, and (v) the projected timelines for completion of all activities set forth therein. The goal of each Work Plan and related Program will be to evaluate and produce tailored Arcturus LMD Technology formulations that are safe and efficacious for delivery of CureVac's mRNA Constructs and to advance the development of such mRNA-LMD formulations against a Target. Each Program will include activities with respect to Reserved Targets but may also include activities with respect to Targets that are not on the CureVac Reserved Target List. As defined in the Work Plan, CureVac will perform up to [*****] pivotal animal studies to make a go/ no go decision for a particular LMD composition for a given Target.

(c) ***Amendments to the Work Plan*.** Each Work Plan will be reviewed as necessary at each meeting of the JDC, and at any other time upon the request of either Party, and will be modified in accordance with the objectives defined in Section 3.1(b) and as appropriate at the direction of the JDC to reflect material scientific (and other) developments. Each Calendar Quarter, the JDC will update the Work Plans to cover the subsequent six (6) months of the Program in detail. In all events, the Work Plan will be consistent and not conflict with the terms of this Agreement, and in the event of any conflict between the Work Plan and this Agreement, the terms of this Agreement will control.

(d) ***Obligations Under the Work Plans***. During the Term, each Party will use Diligent Efforts and perform the Work in a professional manner and in accordance with the Work Plan, and each Party will use Diligent Efforts to meet the objectives and timelines set forth therein. It is understood that the activities and goals of the Work Plan are experimental and that successful results cannot be guaranteed. The Parties will otherwise conduct the Program on the terms and conditions set forth in this Agreement and in accordance with the Work Plan. Each Party will cooperate with and provide reasonably requested non-financial support to the other Party in such other Party's performance of its responsibilities under the Work Plan. The Parties will use Diligent Efforts to develop LMD formulations which do not infringe Third Party Technology. In addition to the reporting obligations set forth in Section 3.3(b), each Party will keep the other Party reasonably informed of such Party's activities under the Program and will reasonably consult with such other Party and consider such other Party's comments and advice with respect to all material decisions relating to such activities in good faith.

(e) ***Supply of Formulated Products.*** Arcturus will use Diligent Efforts to manufacture and supply CureVac with Formulated Product as set forth in the Work Plan.

(f) ***Technology Transfer to Contract Manufacturing Organization.*** Following CureVac's exercise of an Option and entry into a License Agreement, Arcturus will use Diligent Efforts to transfer the formulation process for the Licensed Products that are intended to express the intended Target to a reputable and competent GMP manufacturer selected by CureVac and reasonably acceptable to Arcturus. Arcturus and CureVac will agree on a technology transfer or other means to support availability of Licensed Products as part of the License Agreement. Specifically, the License Agreement will provide that upon written request by CureVac, Arcturus will conduct a technology transfer to CureVac and/or its designee(s). Such designee(s) may be an Affiliate, sublicensee or Third Party manufacturers, and which Third Party manufacturers may also be a backup manufacturer or a second manufacturer of Licensed Products as required for the applicable transferee of the then-current process.

3.2 FTEs.

(a) ***Generally.*** Arcturus will perform the Work under the Work Plan, and as part of the Program CureVac will fund up to [*****] scientists per year at Arcturus to perform the Work as defined and in accordance with the Work Plan for a period of up to [*****] months at the FTE Costs. The Parties may agree to extend the performance of Work by Arcturus for an additional year.

(b) ***FTEs.*** Arcturus shall ensure that those individuals selected by Arcturus to perform the Work and Services and otherwise support the activities to be undertaken by Arcturus pursuant to the Work Plan will have sufficient scientific expertise, skill, training and competency to perform the proposed work and have similar skills, training and competency as those FTEs employed by Arcturus to perform work on Arcturus' internal programs and for Third Parties. In the event that CureVac has concerns regarding the selection of an individual to perform the Work or other activities under this Agreement, the Parties will discuss such concerns in good faith.

(c) ***Reimbursement.*** CureVac will reimburse Arcturus on a Calendar Quarter-by-Calendar Quarter basis for FTE Costs incurred to conduct the Work Plan in accordance with the Work Plan or pre-agreed by the JDC. Arcturus will send a reasonably detailed invoice to CureVac no later than [*****] days after the end of each Calendar Quarter, which invoice shall include a summary of all activities by the name of each FTE, number of hours devoted by each such FTE, and activity performed by each such FTE during such Calendar Quarter. CureVac agrees to pay undisputed amounts in each such invoice within [*****] days of CureVac's receipt thereof. Any amounts subject to dispute shall be reviewed by the JSC and if not resolved within [*****] days, shall be subject to Section 10.1.

3.3 Program Records, Reports; Materials and Formulated Product.

(a) ***Records.*** Each Party will maintain, or cause to be maintained, records of its activities under a Program in sufficient detail and in good scientific manner appropriate for scientific, Patent and regulatory purposes, which will properly reflect all work included in a Program ("Records") for a period of at least [*****] years after the creation of such Records. CureVac will have the right to receive a copy of any such Records maintained by Arcturus which shall be used subject to the terms of this Agreement. Arcturus will have the right to receive a copy of any such Records maintained by CureVac to the extent such Records are required by Arcturus to exercise its rights or perform its obligations under this Agreement.

(b) ***Program Reports.*** During the Term, each Party will furnish to the JDC a summary written report within [*****] days after the end of each Calendar Quarter describing its progress under the Work Plan as part of a Program. Within [*****] days following expiration or earlier termination of this Agreement, each Party will furnish to the JDC a final summary written report. Arcturus shall promptly provide all additional information with respect to the Arcturus LMD Technology that is reasonably requested by CureVac and necessary or useful for CureVac to determine whether to exercise an Option with respect to any Target.

(c) ***Materials and Formulated Product.***

(i) The Parties will, during the Term, furnish to each other Materials which comprise, embody or incorporate CureVac Technology or Arcturus LMD Technology only as expressly set forth in the Work Plan.

(ii) Arcturus will furnish to CureVac the quantities of Formulated Product as set forth in the Work Plan. In the event requested in writing by CureVac, to furnish additional Formulated Product of up to [*****]% in excess of the total quantities set forth in the Work Plan for a Program, Arcturus shall use Diligent Efforts to supply such quantities. Arcturus shall consider in good faith furnishing additional quantities which may be required in the performance of the Program pursuant to any separate request by CureVac.

(iii) In addition, each Party will, upon the other Party's reasonable written request, furnish to such other Party other samples of Materials which comprise, embody or incorporate CureVac Technology or Arcturus LMD Technology that are in such Party's Control and are reasonable (both in quantity and identity) and useful for the other Party to carry out its responsibilities under the Work Plan, provided (A) such Materials are reasonably and readily available in excess of the providing Party's own requirements, and (B) supply of such Materials will not, in the providing Party's reasonable judgment, (1) conflict with the providing Party's internal or Third Party research programs, (2) conflict with the providing Party's internal policies regarding such Materials or (3) violate any agreement to which the providing Party is a party.

(iv) Each Party will use such Materials only in accordance with the Work Plan and otherwise in accordance with the terms and conditions of this Agreement, and the provision of Materials hereunder by either Party will not constitute any grant, option or license under any Patents or Know-How, except as expressly set forth herein. In any event, all Materials delivered to the receiving Party will remain the sole property of the providing Party and will be used in compliance with all applicable Laws. The Materials supplied under this Agreement will be used with prudence and appropriate caution in any experimental work, because not all of their characteristics may be known. In the event that the Parties enter into a License Agreement with respect to a Program, the Materials may be retained subject to such License Agreement.

(v) Except with the prior written consent of the supplying Party, the Party receiving any Materials will not distribute or otherwise allow the release of Materials to any Third Party, except, with respect to either Party, to any permitted subcontractors under Section 3.4 and, with respect to CureVac, to any Third Party licensee or assignee or potential licensee or assignee of CureVac Technology in accordance with this Agreement.

3.4 **Permitted Subcontracting.** Either Party may subcontract its activities to be performed under the Work Plan to a Third Party, provided that (i) Arcturus shall obtain, through the JSC, consent by CureVac for such subcontracting, such consent not to be unreasonably withheld, delayed or conditioned, and (ii) CureVac shall inform Arcturus about any subcontracting (including the identity of the subcontracting party and work to be performed) without undue delay, and in any event within [*****] Business Days of entry into the subcontracting agreement. Any such subcontracting Party will have entered into a written agreement with the subcontractor that

(a) includes terms and conditions protecting and limiting use and disclosure of Confidential Information and Materials and Know-How at least to the same extent as under this Agreement, and the subcontracting Party shall use Diligent Efforts to ensure compliance with the obligations of Confidentiality (including return or destruction on termination) as set forth in Article 7,

(b) provides for reasonable auditing rights, with regard to the work provided by the Third Party subcontractor, of the subcontracting Party and third parties authorized by the subcontracting Party, and

(c) requires such Third Party subcontractor and its personnel to assign to the subcontracting Party all right, title and interest in and to any Patents and Know-How and Materials created, conceived, developed or reduced to practice in connection with the performance of subcontracted activities pursuant to this Agreement, consistent with the requirements of Section 6, provided, however, that in the event of a subcontracting or sublicensing to a collaboration partner of CureVac, CureVac shall obtain at least a customary non-blocking, back-license of Improvements to Arcturus Background IP generated by or jointly with such collaborators of CureVac, i.e., a non-exclusive, royalty-free, and sublicensable license under the applicable Know-How and Patents generated (if any).

3.5 Program Licenses.

(a) ***By Arcturus.*** Subject to the terms and conditions of this Agreement, Arcturus hereby grants to CureVac a worldwide, non-exclusive license under the Arcturus LMD Technology, including the right to grant sublicenses, limited in accordance with this Section 3.5, to research and pre-clinically develop (including the right to manufacture for such purposes), but expressly without the right to clinically develop or commercialize (including the right to manufacture for such purpose) except with the prior written consent of Arcturus) and in any event solely to the extent necessary:

(i) to enable CureVac, Affiliates of CureVac and subcontractors selected in accordance with Section 3.4 to perform CureVac's activities set forth in the Work Plan,

(ii) to conduct research projects with academic partners (any such agreements of which (i) shall include back-licenses or grants of rights by the academic partner to Patents and Know-How (other than data) to meet the requirements of Section 6 and (ii) will not require Arcturus to enter into a license agreement with or make payments to such academic partner in order for Arcturus to use and exploit the Arcturus Background Technology), and

(iii) to permit, under confidentiality and non-use restrictions in accordance with this Agreement, to Third Party collaborators of CureVac who license or intend to license CureVac Technology to explore the Arcturus LMD Technology (any such agreements of which shall include back- licenses by the Third Party collaborator to Patents and Know-How (other than data) consistent with the requirements of Section 6).

(b) ***By CureVac.*** Subject to the terms and conditions of this Agreement, CureVac hereby grants to Arcturus a worldwide, non-exclusive license under CureVac Technology, solely to the extent necessary to enable Arcturus to perform its activities set forth in the Work Plan and for no other purpose. The foregoing license shall not include the right to grant sublicenses, except to permitted subcontractors in accordance with Section 3.4.

(c) ***No Other Licenses.*** No license or right is or will be created or granted hereunder by implication, estoppel or otherwise. All licenses and rights are or will be granted only as expressly provided in this Agreement.

ARTICLE 4

Reserved Targets

4.1 **Generally.** CureVac will select the Targets that will be the subject of the Works to be performed as part of a Program from the Reserved Target List. CureVac shall have the right, but not the obligation, to reserve Targets (or replace a Reserved Target with a new Target) in accordance with this Article 4.

4.2 **Restricted Target List.**

(a) ***Pre-existing Restrictions.*** Arcturus shall maintain at the Escrow Agent an updated monthly (as of the final day of each month) list of Targets that are subject to Pre-Existing Restrictions (the "Restricted Target List"). The Restricted Target List will identify whether the Pre-Existing Restrictions are exclusive, non-exclusive or co- exclusive. Arcturus represents, warrants and covenants to CureVac that (i) the Restricted Target List is and will at all times be accurate in accordance with this Section 4.2(a); and (ii) Arcturus or the Escrow Agent will not add any Reserved Targets to the Restricted Target List or grant to any Third Party any licenses or options under the Arcturus LMD Technology with respect to the then current Reserved Target List that would preclude Arcturus from entering into a License Agreement with respect to such Reserved Target as set forth herein.

(b) ***Target Notices***.

(i) If CureVac desires to include a Target as a Reserved Target hereunder, CureVac will notify the Escrow Agent in writing (with contemporaneous information in writing to Arcturus about the notification to the Escrow Agent) of the Targets for potential inclusion on the Reserved Target List, which notice will provide (i) the information on the Target Reservation Request Form attached hereto as **Exhibit 4.2**; and (ii) the identity of each Reserved Target (if any) that CureVac desires to remove as a Reserved Target (each such notice, a "Target Notice"). For clarity, the Target Notices shall not include more Targets than the Maximum Targets then available (taking into consideration any removed Targets previously reserved) and shall be deemed to be a request for an exclusive license at the outset unless there is a Pre-Existing Restriction. For clarity, CureVac's rights to enter into a Non-Exclusive License Agreement shall apply only if the Pre- Existing Restriction permits a non-exclusive license right to such proposed Reserved Target.

(ii) Notwithstanding the formal Target reservation mechanism described herein, Arcturus and the Escrow Agent will in good faith respond to any interim requests (not to exceed [*****] per month) on whether certain Targets can be reserved as Reserved Targets prior to the monthly consideration date, in order to assist CureVac in planning of development projects. For clarity, the interim requests shall not include more Targets than the Maximum Targets then available (taking into consideration any removed Targets previously reserved). In case of an interim request, the Escrow Agent (i) will request from Arcturus an update of the Reserved Target List, such update to be provided by Arcturus to the Escrow Agent within [*****] Business Days of the request, and (ii) provide CureVac with a Target Response Notice in accordance with subsection (c).

(c) ***Target Response Notices.***

(i) The Escrow Agent, on behalf of Arcturus, will review each Target Notice provided by CureVac hereunder to determine whether or not any such proposed Target is on the Restricted Target List and if listed, the applicable Pre-Existing Restriction as of the date of such Target Notice. Within [*****] days of the Escrow Agent's receipt of a Target Notice, the Escrow Agent will provide CureVac with written notice that includes the information set forth in subsection (c)(ii) and (iii) (each such notice, a "Target Response Notice").

(ii) If, as of the date of CureVac's Target Notice for a Target, such Target is on the Restricted Target List and is listed as being subject to Pre-Existing Restrictions that restrict Arcturus from granting the applicable license (i.e., an exclusive or non-exclusive license in accordance with a License Agreement) to CureVac under the Arcturus LMD Technology with respect to such Target, then such Target shall not be available to become a Reserved Target. The Target Response Notice issued for such Target will certify to CureVac that such Target is on the Restricted Target List and is listed as being subject to Pre-Existing Restrictions that restrict Arcturus from granting the applicable license.

If, as of the date of CureVac's Target Notice for a Target, such Target is not listed on the Restricted Target List, then such Target will become a Reserved Target and will be added to the Reserved Target List subject to the Concurrent Reserved List Limits set forth in subsection (d) below. To the extent that the Pre-Existing Restriction is non-exclusive, then such Target may be added by CureVac to Reserved Target List, but CureVac shall only have the option to enter into a Non- Exclusive License Agreement.

(d) ***Concurrent Reserved List Limits and Removal of Targets.*** The following concurrent reserved list limits will apply to all Reserved Targets ("Concurrent Reserved List Limits").

(i) Reserved Targets and Removal thereof. CureVac may select Reserved Targets up to the totals allowed for in subparagraph (ii) below, in accordance with the process specified in Sections 4.2(b) and (c). CureVac shall have the right to remove a Target or replace a Target on the Reserved Target List with another Target, in accordance with the process specified in Section 4.2(b), provided (A) the total number of Targets on the Reserved Target List does not exceed the Maximum Targets at any one time; and (B) a newly nominated Target is not on the Restricted Target List. Any abandoned Target(s) revert(s) back to Arcturus.

(ii) Maximum Number Reserved Targets. CureVac will have the right to select up to [*****] Targets at any one time to be placed on the Reserved Target List as exclusive Reserved Targets; provided that the [*****] total shall be reduced by each exercise of an Option (the "Maximum Targets") (e.g., [*****], with such reduction in the total Targets applying from and after the date of exercise of an Option.

(iii) For clarification, the selection of any program under the Co-Development Agreement shall not constitute the selection of a Target in accordance with this Section 4.2. If one of the Reserved Targets is selected for co-development under the Co-Development Agreement, such Reserved Target shall be removed from the Reserved Target List with the effect that CureVac shall be entitled to nominate a new Target in accordance with this Section 4.2.

4.3 Expiration of Pre-Existing Restrictions. If any Pre-Existing Restrictions identified in a Target Response Notice that precluded Arcturus from granting CureVac a license (whether or not CureVac has elected to designate such Target on the Reserved Target List on a non-exclusive basis subject to the Pre-Existing Restriction) under the Arcturus LMD Technology later expire or otherwise are modified or terminate such that Arcturus is no longer precluded under the terms of the applicable Third Party agreement from granting a license to CureVac with respect to such Target, the Escrow Agent will notify CureVac of such event and CureVac will have an exclusive option, for a period of [*****] days following delivery of notice to CureVac, to add (or extend its rights as identified by the Escrow Agent with respect to) such Target to the Reserved Target List as a Reserved Target in accordance with Section 4.2(c), subject to the Concurrent Reserved List Limits. For clarity, CureVac will at all times thereafter have the right to provide a Target Notice for such Target to the Escrow Agent pursuant to Section 4.2(b) but such Target Notice will be subject to any intervening Pre-Existing Restrictions.

4.4 Escrow Agent. Arcturus shall ensure that the Escrow Agent meets the requirements set forth herein. All costs and expenses incurred through the Escrow Agent will be borne by Arcturus.

ARTICLE 5

CureVac License Options

5.1 Option.

(a) From the period commencing on the Effective Date and ending on the expiration of the Term (the "Option Period"), CureVac will have a total of [*****] options (each, an "Option"), on a Reserved Target-by-Reserved Target basis, to enter into a maximum of [*****] licenses under the Arcturus LMD Technology with respect to the development, manufacture and commercialization of Licensed Products containing mRNA Constructs intended to express such Reserved Target in the form of the License Agreement, *provided, however*, that

(i) to the extent the Reserved Target is only available on a non-exclusive basis, the Parties shall enter into a Non-Exclusive License Agreement, and

(ii) the appendices to the License Agreement are to be prepared or updated for each specific Target, in accordance with the terms of this Agreement.

(b) CureVac may exercise each such Option by providing to Arcturus, prior to the expiration of the Term, irrevocable written notice of Option exercise, setting forth the particular Reserved Target which is intended to be expressed by the Licensed Products (each such notice, an "Option Notice"). A separate Option Notice and Option Exercise Fee will be required for each License Agreement with respect to which CureVac exercises an Option pursuant to this Section 5.1, and CureVac will pay to Arcturus the Option Exercise Fee for each such License Agreement as set forth in Section 5.3. If not exercised prior to the expiration of the Term, the Options granted to CureVac under this Article 5 will terminate in full and will no longer be exercisable. In the event that CureVac terminates a license(s) during the Term, the Target(s) subject to the license(s) will be removed from the Reserved Target List and the number of remaining Options and/or License Agreements shall be reduced by one (1) (i.e., the exercise of an Option reduces the total number of Options remaining by one regardless of whether CureVac elects to continue such License Agreement in effect).

(c) In the event that CureVac terminates a License Agreement during the Term, no additional or replacement Options shall be granted or reinstated and the Target(s) subject to such license(s) will no longer be available as a Target pursuant to this Agreement.

5.2 CureVac's Exercise of Option. As soon as practicable following CureVac's delivery of an Option Notice to Arcturus but in any event within [*****] Business Days, CureVac and Arcturus will enter into a License Agreement with respect to the Reserved Target for which such Option Notice is provided, provided, however, that if the Parties fail to prepare the appendices to the License Agreement in accordance with Section 5.1(a)(ii) within [*****] Business Days following CureVac's delivery of an Option Notice to Arcturus, the License Agreement with respect to the Reserved Target shall nevertheless enter into force (including payment obligations of CureVac in accordance with the terms of the License Agreement) and the Parties shall complete the appendices as soon as practicable thereafter.

5.3 Option Exercise Fee. If CureVac exercises its Option for a Rare Disease Target pursuant to Section 5.1, CureVac shall pay an Option Exercise Fee of [*****]; and if CureVac exercises its Option for a Non-Rare Disease Target pursuant to Section 5.1, CureVac shall pay an Option Exercise Fee of [*****], hereinafter both the "Option Exercise Fee". Within [*****] Business Days after exercise of the Option for Licensed Product(s), Arcturus will issue an invoice to CureVac for the Option Exercise Fee. Each such payment will be subject to entry into the License Agreement and due within [*****] days after CureVac's receipt of such invoice from Arcturus.

5.4 Co-Development Agreement. For clarification, the selection of any program under the Co-Development Agreement shall not constitute the exercise of an Option in accordance with this Section 5, and, accordingly, no Option Exercise Fee will be payable and any paid Option Exercise Fee shall credited against any other payments by CureVac applied first to any outstanding payment obligations to Arcturus, and to the extent any remaining amounts remain creditable, then to the next due future payment obligations.

5.5 Enablement. Arcturus will (a) with respect to any Reserved Targets, during the Term remain entitled to grant to CureVac the licenses to the Patents and the Know-How within the Arcturus Background Technology under a License Agreement, and (b) subject to the unrestricted rights of Arcturus and its Affiliates to grant to a Third Party a non-exclusive, co- exclusive or an exclusive license or option with respect to a Target, use reasonable efforts to allow the potential for License Agreements to be available for Targets identified by CureVac to Arcturus for research and for election to become a Reserved Target pursuant to this Agreement during the Term.

ARTICLE 6

Background Technology; Ownership of Program Technology

6.1 Disclosure of Program Know-How. Each Party will promptly (and at least on a Calendar Quarterly basis) disclose to the other Party any Program Know-How that is created, conceived or reduced to practice by or on behalf of such Party and owned by the other Party pursuant to Section 6.2(c), and will provide such documentation regarding the Program Know-How as such other Party may reasonably request.

6.2 Ownership.

(a) ***CureVac Background Technology***. As between the Parties, CureVac will continue to own all right, title and interest in and to the CureVac Background Technology.

(b) ***Arcturus Background Technology***. As between the Parties, Arcturus will continue to own all right, title and interest in and to the Arcturus Background Technology.

(c) ***Program Technology*.**

(i) Except as set forth in subsections (iii) and (iv) below, each Party will solely own all right, title and interest in and to all Program Technology that is discovered, created, conceived, developed or reduced to practice solely by or on behalf of such Party ("Solely-Owned Program Know-How"), and all Patents arising therefrom that claim such Solely-Owned Program Know-How ("Solely-Owned Program Patents" and together with the Solely-Owned Program Know-How, the "Solely-Owned Program Technology") and all right, title and interest in and to all Solely-Owned Technology will automatically vest solely in such Party. For clarity, Solely-Owned Program Technology shall not exist with respect to any Dual Improvement Technology and in the event of any conflict, such Know-How and Patents shall be deemed Dual Improvement Technology.

(ii) Except as set forth in subsections (i) above and (iii) below, the Parties will jointly own in equal share any and all Program Technology that is not Sole Improvement Technology or that is Dual Improvement Technology ("Jointly-Owned Program Technology"). All Know-How in Jointly- Owned Program Technology shall be referred to as "Jointly-Owned Program Know-How" and all Patents in Jointly-Owned Program Technology shall be referred to as "Jointly-Owned Program Patents". Each Party will have an undivided one-half interest in and to such Jointly- Owned Program Technology.

Arcturus will have a right to grant licenses (with the right to grant sublicenses through multiple tiers) to CureVac's share in such Jointly-Owned Program Technology to exercise and exploit the Arcturus LMD Technology, *provided, however*, that

(A) Arcturus shall not have the right to grant licenses to Jointly-Owned Program Know-How and Jointly-Owned Program Patents with respect to mRNA Constructs or DNA Targets to a Third Party

(x) prior to and within the first [*****] immediately following the filing of the respective Jointly-Owned Program Patent without CureVac's prior written consent and

(y) during [*****] after the period specified in (a), without offering to CureVac the first right to obtain such license(s) on substantially similar financial and other terms and conditions agreed with the Third Party, such right to be exercised by CureVac within [*****] days following CureVac's receipt of a written notification from Arcturus about its intention to grant such license(s) to a Third Party, such notification to include the material financial and other terms and conditions of such license and other material information relevant for such license(s); and

(B) CureVac will have a right to grant licenses (with the right to grant sublicenses through multiple tiers) to Arcturus' share in such Jointly-Owned Program Technology to exercise or exploit the CureVac Technology and the Program Technology, which license grant may be exclusive with respect to a Licensed Product only pursuant to a License Agreement,

i.e., subject to (A) and (B) above, neither Party is to be blocked or limited in the use of or rights to license and sublicense its own Technology by Jointly-Owned Program Technology; the Parties agree that the licenses (as between the Parties) to the respective other Party's share in such Jointly- Owned Program Technology shall be perpetual, irrevocable, non-exclusive, cost-free license, subject to the licenses hereunder or under any License Agreement.

The Jointly-Owned Program Technology shall be assignable only (A) with the applicable, rights, restrictions and obligations in this Agreement and (B) subject to notification from the assigning Party to the other Party about the assignment and a written confirmation from the assignee to be bound by the applicable, rights, restrictions and obligations in this Agreement with respect to the assigned Jointly-Owned Program Technology. In any event, the ownership rights in Jointly-Owned Program Technology remain subject to the licenses hereunder or under any License Agreement, other intellectual property rights of the other Party and the other terms and conditions of this Agreement.

To the extent any Jointly-Owned Program Technology is discovered, created, conceived, developed or reduced to practice solely or predominantly by or on behalf of one Party, then such Party, for itself and on behalf of its and its Affiliates' employees, subcontractors (subject to Section 3.4), consultants and agents, hereby assigns, a share of its interest in and to such Jointly-Owned Program Technology to the other Party, so that each Party owns an undivided one-half interest.

(iii) Notwithstanding subsections (i) and (ii) above,

(A) Arcturus will solely own any Program Improvement Technology that is Sole Improvement Technology to any Arcturus Background Technology, regardless of the Party or Parties such Sole Improvement Technology was discovered, created, conceived, developed or reduced to practice by or on behalf of, and CureVac, for itself and on behalf of its and its Affiliates' employees, subcontractors (subject to Section 3.4), consultants and agents, hereby assigns all of its rights, title and interest in such Sole Improvement Technology to Arcturus.

(B) CureVac will solely own any Program Improvement Technology that is Sole Improvement Technology to any CureVac Background Technology, regardless of the Party or Parties such Sole Improvement Technology was discovered, created, conceived, developed or reduced to practice by or on behalf of, and Arcturus, for itself and on behalf of its and its Affiliates' employees, subcontractors (subject to Section 3.4), consultants and agents, hereby assigns, all of its rights, title and interest in such Sole Improvement Technology to CureVac.

(C) For clarity, nothing herein shall prevent (1) Arcturus from independently developing, owning and using outside of a Program any Know-How that is similar or related to any CureVac Technology, and (2) CureVac from independently developing, owning and using outside of a Program any Know-How that is similar or related to any Arcturus LMD Technology, provided that in each case such Know-How is not developed based upon, using or with reference to CureVac Technology or Arcturus LMD Technology, respectively. All of the respective independently developed intellectual property pursuant to this Section (iii)(C) shall be deemed Arcturus Background Technology and CureVac Background Technology, respectively.

(iv)***Dual Improvements***. To the extent that a particular item of Program Technology constitutes Dual Improvement Technology, the Parties shall discuss in good faith whether any such Dual Improvement Technology can be divided, assigned and owned in accordance with subsection (iii) (A) and (B) above, or made subject to separate Patent filings to be assigned accordingly; and to the extent no such division is possible, the Dual Improvement Technology shall be treated as Jointly-Owned Program Technology in accordance with Section 6.2(c)(ii).

(v) Each Party hereby agrees to take, upon the request of the other Party, any reasonable action to implement and give effect to the assignments and grants that the Parties intended, or a Party agreed to make, in this Section 6.2(c), including, without limitation, executing any assignment document and other documentation, provide any testimony, and provide any other assistance.

6.3 Inventorship.

(a) Inventorship determination for all Program Technology, including Patents worldwide arising from any Program Know-How, will be made in accordance with applicable patent laws. Notwithstanding the previous sentence, ownership determinations for all Program Technology, as between the Parties, will be made in accordance with Section 6.2(c).

(b) Each Party will ensure that each employee, consultant and each subcontractor conducting any activities under this Agreement on behalf of such Party will be subject to written agreements to assign to such Party all of its right, title and interest in and to the Program Technology so that such Party can comply with its obligations with respect to the ownership allocation of the Program Technology as set forth above. In addition, each Party shall be solely responsible for payments that may be required to any of such Party's employees or consultants and subcontractors in connection with or with respect to such agreements, including moral rights payments.

6.4 Prosecution and Maintenance.

(a) ***IP Subcommittee.*** The JDC shall establish a subcommittee regarding the Arcturus Background Technology and the Program Technology ("**IP Subcommittee**"). Sections 2.3(a) and (b) shall apply accordingly to the IP Subcommittee. In particular, in the IP Subcommittee, each Party shall

(i) promptly notify the other Party with respect to all developments regarding the Arcturus Background Technology and the Program Technology significant for the development under any Work Plan and/or all developments that would reasonably be considered to negatively impact the rights of CureVac pursuant to this Agreement or any License Agreement,

(ii) provide to the other Party information about the status of and the general strategy in relation to Patents with respect to Programs included in the Arcturus Background Technology, CureVac Background Technology and Program Technology as may be applied to any Program or potential Licensed Product in order to enable the other Party to provide input regarding the strategy for the prosecution of such Patents with a view to enabling potential Licensed Products and/or enhancing the potential strength of the Arcturus Background Technology and Program Technology generally, and

(iii) to directly or through appropriately qualified designees, consult with the prosecuting Party and its counsel regarding prosecution and maintenance of any such Patents as may be applied to any Program or potential Licensed Products without the requirement of a meeting of the IP Subcommittee, it being understood that in such consultation the prosecuting Party shall take the other Party's comments reasonably into account, *provided, however*, that the prosecuting Party will have the right to make the final determination in the event of any disagreement between the Parties related to any decision in connection with the filing, prosecution and maintenance of such Patents.

For clarity, the discussions regarding the general strategy and any particular Patents shall not require either Party to disclose the confidential information of any Third Party whose rights, information or data may be implicated in any such Patents or Know-How.

(b) ***CureVac Patents.*** As between the Parties, CureVac shall have the sole right, but not the obligation, to file, prosecute, and maintain (at its sole expense) Patents within CureVac Background Technology and Sole Improvement Technology to any CureVac Background Technology (collectively "**CureVac Sole Patents**") at its sole expense.

(c) ***Arcturus Patents.***

(i) Subject to the remainder of this Section 6.4 and to any License Agreement, as between the Parties, Arcturus shall have the sole right, but not the obligation, to file, prosecute, and maintain (at its sole expense) Patents within Arcturus Background Technology and Sole Improvement Technology to any Arcturus Background Technology (collectively "**Arcturus Sole Patents**") at its sole expense.

(ii) In relation to Patents within Sole Improvement Technology with respect to which CureVac has delivered an Option Notice, if Arcturus intends to abandon such Patent, it shall notify CureVac sufficiently in advance, and subject to any License Agreement, CureVac shall have the right to take over ownership of and prosecute, maintain such Patent at its sole expense, which Patent shall then be considered a CureVac Program Patent.

(iii) Arcturus shall, during the Term, based on information with respect to Targets and Reserved Targets disclosed by CureVac to Arcturus and existing Programs, use Diligent Efforts to enable the rights to the Options (and License Agreements) available to CureVac pursuant to this Agreement; provided that nothing herein shall limit the rights of Arcturus and Affiliates to grant to a Third Party a non-exclusive, co-exclusive or an exclusive license or other option with respect to any Target that is not a Reserved Target or otherwise subject to a License Agreement.

(d) ***Jointly-Owned Program Patents***. Subject to the remainder of this Section 6.4 and to any License Agreement, CureVac will have the first right, but not the obligation to file, prosecute, and maintain Jointly-Owned Program Patents, and the Parties shall share equally all costs incurred by CureVac in connection with such efforts. CureVac shall, regarding the Jointly-Owned Program Patents,

(i)promptly notify Arcturus in writing with respect to all significant developments,

(ii)provide Arcturus with drafts of each material filing (including without limitation draft patent applications and responses to office actions and similar filings) for all such Patents,

(iii)provide to Arcturus all other material submissions and correspondence with any patent authorities regarding such Patents, in sufficient time in advance of the anticipated filing date (not to be less than [*****] days) to allow for review and comment by Arcturus

(iv)provide Arcturus and its counsel with an opportunity to consult with CureVac and its counsel regarding prosecution and maintenance of any such Jointly-Owned Program Patents, and shall, prior to filing, revise such documents to reflect Arcturus's reasonable comments, provided that CureVac will have the right to make the final determination in the event of any disagreement between the Parties

related to any decision in connection with the filing, prosecution and maintenance of such Jointly- Owned Program Patents.

(v)If CureVac intends to abandon such Jointly-Owned Program Patent, it shall notify Arcturus sufficiently in advance, and subject to any License Agreement, Arcturus shall have the right to take over ownership of and prosecute, maintain such Patent at its sole expense, which Patent shall then be considered an Arcturus Sole Patent.

(e) ***Information Regarding Arcturus Patents***. Arcturus will provide semi-annual updates on the status of the Arcturus Sole Patents with respect to any Programs and Reserved Targets during the Term.

(f) ***Cooperation.*** Each Party will reasonably cooperate with the other Party in the prosecution and maintenance of the Patents within the Program Technology. Such cooperation includes promptly executing all documents, or requiring inventors, subcontractors, employees and consultants to execute all documents, as reasonable and appropriate so as to enable the prosecution and maintenance of any such Patents in any country.

6.5 **Patent Enforcement and Defense**.

(a) ***Notice.*** To the extent not in breach of an obligation of confidentiality,

(i)Arcturus will promptly notify, in writing, CureVac upon learning of any actual or suspected infringement of any CureVac Sole Patents and Jointly-Owned Program Patents by a Third Party, or of any claim of invalidity, unenforceability, or non-infringement of any such Patents, and will, along with such notice, supply CureVac with any evidence in its possession pertaining thereto, and

(ii) CureVac will promptly notify Arcturus, in writing, upon learning of any actual or suspected infringement of any Arcturus Sole Patents by a Third Party, or of any claim of invalidity, unenforceability, or non-infringement of any such Patents, and will, along with such notice, supply Arcturus with any evidence in its possession pertaining thereto.

(b) ***Enforcement.*** As between the Parties and subject to any License Agreement,

(i) Arcturus will have the sole right, but not the obligation, to seek to abate any infringement of the Arcturus Sole Patents by a Third Party, or to file suit against any such Third Party for such infringement, *provided* that Arcturus shall bear all the expense of such suit or abatement of infringement, and

(ii) CureVac will have the sole right, but not the obligation, to seek to abate any infringement of the CureVac Sole Patents and Jointly-Owned Program Patents by a Third Party, or to file suit against any such Third Party for such infringement; *provided* that CureVac shall bear all the expense of such suit or abatement of infringement.

(c) ***Defense.*** As between the Parties and subject to any License Agreement, Arcturus will have the sole right, but not the obligation, to defend against a declaratory judgment action or other action challenging any Arcturus Sole Patents and Jointly-Owned Program Patents; *provided* that Arcturus shall bear all the expense of such defense. As between the Parties and subject to any License Agreement, CureVac will have the sole right, but not the obligation, to defend against a declaratory judgment action or other action challenging the CureVac Patents; *provided* that CureVac shall bear all the expense of such defense.

(d) ***Withdrawal, Cooperation and Participation.*** With respect to any infringement or defensive action identified above in this Section 6.5 which may be controlled by either CureVac or Arcturus, and subject to any License Agreement:

(i) If the controlling Party ceases to pursue or withdraws from such action, it will promptly notify the other Party (in good time to enable the other Party to meet any deadlines by which any action must be taken to preserve any rights in such infringement or defensive action) and such other Party may substitute itself for the withdrawing Party, shall be granted the right and standing to sue in the other Party's name, and proceed under the terms and conditions of this Section 6.5.

(ii) The non-controlling Party will cooperate with the Party controlling any such action (as may be reasonably requested by the controlling Party), including (A) providing access to relevant documents and other evidence, (B) making its and its Affiliates and licensees and sublicensees and all of their respective employees, subcontractors, consultants and agents available at reasonable business hours and for reasonable periods of time, but only to the extent relevant to such action, and (C) if necessary, by being joined as a party, subject for this clause (C) to the controlling Party agreeing to indemnify such non-controlling Party for its involvement as a named party in such action and paying those reasonable, documented, out- of-pocket costs and expenses paid to outside legal counsel, and filing and maintenance expenses, actually and reasonably incurred by a Party in prosecuting and maintaining Patents and enforcing and defending them, incurred by such Party in connection with such joinder. The Party controlling any such action will keep the other Party updated with respect to any such action, including providing copies of all documents received or filed in connection with any such action.

(iii) Each Party will have the right to participate or otherwise be involved in any such action controlled by the other Party, in each case at the participating (i.e., non-controlling) Party's sole cost and expense. If a Party elects to so participate or be involved, the controlling Party will provide the participating Party and its counsel with an opportunity to consult with the controlling Party and its counsel regarding the prosecution of such action (including reviewing the contents of any correspondence, legal papers or other documents related thereto), and the controlling Party will take into account reasonable requests of the participating Party regarding such enforcement or defense.

(e) ***Settlement.*** Neither Party will settle or consent to an adverse judgment in any action described in this Section 6.5 and controlled by such Party, including any judgment which affects the scope, validity or enforcement of any Patents owned by the other Party, without the prior written consent of the other Party (such consent not to be unreasonably withheld, delayed or conditioned).

(f) ***Damages.*** Unless otherwise agreed by the Parties, all monies recovered upon the final judgment or settlement of any action which may be controlled by either CureVac or Arcturus and described in Section 6.5 in each case will be used first to reimburse the controlling Party, then the non-controlling Party, for each of their out-of-pocket costs and expenses relating to the action, with the balance of any such recovery to be retained by the controlling Party.

6.6 ***Updates.*** Arcturus shall inform CureVac within [*****] Business Days in writing of any significant developments with respect the Arcturus Program Technology that would reasonably be considered to negatively impact the rights of CureVac pursuant to this Agreement or any License Agreement.

ARTICLE 7

Confidentiality

7.1 **Confidential Information**. Each Party ("Disclosing Party") may disclose to the other Party ("Receiving Party"), and Receiving Party may acquire during the course and conduct of activities under the Agreement, certain Confidential Information of Disclosing Party in connection with this Agreement. Notwithstanding the foregoing, either Party may use and disclose Jointly-Owned Program Technology in connection with such Party's permitted exploitation of such Technology, provided that the recipient is bound by confidentiality obligations corresponding to the obligations under this Agreement with respect to the subject matter of this Agreement.

7.2 **Restrictions.** During the Term and for [*****] years thereafter, Receiving Party will keep all Disclosing Party's Confidential Information in confidence with the same degree of care with which Receiving Party holds its own confidential information, but in no event less than reasonable care. Receiving Party will not use Disclosing Party's Confidential Information except for in connection with the performance of its obligations and exercise of its rights under this Agreement or any License Agreement. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent to Receiving Party's Affiliates, and each of their employees, subcontractors (subject to Section 3.4) and consultants or agents who have a need to know such Confidential Information in order to perform its obligations and exercise its rights under this Agreement or any License Agreement and who are under written obligation to comply with the restrictions on use and disclosure that are no less restrictive than those set forth in this Article 7. Receiving Party assumes responsibility for such entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

7.3 **Exceptions.** Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information will not apply to a specific portion of the Disclosing Party's Confidential Information to the extent that Receiving Party can demonstrate that such portion: (i) was known to Receiving Party or any of its Affiliates prior to the time of disclosure by the Disclosing Party without obligation of confidentiality; (ii) is or becomes public knowledge through no fault or omission of Receiving Party or any of its Affiliates; (iii) is obtained on a non-confidential basis by Receiving Party or any of its Affiliates from a Third Party who to Receiving Party's knowledge is lawfully in possession thereof and under no obligation of confidentiality to Disclosing Party; or (iv) has been independently developed by or on behalf of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information as documented by the internal records of the Receiving Party.

7.4 **Permitted Disclosures.** The Receiving Party may only use any such Confidential Information for the purposes of performing its obligations or exercising its rights under this Agreement. Notwithstanding the obligations set forth in Sections 7.1 and 7.2, a Party may disclose the other Party's Confidential Information (including this Agreement and the terms herein) in the following instances to the extent reasonably required:

(a) in order to comply with applicable Law (including any securities Law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

(b) in connection with prosecuting or defending litigation, and filing, prosecuting and enforcing Patents in connection with Receiving Party's rights and obligations pursuant to this Agreement or a License Agreement;

(c) to attorneys, accountants, auditors, acquirers, licensees, partners, permitted assignees, financial advisors, investors and lenders, including potential acquirers, licensees, partners, assignees, financial advisors, investors and lenders;

provided that (1) where reasonably possible, Receiving Party will notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant to subsections (a) and (b) sufficiently prior to making such disclosure so as to allow Disclosing Party reasonably adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to subsection (c), each of those persons or entities are required to comply with the restrictions on use and disclosure in Section 7.2 (other than financial advisors, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

7.5 **Return of Confidential Information**. Upon expiry or earlier termination of the Agreement, upon written request of a Party (such request, if made, to be made within [*****] months of such expiry or termination) the other Party will destroy or return (as shall be specified in such request) to the requesting Party all copies of the Confidential Information of the requesting Party; provided that the Party may retain: (i) one copy of such Confidential Information for record-keeping purposes, for the sole purpose of ensuring compliance with this Agreement; (ii) any copies of such Confidential Information as is required to be retained under applicable Law; (iii) any copies of such Confidential Information as is necessary or useful for such Party to exercise a right or fulfill an obligation under a License Agreement, if any, or as set forth in this Agreement; and (iv) any copies of any computer records and files containing Confidential Information that have been created by such Party's routine archiving/backup procedures. Upon request of the requesting Party, the Receiving Party shall confirm in writing to the requesting Party the destruction or return of all copies of the Confidential Information of the requesting Party.

7.6 **Publications.** Notwithstanding anything in this Agreement to the contrary, Arcturus shall be permitted to publish the results of a Program only with the prior written consent of CureVac. Arcturus shall submit any proposed publication of the results of a Program to CureVac. Following receipt of the proposed publication by CureVac, CureVac will use Diligent Efforts to provide written approval or disapproval, at CureVac's discretion, within [*****] days. Expedited reviews for abstracts or poster presentations, or for other publications that may relate to potential patent applications, may be arranged if mutually agreeable to the Parties. CureVac is permitted to publish the results of a Program provided, however, that it will not disclose Arcturus Confidential Information in any publication by CureVac of the results of a Program or any Licensed Product development by CureVac without Arcturus' prior written consent, which will not be unreasonably withheld, conditioned or delayed in the event such Arcturus Confidential Information is reasonably required to support the results of a Program so published.

7.7 **Terms of this Agreement; Press Release**. The Parties agree that the existence and terms of the Parties' relationship and this Agreement will be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 7.4. Except as mutually agreed or otherwise required by Law or securities exchange regulation, each Party agrees not to issue any press release or public statement disclosing information relating to the existence of this Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party.

ARTICLE 8

Warranties; Limitations of Liability; Indemnification

8.1 Representations and Warranties. Each Party represents and warrants to the other as of the Effective Date that (a) it is a corporation duly organized, validly existing, and in good standing under the Laws of the jurisdiction in which it is incorporated, (b) it has the legal right and power to enter into this Agreement, to extend the rights and licenses granted or to be granted to the other in this Agreement, and to fully perform its obligations hereunder, (c) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder (d) this Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms, and (e) the execution, delivery and performance by a Party of this Agreement and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any understanding, contract or agreement to which such Party is a party or by which it is bound.

8.2 Additional Representations and Covenants of Arcturus. Arcturus hereby represents and warrants to CureVac as of the Effective Date as follows:

(a) ***Impairment***. Neither Arcturus nor any of its Affiliates has entered into any agreement or otherwise licensed, granted, assigned, transferred, conveyed or

otherwise encumbered or disposed of any right, title or interest in or to any of its assets, including any intellectual property rights including Know-How, that (i) conflicts with or impairs the scope of any rights or licenses granted to CureVac hereunder or (ii) to the knowledge of Arcturus, would otherwise conflict with or limit rights that would be granted to CureVac under any License Agreement.

(b) ***Patents***. **Exhibit 1.3** sets forth a complete and accurate list of all Patents included in the Arcturus Background Technology, indicating any licensor and/or co-owner(s), if applicable. Arcturus is entitled to grant to CureVac the licenses to the Patents and the Know-How within the Arcturus Background Technology for the purposes of this Agreement, including to enter into a License Agreement, subject to the rights of Arcturus and its Affiliates to grant to a Third Party a non-exclusive, co-exclusive or an exclusive license or option with respect to a Target. To Arcturus' knowledge, the Patents listed on **Exhibit 1.3** have been procured or are being procured from the respective patent offices in accordance with applicable Law. None of the Patents included in the Arcturus Background Technology listed on **Exhibit 1.3** is or has been involved in any opposition, cancellation, interference, reissue or reexamination proceeding, and to Arcturus' knowledge as of the Effective Date, no Arcturus Background Technology is the subject of any judicial, administrative or arbitral order, award, decree, injunction, lawsuit, proceeding or stipulation. As of the Effective Date, neither Arcturus nor any of its Affiliates has received any notice alleging that the Patents in the Arcturus Background Technology listed on **Exhibit 1.3** are invalid or unenforceable, or challenging Arcturus' ownership of or right to use any such rights.

(c) ***Arcturus LMD Technology.*** The Arcturus LMD Technology licensed to CureVac under this Agreement comprises all Arcturus LMD Technology Controlled by Arcturus (i) which is necessary or useful for purposes of this Agreement and (ii) to the knowledge of Arcturus, which would be necessary or useful for purposes of a License Agreement.

(d) ***Encumbrances.*** It has the right to grant the license and rights herein to CureVac and it has not granted any liens, security interest, encumbrance, license, right or interest in, to or under the Arcturus Background Technology to any Third Party that is inconsistent with the license granted to CureVac under Section 3.1.

(e) ***Litigation.*** There is no action, suit, proceeding or investigation pending or, to the knowledge of Arcturus, currently threatened against or affecting Arcturus that questions the validity of this Agreement or the right of Arcturus to enter into this Agreement or consummate the transactions contemplated hereby or that relates to the Arcturus LMD Technology.

(f) ***Infringement***. Neither Arcturus nor any of its Affiliates has received any written notice of any claim that, nor does Arcturus or its Affiliates have any knowledge of any claim, any Patent, Know-How or other intellectual property owned or controlled by a Third Party would be infringed or misappropriated by the practice of any Arcturus LMD Technology (i) in connection with the performance of this Agreement and (ii) to the knowledge of Arcturus, with respect to any product under a License Agreement.

(g) ***Third Party Infringement.*** To Arcturus' knowledge, no Third Party is infringing or has infringed any Patent within the Arcturus LMD Technology or is misappropriating or has misappropriated any Know-how within the Arcturus LMD Technology.

8.3 **Mutual Covenants.**

(a) **No Debarment**. In the course of the performance by the Parties, neither Party nor its Affiliates shall use any employee or consultant who has been debarred by any regulatory authority or, to such Party's or its Affiliates' knowledge, is the subject of debarment proceedings by a regulatory authority. Each Party shall notify the other Party promptly upon becoming aware that any of its or its Affiliates' employees or consultants has been debarred or is the subject of debarment proceedings by any regulatory authority.

(b) **Compliance**. Each Party and its Affiliates shall comply in all material respects with all applicable Laws (including all anti-bribery laws) in the performance of its obligations under this Agreement.

8.4 **No Other Warranties.** EXCEPT AS EXPRESSLY STATED IN THIS ARTICLE 8, (A) NO REPRESENTATION, CONDITION OR WARRANTY WHATSOEVER IS MADE OR GIVEN BY OR ON BEHALF OF ARCTURUS OR CUREVAC; AND (B) ALL OTHER CONDITIONS AND WARRANTIES WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING ANY CONDITIONS AND WARRANTIES OF MERCHANTABILITY, POTENTIAL FOR SUCCESS OF A PROGRAM, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

8.5 **No Consequential Damages.** Notwithstanding anything in this Agreement or otherwise, neither Party will be liable to the other or any Third Party with respect to any subject matter of this Agreement for any indirect or consequential damages, provided that this Section 8.5 will not apply to breaches of Article 6 or 7 or the Parties' indemnification rights or obligations under Section 8.7, or in the event of willful misconduct.

8.6 Performance by Others. The Parties recognize that each Party may perform some or all of its obligations under this Agreement through Affiliates, permitted subcontractors or other permitted Third Parties, provided, however, that each Party will remain fully responsible and liable for the performance by its Affiliates and/or permitted subcontractors and Third Parties and will cause its Affiliates, permitted subcontractors or other permitted Third Parties to comply with the provisions of this Agreement in connection therewith.

8.7 Indemnification.

(a) ***Indemnification by Arcturus***. Arcturus will indemnify CureVac, its Affiliates and their respective directors, officers, employees, Third Party licensors and agents, and their respective successors, heirs and assigns (collectively, "CureVac Indemnitees"), and defend and hold each of them harmless, from and against any and all losses, damages, liabilities, costs and expenses (including reasonable attorneys' fees and expenses) (collectively, "Losses") in connection with any and all suits, investigations, claims or demands of Third Parties (collectively, "Third Party Claims") against the CureVac Indemnitees to the extent arising from or occurring as a result of:

(i) the breach of any representation or warranty by Arcturus under this Agreement; or (ii) any gross negligence or willful misconduct on the part of any Arcturus Indemnitee; or (iii) any alleged infringement or misappropriation of Patents or other intellectual property rights by CureVac in the conduct of the Work Plan based solely on CureVac's use of Arcturus LMD Technology as permitted hereunder (excluding, for clarity, infringement of Patents, Know- How or Materials covering CureVac Technology used by CureVac in the performance of the Work Plan), except in each of cases (i)-(iii) to the extent arising from or occurring as a result of the gross negligence or willful misconduct on the part of a CureVac Indemnitee or CureVac's breach of this Agreement.

(b) ***Indemnification by CureVac***. CureVac will indemnify Arcturus, its Affiliates and their respective directors, officers, employees and agents, and their respective successors, heirs and assigns (collectively, "Arcturus Indemnitees"), and defend and hold each of them harmless, from and against any and all Losses in connection with any and all Third Party Claims against Arcturus Indemnitees to the extent arising from or occurring as a result of: (i) the breach by CureVac of any representation or warranty under this Agreement; or (ii) any gross negligence or willful misconduct on the part of any CureVac Indemnitee; or (iii) any alleged infringement or misappropriation of Patents or other intellectual property rights by Arcturus in the conduct of the Work Plan based solely on Arcturus' use of CureVac Technology as permitted hereunder (excluding, for clarity, infringement of Arcturus LMD Technology used by Arcturus in the performance of the Work Plan), except in each of cases (i)-(iii) to the extent arising from or occurring as a result of the gross negligence or willful misconduct on the part of an Arcturus Indemnitee or Arcturus' breach of this Agreement.

(c) ***Notice of Claim*****.** All indemnification claims provided for in subsections (a) and (b) above will be made solely by such Party to this Agreement (the "Indemnified Party"). The Indemnified Party will promptly notify the indemnifying Party (an "Indemnification Claim Notice") of any Losses or the discovery of any fact upon which the Indemnified Party intends to base a request for indemnification under subsections (a) or (b) above but in no event will the indemnifying Party be liable for any Losses that result from any delay in providing such notice. Each Indemnification Claim Notice must contain a description of the claim and the nature and amount of such Loss (to the extent that the nature and amount of such Loss is known at such time). The Indemnified Party will furnish promptly to the indemnifying Party copies of all papers and official documents received in respect of any Losses and Third Party Claims.

(d) ***Defense, Settlement, Cooperation and Expenses.***

(i) Control of Defense. At its option, the indemnifying Party may assume the defense of any Third Party Claim by giving written notice to the Indemnified Party within [*****] days after the indemnifying Party's receipt of an Indemnification Claim Notice. The assumption of the defense of a Third Party Claim by the indemnifying Party will not be construed as an acknowledgment that the indemnifying Party is liable to

indemnify the Indemnified Party in respect of the Third Party Claim, nor will it constitute a waiver by the indemnifying Party of any defenses it may assert against the Indemnified Party's claim for indemnification. Upon assuming the defense of a Third Party Claim, the indemnifying Party may appoint as lead counsel in the defense of the Third Party Claim any legal counsel selected by the indemnifying Party (the indemnifying Party will consult with the Indemnified Party with respect to such legal counsel and a possible conflict of interest of such counsel retained by the indemnifying Party). In the event the indemnifying Party assumes the defense of a Third Party Claim, the Indemnified Party will as soon as practicable deliver to the indemnifying Party all original notices and documents (including court papers) received by the Indemnified Party in connection with the Third Party Claim. In the event that it is ultimately determined that the indemnifying Party is not obligated to indemnify, defend or hold harmless the Indemnified Party from and against the Third Party Claim, the Indemnified Party will reimburse the indemnifying Party for any and all costs and expenses (including reasonable attorneys' fees and costs of suit) and any Third Party Claims incurred by the indemnifying Party in its defense of the Third Party Claim.

(ii) Right to Participate in Defense. Without limiting subsection (i) above, any Indemnified Party will be entitled to participate in, but not control, the defense of such Third Party Claim and to engage counsel of its choice for such purpose; provided, however, that such engagement will be at the Indemnified Party's own cost and expense unless (A) the indemnifying Party has failed to promptly assume the defense and engage counsel in accordance with subsection (i) above (in which case the Indemnified Party will control the defense) or (B) the interests of the Indemnified Party and the indemnifying Party with respect to such Third Party Claim are sufficiently adverse to prohibit the representation by the same counsel of both Parties under applicable Law, ethical rules or equitable principles, in which case the indemnifying Party will assume one hundred percent (100%) of any reasonable costs and expenses of counsel for the Indemnified Party.

(iii) Settlement. With respect to any Third Party Claims that relate solely to the payment of money damages in connection with a Third Party Claim and that will not result in the Indemnified Party's becoming subject to injunctive or other relief or otherwise adversely affecting the business, Patents or Technology of the Indemnified Party in any manner, and as to which the indemnifying Party will have acknowledged in writing the obligation to indemnify the Indemnified Party hereunder, the indemnifying Party will have the sole right to consent to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss, on such terms as the indemnifying Party, in its sole discretion, will deem appropriate. With respect to all other Losses in connection with Third Party Claims, where the indemnifying Party has assumed the defense of the Third Party Claim in accordance with subsection (i) above, the indemnifying Party will have authority to consent to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss provided it obtains the prior written consent of the Indemnified Party (which consent will not be unreasonably withheld, conditioned or delayed). The indemnifying Party will not be liable for any settlement or other disposition of a Loss by an Indemnified Party that is reached without the written consent of the indemnifying Party. Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, no Indemnified Party will admit any liability with respect to or settle, compromise or discharge, any Third Party Claim without the prior written consent of the indemnifying Party.

(iv) Cooperation. Regardless of whether the indemnifying Party chooses to defend any Third Party Claim, the Indemnified Party will, and will use Diligent Efforts to cause each other indemnified party to, cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith at the indemnifying Party's expense. Such cooperation will include access during normal business hours afforded to the indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party Claim, and making indemnified parties and other employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder, and the indemnifying Party will reimburse the Indemnified Party for all its reasonable out-of-pocket costs and expenses in connection therewith.

(v) Costs and Expenses. Except as provided above in this Section 8.7, the costs and expenses, including reasonable attorneys' fees and expenses, incurred by the Indemnified Party in connection with any claim will be reimbursed on a Calendar Quarter basis by the indemnifying Party, without prejudice to the indemnifying Party's right to contest the Indemnified Party's right to indemnification and subject to refund in the event the indemnifying Party is ultimately held not to be obligated to indemnify the Indemnified Party.

8.8 Insurance. Each Party will maintain at its sole cost and expense, an adequate liability insurance or self- insurance program to protect against potential liabilities and risk arising out of activities to be performed under this Agreement and any agreement related hereto and upon such terms (including coverages, deductible limits and self-insured retentions) as are customary in the respective industry of such Party for the activities to be conducted by such Party under this Agreement. The coverage limits set forth in any such programs or policies will not create any limitation on a Party's liability to the other under this Agreement.

ARTICLE 9

Term and Termination

9.1 Term.

(a) This Agreement will commence as of the Effective Date and, unless sooner terminated or extended in accordance with the terms hereof or by mutual written consent, will continue for a period of eight (8) years (the "Initial Term", as may be extended pursuant to Section 9.1(b), the "Term").

(b) Not later than sixty (60) days prior to the expiration of the Initial Term, CureVac shall have the option to extend the Term on an annual basis for up to three (3) years, by providing written notice to Arcturus, subject to payment by CureVac to Arcturus of a non-refundable annual extension fee of one million US dollars (U.S. $1,000,000), payable within [*****] Business Days after exercise of such option.

(c) The Parties agree that this Agreement and the Co-Development Agreement relate to different projects and, therefore, the validity, term and termination of this Agreement shall be independent from the validity, term and termination of the Co-Development Agreement.

9.2 Termination by CureVac.

(a) ***Breach, Change of Control.*** CureVac will have the right to terminate this Agreement in full or on a Program-by-Program basis upon delivery of written notice to Arcturus in the event of

(i) any material breach by Arcturus

(A) of any terms and conditions of this Agreement, provided that such breach has not been cured within sixty (60) days after written notice thereof is given by CureVac to Arcturus specifying in reasonable detail the nature of the alleged breach; or

(B) in particular the failure of the Escrow Agent to send the Target response notice within the period provided for in Section 4.2(c)(i), provided that such failure has not been cured neither within a first cure period of five (5) Business Days after written notice thereof is given by CureVac to Arcturus nor within a second cure period of five (5) Business Days after written notice of the lapse of the first cure period is given by CureVac to Arcturus, or

(ii) a Change of Control of Arcturus.

In the event of a termination of this Agreement or a Program under this subsection, (i) the JDC will be disbanded or, if applicable, cease to be responsible for the terminated Programs, (ii) Arcturus will receive no further Arcturus FTE funding (if applicable, for the terminated Programs), and (iii) Arcturus will conduct a technology transfer of Arcturus Technology existing at the time of such transfer and provide necessary licenses to CureVac or its Third Party designee each as reasonably necessary for CureVac or such Third Party designee to complete the conduct of a Program, and (iv) the Option Exercise Fee and the payments under the License Agreement(s) (if applicable, in relation to the terminated Programs) will be reduced by [*****]%. For avoidance of doubt, termination of the Agreement or a Program will not terminate CureVac's reservation of Reserved Targets or the Options subject to the payments associated therewith. For clarity, except in cases of willful misconduct, the remedy set forth in this Section 9.2(a) shall be the sole and exclusive remedy of CureVac under this Agreement (i.e., without limitation of any remedies that may be separately available under any License Agreement) in the event that CureVac elects to terminate a Program but otherwise continue the Agreement in effect.

In the event of a Change of Control of Arcturus, CureVac shall decide, no later than the later of: (i) ten (10) Business Days' written notice following the receipt of a written notification that the closing date of such Change of Control has occurred or (ii) [*****] months written notice following the receipt of a written notification that the signing date of such Change of Control has occurred, to (a) terminate this Agreement, (b) to continue this Agreement and elect (as set forth in such written notice) to have the JDC disbanded and Arcturus to undertake a technology transfer and provide necessary licenses to CureVac or its Third Party designee each as reasonably necessary for CureVac or such Third Party designee to complete the conduct of any then ongoing Programs in accordance with the Work Plan; or (c) continue the Agreement and receive reasonable assurance in writing from the acquirer that the CureVac Confidential Information is not shared with any other entities within the acquirer's group that are not required to manage, perform and exercise Arcturus' rights and obligations under this Agreement.

(b) ***Discretionary Termination.*** CureVac will have the right to terminate this Agreement in full at any time without cause by giving sixty (60) days' prior written notice to Arcturus. Upon termination by CureVac pursuant to this subsection, CureVac will pay to Arcturus any amounts payable to Arcturus for any Work performed pursuant to the Work Plan up through the date of such termination, subject to Arcturus' transfer of all deliverables under the Work Plan to CureVac.

9.3 **Termination by Arcturus.** Arcturus will have the right to terminate this Agreement in full upon delivery of written notice to CureVac in the event of (i) any material breach by CureVac of any terms and conditions of this Agreement, provided that such breach has not been cured within sixty (60) days after written notice thereof is given by Arcturus to CureVac specifying in reasonable detail the nature of the alleged breach. CureVac hereby agrees that Arcturus is entitled to receive payment of any amounts payable to Arcturus pursuant to this Agreement, including amounts for any Work performed pursuant to the Work Plan, up through the date of such termination. For clarity, a breach by CureVac under this Agreement shall not constitute a breach under a License Agreement unless such breach is also separately a breach pursuant to such License Agreement.

9.4 **Termination Upon Bankruptcy.** All rights and licenses granted under or pursuant to this Agreement by Arcturus or CureVac or their Affiliates are, and will otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of right to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code. The Parties agree that the Parties and their respective Affiliates and permitted Third Party sublicensees, as licensees of such rights under this Agreement, will retain and may fully exercise all of their rights and elections under the U.S. Bankruptcy Code and any foreign counterparts thereto. Without limiting the Parties' rights under Section 365(n) of the U.S Bankruptcy Code, if a case under U.S. Bankruptcy Code is commenced by or against a Party, the other Party shall be entitled to a copy of any and all such intellectual property and all embodiments of such intellectual property, and the same, if not in the possession of such other Party, shall be promptly delivered to it (i) before this Agreement is rejected by or on behalf of the bankrupt Party, within thirty (30) days after the other Party's written request, unless the bankrupt Party, or its trustee or receiver, elects within thirty (30) days to continue to perform all of its obligations under this Agreement, or (ii) after any rejection of this Agreement by or on behalf of the bankrupt Party, if not previously delivered as provided under clause (i) above. All rights of the Parties under this Section 9.4 and under Section 365(n) of the U.S. Bankruptcy Code are in addition to and not in substitution of any and all other rights, powers, and remedies that each Party may have under this Agreement, under the U.S. Bankruptcy Code, and any other applicable Laws. The non-bankrupt Party shall have the right to perform the obligations of the bankrupt Party hereunder with respect to such intellectual property, but neither such provision nor such performance by the non-bankrupt Party shall release the bankrupt Party from any such obligation or liability for failing to perform it.

9.5 **Effects of Termination**. Upon termination by:

(a) CureVac under Sections 9.2 or 9.4, (i) Arcturus will terminate all Work in progress in an orderly manner as soon as practicable and transfer all deliverables under the Work Plan to CureVac in its Control in the state of such deliverable as of the effective date of termination; (ii) each of the Parties will return or destroy any Materials of the other Party in its Control, based upon written instructions from the other Party within [*****] days of the effective date of termination, unless such Material is necessary or useful for the exercise of a Party's rights or obligations under a License Agreement in which event the Party retaining the Material will notify the other Party of retention pursuant to the requirements of and subject to such License Agreement; and (iii) all rights and licenses pursuant to this Agreement except with respect to any then existing Programs (for which licenses to CureVac or its Third Party designee shall be granted to complete the Program and enter into a License Agreement under the terms of Section 9.2(a)(ii)) shall terminate and be of no further force and effect, it being understood that termination hereunder shall not affect any then existing License Agreement;

(b) Arcturus under Section 9.3, (i) CureVac will promptly pay Arcturus any monies due and owing Arcturus, as of the date of termination, for Work and Services actually performed and all expenses actually incurred as specified in the Work Plan as well as any amounts incurred for orderly wind down any then existing Third Party commitments entered into as of the date of notice of termination to perform the Work Plan; (ii) each of the Parties will return or destroy any Materials of the other Party in its Control, based upon written instructions from the other Party within [*****] days of the effective date of termination, unless such Material is necessary or useful for the exercise of a Party's rights or obligations under a License Agreement in which event the Party retaining the Material will notify the other Party of retention pursuant to the requirements of and subject to such License Agreement; and (iii) all rights and licenses pursuant to this Agreement shall terminate and be of no further force and effect, it being understood that termination hereunder shall not affect any then existing License Agreement.

9.6 **Survival.** In addition to the termination consequences set forth in Section 9.5, the following provisions will survive termination or expiration of this Agreement, as well as any other provision which by its terms or by the context thereof, is intended to survive such termination: Sections 1, 3.1(f) (to the extent a License Agreement is executed prior to the effective date of termination), 3.3(a), 6.2, 6.3, 7, 8.5, 8.7, 9.2, 9.5 , 9.6 and 10. Termination or expiration of this Agreement will not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at Law or in equity with respect to any breach of this Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations will terminate upon expiration of this Agreement.

ARTICLE 10

Miscellaneous

10.1 **Dispute Resolution.**

(a) ***Dispute Escalation.*** In the event of a dispute between the Parties, the Parties will first attempt in good faith to resolve such dispute by negotiation and consultation between themselves or the Program directors. In the event that such dispute is not resolved on an informal basis within [*****] days, either Party may, by written notice to the other, have such dispute referred to each Party's Chief Executive Officer or his or her designee (who will be a senior executive with the appropriate authority to determine the matter for such Party), who will attempt in good faith to resolve such dispute by negotiation and consultation for a [*****] day period following receipt of such written notice

(b) ***Dispute Resolution.***

(i) In the event the Chief Executive Officers of the Parties are not able to resolve such dispute as set forth above, the Parties agree to try to solve such dispute amicably by mediation. The Parties shall conduct a mediation procedure according to the Mediation Rules of the World Intellectual Property Organization (WIPO) in effect on the date of the commencement of the mediation proceedings. The location of the mediation proceedings will be New York City, New York, USA. The number of mediators will be [*****]. The language of the mediation proceedings will be English. If the dispute has not been settled pursuant to the said rules within [*****] days following the filing of a request for mediation or within such other period as the Parties may agree in writing, either Party may submit the dispute to final and binding arbitration.

(ii) Any dispute relating to the validity performance, construction or interpretation of this Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in this Section 10.1, shall be submitted to arbitration in accordance with the Arbitration Rules of WIPO in effect on the date of the commencement of the arbitration proceedings. The location of the arbitration proceedings will be New York City, New York, USA. The number of arbitrators will be [*****]. The language of the arbitration proceeding will be English. The decision of the arbitrators shall be final and binding upon the Parties (absent manifest error on the part of the arbitrator(s)) and enforceable in any court of competent jurisdiction.

10.2 **Relationship of Parties.** Nothing in this Agreement is intended or will be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the Parties. No Party will incur any debts or make any commitments for the other, except to the extent, if at all, specifically provided therein. There are no express or implied Third Party beneficiaries hereunder.

10.3 **Compliance with Law.** Each Party will perform or cause to be performed any and all of its obligations or the exercise of any and all of its rights hereunder in good scientific manner and in compliance with all applicable Law.

10.4 **Governing Law.** This Agreement will be governed by and construed in accordance with the Laws of State of New York, USA, without respect to its conflict of Laws rules.

10.5 **Counterparts; Facsimiles.** This Agreement may be executed in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this Agreement by either Party will constitute a legal, valid and binding execution and delivery of this Agreement by such Party

10.6 **Headings.** All headings in this Agreement are for convenience only and will not affect the meaning of any provision hereof.

(a) ***Waiver of Rule of Construction***. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, the rule of construction that any ambiguity in this Agreement will be construed against the drafting party will not apply.

(b) ***Interpretation.*** Whenever any provision of this Agreement uses the term "including" (or "includes"), such term will be deemed to mean "including without limitation" (or "includes without limitations"). "Herein," "hereby," "hereunder," "hereof" and other equivalent words refer to this Agreement as an entirety and not solely to the particular portion of this Agreement in which any such word is used. All definitions set forth herein will be deemed applicable whether the words defined are used herein in the singular or the plural. Unless otherwise provided, all references to Sections and Exhibits in this Agreement are to Sections and Exhibits of this Agreement. References to any Sections include Sections and subsections that are part of the related Section.

10.7 **Further Assurances.** Each Party shall take all customary and reasonable actions and do all things reasonably necessary or proper, including under applicable Law, to make effective and further the intents and purposes of the transactions contemplated by this

Agreement, including executing any further instruments reasonably requested by the other Party.

10.8 **Binding Effect.** This Agreement will inure to the benefit of and be binding upon the Parties, their Affiliates, and their respective lawful successors and assigns.

10.9 **Assignment.** This Agreement may not be assigned by either Party, nor may either Party delegate its obligations or otherwise transfer licenses or other rights created by this Agreement, except as expressly permitted hereunder, without the prior written consent of the other Party, which consent will not be unreasonably withheld, delayed or conditioned; provided that either Party may assign this Agreement without such consent to an Affiliate or to its successor in connection with sale of all or substantially all of its assets or business or that portion of its business pertaining to the subject matter of this Agreement (whether by merger, consolidation or otherwise).

10.10 **Notices.** All notices, requests, demands and other communications required or permitted to be given pursuant to this Agreement will be in writing and will be deemed to have been duly given upon the date of receipt if delivered by hand, recognized international overnight courier, or registered or certified mail, return receipt requested, postage prepaid or facsimile (and promptly confirmed by personal delivery, registered or certified mail or overnight courier) to the addresses set forth below (or to such address as a Party may subsequently provide by written notice in accordance with this Section 10.10).

If to CureVac:

CureVac AG
Paul-Ehrlich-Str. 15
72076 Tübingen
Germany
Attention: CEO and General Counsel
Fax: +49 7071 9883 - 1101

If to Arcturus:

Arcturus Therapeutics, Inc.
10628 Science Center Drive
Suite 200
San Diego, California 92121
USA
Attn: CEO
Fax: (858) 300-5028

with a copy to (which copy shall not constitute notice):

Cooley LLP
3175 Hanover St.
Palo Alto, CA 94303
Attn: Glen Y. Sato
Fax: (650) 849-7400

10.11 **Amendment and Waiver.** This Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties; provided that any unilateral undertaking or waiver made by one Party in favor of the other will be enforceable if undertaken in a writing signed by the Party to be charged with the undertaking or waiver. Any waiver of any rights or failure to act in a specific instance will relate only to such instance and will not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

10.12 **Severability.** In the event that any provision of this Agreement will, for any reason, be held to be invalid or unenforceable in any respect, such invalidity or unenforceability will not affect any other provision hereof, and the Parties will negotiate in good faith to modify the Agreement to preserve (to the extent possible) their original intent.

10.13 **Entire Agreement.** This Agreement together with any License Agreements (including all appendices and exhibits hereto and thereto) entered into during the Term and the Material Transfer Agreements and the Confidentiality Agreement are the sole agreements with respect to the subject matter and supersede all other agreements and understandings between the Parties with respect to same, provided, however, that the terms and conditions under this Agreement apply with respect to the activities which have been performed by the Parties under the Material Transfer Agreement but which are also set forth under the Work Plan, and to such extent this Agreement replaces the Material Transfer Agreements. In case of conflict between this Agreement and the Confidentiality Agreement, this Agreement shall prevail.

10.14 **Force Majeure.** Neither Arcturus nor CureVac will be liable for failure of or delay in performing obligations set forth in this Agreement (other than any obligation to pay monies when due), and neither will be deemed in breach of such obligations, if such failure or delay is due to natural disasters or any causes reasonably beyond the control of Arcturus or CureVac; provided that the Party affected will promptly notify the other of the force majeure condition and will exert reasonable efforts to eliminate, cure or overcome any such causes and to resume performance of its obligations as soon as possible.

[*Signature page to follow*]

IN WITNESS WHEREOF, the Parties have caused this Development and Option Agreement to be executed by their respective duly authorized officers as of the Effective Date.

CureVac AG

By:	/s/ Franz-Werner Haas
	(Signature)
Name:	Franz-Werner Haas
Title:	CCO

By:	/s/ Dan Menichella
	(Signature)
Name:	Dan Menichella
Title:	CBO

Arcturus Therapeutics Inc.

By:	/s/ Joseph E. Payne
	(Signature)
Name:	Joseph E. Payne
Title:	President & CEO

Signature Page to Development and Option Agreement

Exhibit 1.3

Patents and Know-How in the Arcturus Background Technology

[*****]

Exhibit 1.5

ARCTURUS LMD TECHNOLOGY

[*****]

Exhibit 1.34

Exclusive License Agreement

see separate document

Exhibit 1.61

Non-Exclusive License Agreement

[*The payments under the Non-Exclusive License Agreement will be reduced by 50% for such non-exclusive license and the other terms under the Exclusive License Agreement will be adjusted to reflect the non-exclusivity of the license*]

Exhibit 3.1 (a)

Work Plan

[*****]

Exhibit 4.2

Target Reservation Request Form

[*****]

AMENDMENT TO DEVELOPMENT AND OPTION AGREEMENT

THIS AMENDMENT TO DEVELOPMENT AND OPTION AGREEMENT (this "Amendment"), dated as of May 3, 2018, is made by and between CureVac AG, a German stock corporation with offices at Paul-Ehrlich-Strasse 15, 72076 Tubingen, Germany ("CureVac"), and Arcturus Therapeutics Inc., a Delaware corporation with offices at 10628 Science Center Drive #200, San Diego, CA 92121, USA ("Arcturus"). Each of CureVac and Arcturus may be referred to herein as a "Party" or together as the "Parties".

WHEREAS, the Parties are parties to that certain Development and Option Agreement, dated as of January 1, 2018 (the "Development and Option Agreement");

WHEREAS, pursuant to Section 3.2 of the Development and Option Agreement, CureVac is responsible for funding up to [*****] scientists per year at Arcturus to perform the Work as defined and in accordance with the Work Plan for a period of up to [*****] months at the FTE costs;

WHEREAS, CureVac is now prepared to invest and commit to the full number of [*****] FTEs for the full period of [*****] months, provided Arcturus can provide security as to CureVac's access to the Technology generated in performance of the Work pursuant to the Development and Option Agreement; and

WHEREAS, CureVac and Arcturus desire to amend the Development and Option Agreement as provided in this Amendment in accordance with Section 10.11 of the Development and Option Agreement.

NOW, THEREFORE, in consideration of the foregoing and the promises and mutual agreements contained in this Amendment, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound, the Parties agree as follows:

SECTION 1. Irrevocable Offer.

(a) The heading of Article 5 of the Development and Option Agreement is hereby amended and restated in its entirety as follows: "Irrevocable Offer to Licenses" and the Table of Contents is updated accordingly. The heading of Section 5.1 of the Development and Option Agreement is amended and restated in its entirety as follows: "Irrevocable Offer."

(b) Section 5.1(a) of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

" (a) Arcturus hereby makes a final, binding irrevocable offer (the "Irrevocable Offer") to CureVac to enter into, on the terms of, and subject to the conditions set forth in, the Exclusive License Agreement or, if the Reserved Target is only available on a non-exclusive basis, the Non-Exclusive License Agreement, on a Reserved Target-by-Target basis, a maximum of [*****] licenses under the Arcturus LMD Technology with respect to the development, manufacture and commercialization of Licensed Products containing mRNA Constructs intended to express such Reserved Target in the form of the License Agreement. Upon the execution of this Amendment, the Irrevocable Offer shall remain valid and legally binding on Arcturus and in effect, and the Irrevocable Offer from Arcturus shall be irrevocable and open for acceptance from CureVac for the period commencing on the Effective Date and ending on the expiration of the Term (the "Offer Period")."

(c) Section 5.1(b) of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

" (b) If, prior to the expiration of the Offer Period, CureVac delivers written notice to Arcturus of its intention to enter into a license for a Reserved Target, which such notice shall set forth the particular Reserved Target which is intended to be expressed by the Licensed Products (each such notice, an "Acceptance Notice"), then upon delivery thereof, for the Reserved Target set forth in such Acceptance Notice, the licenses and all other rights under the applicable License Agreement shall immediately be in effect without the requirement of either Party to execute any further documentation and there shall exist a legal, valid and binding obligation of Arcturus, enforceable against Arcturus in accordance with the terms of the Exclusive License Agreement or, if the Reserved Target set forth in such Acceptance Notice is only available on a non-exclusive basis, the Non- Exclusive License Agreement. A separate Acceptance Notice and Acceptance Fee will be required for each License Agreement with respect to which CureVac accepts the Irrevocable Offer pursuant to this Section 5.1, and CureVac will pay to Arcturus the Acceptance Fee for each such License Agreement as set forth in Section 5.3. In the event that CureVac terminations a license(s) during the Term, the Target(s) subject to the license(s) will be removed from the Reserved Target List and the number of License Agreements for which the Irrevocable Offer exists shall be reduced by one (1) (i.e. the delivery of an Acceptance Notice reduces the total number of License Agreements for which CureVac may accept the Irrevocable Offer by one regardless of whether CureVac elects to continue such License Agreement in effect)."

(d) Section 5.1(c) of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

" (c) In the event that CureVac terminates a License Agreement during the Term, the Targets subject to such license(s) will no longer be available as a Target pursuant to this Agreement."

(e) Section 5.2 of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"5.2 CureVac's Acceptance of Irrevocable Offer. As soon as practicable following CureVac's delivery of each Acceptance Notice to Arcturus, CureVac and Arcturus will prepare the appendices to the corresponding License Agreement. The License Agreement shall nevertheless enter into force (including payment obligations of CureVac in accordance with the terms of the License Agreement) upon delivery of the Acceptance Notice by CureVac."

(f) Section 5.3 of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"5.3 Acceptance Fee. If CureVac delivers an Acceptance Notice for a Rare Disease Target pursuant to Section 5.1, CureVac shall pay an Acceptance Fee of [*****] and if CureVac delivers an Acceptance Notice for a Non-Rare Disease Target pursuant to Section 5.1, CureVac shall pay an Acceptance Fee of [*****], hereinafter both the "Acceptance Fee". On the [*****] it delivers an Acceptance Notice, CureVac shall pay the applicable Acceptance Fee by wire transfer in immediately available funds to the bank account of Arcturus set forth on Schedule 3 (or such other bank account notified in writing to CureVac prior to such date)."

(g) Section 5.4 of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"5.4 Co-Development Agreement. For clarification, the selection of any program under the Co-Development Agreement shall not constitute the delivery of an Acceptance Notice in accordance with this Section 5, and, accordingly, no Acceptance Fee will be payable and any paid Acceptance Fee shall be credited against any other payments by CureVac applied first to any outstanding payment obligations to Arcturus, and to the extent any remaining amounts remain creditable, then to the next due future payment obligations."

(g) Definitions. Each of the following Sections of the Development and Option Agreement are hereby amended and restated in their entirety as "Intentionally Omitted." : Section 1.35, Section 1.62, Section 1.64, Section 1.65, Section 1.66 and Section 1.67 The following Sections are inserted immediately following Section 1.94 of the Development and Option Agreement:

"**1.95** "Irrevocable Offer" has the meaning set forth in Section 5.1(a).

1.96 "Acceptance Notice" has the meaning set forth in Section 5.1(b).

1.97 "Acceptance Fee" has the meaning set forth in Section 5.3."

(h) Additional Modifications.

(i) In Section 3.1(f) of the Development and Option Agreement, the occurrence of "exercise of an Option and entry into a License Agreement" in the first sentence is hereby replaced with "delivery of an Acceptance Notice and the entering into force of a License Agreement".

(ii) In Section 3.3(c) of the Development and Option Agreement, the occurrence of "whether to exercise an Option" in the third sentence is hereby replaced with "whether to delivery an Acceptance Notice".

(iii) In Section 4.2(c)(iii) of the Development and Option Agreement, the occurrence of "option" in the second sentence is hereby replaced with "right".

(iv) In Section 4.2(d)(ii) of the Development and Option Agreement, the occurrence of "shall be reduced by each exercise of an Option" in the first sentence is hereby replaced with "shall be reduced by each delivery of an Acceptance Notice" and the occurrence of "applying from and after the date of exercise of an Option." in the first sentence is hereby replaced with "applying from and after the date of an Acceptance Notice.".

(v) In Section 6.4(c)(ii) of the Development and Option Agreement, the occurrence of "an Option Notice" in the first sentence is hereby replaced with "an Acceptance Notice".

(vi) In Section 6.4(c)(iii) of the Development and Option Agreement, the occurrence of "to the Options" in the first sentence is hereby replaced with "pursuant to the Irrevocable Offer".

(vii) In Section 9.2(a)(iv) of the Development and Option Agreement, the occurrence of "the Option Exercise Fee" is hereby replaced with "the Acceptance Fee".

(viii) In Section 9.2(a) of the Development and Option Agreement, in the sentence immediately following subsection (iv), the occurrence of "or the Options" is hereby replaced with "or the Irrevocable Offers".

SECTION 2. License Agreements.

(a) "Non-Exclusive License Agreement" means the terms of the Non-Exclusive License Agreement agreed by the Parties, incorporated by reference into the Development and Option Agreement and set forth on Schedule 1-A to this Amendment.

(b) "Exclusive License Agreement" means the terms of the License Agreement agreed by the Parties, incorporated by reference into the Development and Option Agreement and set forth on Schedule 1-B to this Amendment.

SECTION 3. Grant of Security Interest.

(a) As collateral security for the prompt and complete payment and performance when due (whether at stated maturity, by acceleration or otherwise) of all of its obligations under the Development and Option Agreement, and whether direct or indirect (including those acquired by assumption), absolute or contingent, due or to become due, now existing or hereafter arising and including interest and fees that accrue after the commencement by or against Arcturus of any proceeding under any bankruptcy or insolvency Law naming Arcturus as the debtor in such proceeding, regardless of whether such interest and fees are allowed claims in such proceeding, Arcturus hereby mortgages, pledges, assigns and hypothecates to CureVac, and grants to CureVac a Lien on and continuing security interest in, all the right, title and interest of Arcturus, in, to, and under the following property, wherever located, whether now owned or in the future acquired by Arcturus and whether now existing or in the future coming into existence owned by Arcturus (collectively, the "Collateral"):

(i) the Patents and Know-How set forth on Exhibit 1.3 of the Development and Option Agreement;

(ii) the LUNAR™ platform;

(iii) all other Arcturus Background Technology;

(iv) all other Arcturus Program Technology; and

(v) to the extent not otherwise included, all books, records, writings, data bases, information and other property relating to, used or useful in connection with, or evidencing, embodying, incorporating or referring to any of the foregoing, all claims and insurance proceeds arising out of the loss, nonconformity or any interference with the use of, or any defect or infringement of rights in, or damage to, any of the foregoing, and all proceeds, products, offspring, rents, issues, profits and returns of and from, and all distributions on and rights arising out of, any of the foregoing;

provided that the Collateral shall not exceed the property to which CureVac has or may have rights to pursuant to the terms of the Development and Option Agreement.

For purposes of this Amendment, "Lien" means a pledge, lien, charge or security interest of any kind or nature.

(b) Notwithstanding anything herein to the contrary, in no event shall the Collateral include or the security interest granted under Section 3(a) attach to (i) any Collateral if and to the extent that a security interest therein is prohibited by or in violation of any Law applicable to Arcturus or (ii) any "intent-to-use" application for registration of a trademark or service mark filed pursuant to Section 1(b) of the Lanham Act, 15 U.S.C. § 1051, prior to the filing of a "Statement of Use" pursuant to Section 1(d) of the Lanham Act or an "Amendment to Allege Use" pursuant to Section 1(c) of the Lanham Act with respect thereto, solely to the extent, if any, that, and solely during the period, if any, in which, the grant of a security interest therein would impair the validity or enforceability of any registration that issues from such intent-to-use application under applicable Law and (ii) any Collateral if and to the extent that a grant of a security interest therein would violate or invalidate any lease, license or other agreement applicable thereto to which Arcturus is party as of the date of this Amendment or create a right of termination in favor of any other party thereto (after giving effect to the applicable anti-assignment provisions of the UCC or other applicable Law).

(c) Arcturus makes to CureVac each of the representations and warranties set forth on Part I of Schedule 2.

(d) Arcturus agrees that it will comply with each of the covenants set forth on Part II of Schedule 2.

(e) For the avoidance of doubt, Arcturus shall be permitted, subject to the security interest granted under Section 3(a), to license the Collateral and in connection therewith, CureVac shall acknowledge and respect such licenses in writing the rights of such licensees as reasonably requested by any licensee of the Collateral.

(f) CureVac may exercise from time to time any rights and remedies available to it under the UCC and under any other applicable Law.

SECTION 4. Additional Expenses. In consideration for the rights granted pursuant to Section 1 and Section 3 of this Amendment, CureVac agrees to perform the Work under the Work Plan as part of which CureVac will fund [*****] scientists per year at Arcturus for a period of [*****] months at the FTE Costs.

SECTION 5. Ratification of Agreement. Except as expressly provided in this Amendment, all of the terms, covenants, and other provisions of the Development and Option Agreement are hereby ratified and confirmed and shall continue to be in full force and effect in accordance with their respective terms. From and after the date hereof, all references to the Development and Option Agreement shall refer to the Development and Option Agreement as amended by this Amendment. Capitalized terms used but not defined in this Amendment shall have the meanings assigned to them in the Development and Option Agreement.

SECTION 6. Governing Law. This Amendment shall be governed by and construed in accordance with the Laws of the State of New York, USA, without respect to its conflict of Laws rules. In the event of a dispute arising out of or relating to this Amendment, the provisions of Section 10.1 of the Development and Option Agreement shall govern the resolution of such dispute.

SECTION 7. Counterparts. This Amendment may be executed and in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this Amendment by either Party will constitute a legal, valid and binding execution and delivery of this Amendment by such Party.

[signature page follows]

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their respective duly authorized officers as of the date hereof.

CUREVAC AG

By: /s/ Dr. Florian von der Mülbe
Name: Dr. Florian von der Mülbe
Title: Chief Operating Officer

By: /s/ Dr. Mariola Fotin-Mleczek
Name: Dr. Mariola Fotin-Mleczek
Title: Chief Scientific Officer

ARCTURUS THERAPEUTICS INC.

By: /s/ Mark Herbert
Name: Mark Herbert
Title: Interim President

Schedule 1-A

Non-Exclusive License Agreement

See attached

Schedule 2
[*****]

Schedule 3

[*****]

Schedule 1-A

NON-EXCLUSIVE LICENSE AGREEMENT

by and between

CUREVAC AG

and

ARCTURUS THERAPEUTICS INC.

Dated

May 3, 2018

Table of Contents

List of Appendices

Appendix 1.3	Description of the Arcturus LMD Technology
Appendix 1.4	Patents and Know-How within the Arcturus Technology as of the License Agreement Effective Date
Appendix 1.28	Joint Interest Patents
Appendix 1.51	Pre-Existing Prosecution, Enforcement and Defense Restrictions
Appendix 1.60	Description of the Target

License Agreement

This License Agreement ("License Agreement"), effective as of delivery of an Acceptance Notice in accordance with Section 5.1(b) of the Development and Option Agreement (as defined below) (the "License Agreement Effective Date"), is made by and between Arcturus Therapeutics Inc., a Delaware corporation ("Arcturus"), and CureVac AG, a German stock corporation with offices at Paul-Ehrlich-Strasse 15, 72076 Tuebingen, Germany ("CureVac"). Each of Arcturus and CureVac may be referred to herein as a "Party" or together as the "Parties."

WHEREAS, Arcturus has expertise and intellectual property relating to the development of LMD Technologies (as defined below) that embody or incorporate delivery systems (and components thereof) for molecular therapeutics based on or incorporating lipid-enabled and unlocked nucleomonomer platform for delivery of nucleic acids as specified in **Appendix 1.3**, the Arcturus LMD Technology; and

WHEREAS, CureVac has expertise and intellectual property relating to mRNA Constructs (as defined below); and

WHEREAS, Arcturus and CureVac are parties to that certain Development and Option Agreement (dated January 1, 2018, and amended as of May 3, 2018) (the "Development and Option Agreement") pursuant to which CureVac has options to take licenses under the Arcturus LMD Technology (as defined below) with respect to CureVac's mRNA Constructs; and

WHEREAS, pursuant to the terms of the Development and Option Agreement, CureVac has exercised an option to obtain a license pursuant to this Agreement with respect to the Target (as defined below) and the Parties are now entering into a licensing arrangement whereby CureVac will have a license under the Arcturus LMD Technology to develop and commercialize Licensed Products (as defined below) with respect to such Target.

WHEREAS, the Parties intend to also co-develop an ornithine transcarbamylase ("OTC") deficiency product and possibly other products under a separate co-development and co-commercialization agreement ("Co-Development Agreement").

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the amount and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Definitions.

The following terms and their correlatives will have the following meanings:

1.1 "Affiliate" of a person or entity means any other entity which (directly or indirectly) is controlled by, controls or is under common control with such person or entity. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to an entity will mean (i) in the case of a corporate entity, direct or indirect ownership of voting securities entitled to cast at least fifty percent (50%) of the votes in the election of directors or (ii) in the case of a non-corporate entity, direct or indirect ownership of at least fifty percent (50%) of the equity interests with the power to direct the management and policies of such entity, provided that if local Law restricts foreign ownership, control will be established by direct or indirect ownership of the maximum ownership percentage that may, under such local Law, be owned by foreign interests. [*****].

1.2 "Arcturus Indemnitees" has the meaning set forth in Section 9.6(a).

1.3 "Arcturus LMD Technology" means any and all LMD Technology for delivering RNA therapeutics that is Controlled by Arcturus or any of its Affiliates as of the Effective Date or during the Term, including the LUNAR™ platform, a description of which technology, as in existence as of the License Agreement Effective Date, is set forth on **Appendix 1.3**.

1.4 "Arcturus Technology" means any Patents and Know-How that are Controlled by Arcturus or any of its Affiliates as of the License Agreement Effective Date or during the Term and that are necessary or useful for the research, development, manufacturing and commercialization of Licensed Products. The Patents and Know-How comprised in the Arcturus Technology as of the License Agreement Effective Date are listed in **Appendix 1.4** hereto. Arcturus Technology shall include the Arcturus LMD Technology. Notwithstanding the foregoing, Arcturus Technology shall exclude

(a) any Patents and Know-How acquired by Arcturus after License Agreement Effective Date if Arcturus is required to make any payment to a Third Party in connection with the grant, maintenance or exercise of a sublicense to CureVac, unless CureVac agrees in writing to reimburse Arcturus for all such payments; *provided*, *however*, that such payments shall reduce CureVac's royalty obligations in accordance with Section 4.3(b),

(b) any Patents and Know-How of a Third Party (including its Affiliates) that becomes Arcturus' Affiliate after the License Agreement Effective Date as a results of a Change of Control, but only if and to the extent that it is not LMD Technology, and

(c) any Patents that CureVac elects to exclude pursuant to Section 2.3.

1.5 "Arcturus Technology Patent(s)" means any and all Patents comprised in the Arcturus Technology during the Term, unless otherwise set forth herein. For clarity, Arcturus Technology Patents include Arcturus' interest in the Joint Interest Patents.

1.6 "Business Day" means a day other than a Saturday, Sunday, or bank or other public holiday in San Diego, California, USA or Tübingen, Germany or Boston, Massachusetts, USA.

1.7 "cGMP" means current Good Manufacturing Practices as specified in the U.S. C.F.R., ICH Guideline Q7A, or equivalent Laws of an applicable Regulatory Authority at the time of manufacture.

1.8 "Calendar Quarter" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.9 "Change of Control" with respect to Arcturus, shall be deemed to have occurred if during the Term (i) any person or entity is or becomes the "beneficial owner", directly or indirectly, of shares of capital stock or other interests (including partnership interests) of Arcturus then outstanding and normally entitled (without regard to the occurrence of any contingency) to vote in the election of the directors, managers or similar supervisory positions of Arcturus representing fifty percent (50%) or more of the total voting power of all outstanding classes of voting stock of Arcturus or has the power, directly or indirectly, to elect a majority of the members of Arcturus' board of directors, or similar governing body; or (ii) Arcturus enters into a merger, consolidation or similar transaction with another person or entity; or (iii) Arcturus sells or transfers to any Third Party, in one (1) or more related transactions, properties or assets representing all or substantially all of Arcturus' consolidated total assets to which this License Agreement relates, *provided however*, that:

(a) subsections (i) to (iii) shall only apply if the person or entity or Third Party acquiring control is (i) a pharmaceutical company which has experience in developing and commercializing pharmaceutical products (*i.e.*, is a strategic, not financial investor or partner) or (ii) a competitor, i.e., a company whose business consists principally of mRNA development, manufacturing and/or commercialization, and

(b) a bona fide financing transaction with Third Parties that does not otherwise meet the requirements of subsection (a) shall not constitute a Change of Control.

1.10 "Combination Product" means a Licensed Product that includes at least one additional active pharmaceutical ingredient other than LMDs, mRNA Constructs, and other RNAs (i.e., Guide RNA(s)) or DNA Sequence(s). Drug delivery vehicles, adjuvants, and excipients shall not be deemed to be "active ingredients", except in the case where such delivery vehicle, adjuvant, or excipient is recognized as an active ingredient in accordance with 21 C.F.R. 210.3(b)(7) or equivalent Laws in other jurisdictions, *provided however*, should LMDs comprised in a Licensed Product be characterized as "active ingredients" at any time during the Term, such LMDs will not be considered an "active ingredient" for the purposes of this definition.

1.11 "Confidential Information" of a Party means all proprietary Know-How, unpublished patent applications and other non-public information and data of a financial, commercial, business, operational, scientific or technical nature of such Party that is disclosed by or on behalf of such Party or any of its Affiliates or otherwise made available to the other Party or any of its Affiliates, whether made available orally, in writing or in electronic form in connection with this License Agreement, including information comprising or relating to concepts, discoveries, inventions, data, designs or formulae in connection with this License Agreement. In addition, any non-public information related to this License Agreement or the Licensed Products hereunder and disclosed by a Party to the other Party (or their respective Affiliates) under the Development and Option Agreement will be deemed such Party's Confidential Information hereunder. Technology will be considered the Confidential Information of the Party (or Parties) owning such Technology, and jointly-owned Technology will be considered Confidential Information of both Parties.

1.12 "Control" or "Controlled" means with respect to Technology, a Party owns or has a license to use and practice the respective Patent or Know-How without violating the terms of any agreement with any Third Party.

1.13 "CTA" means a clinical trial application.

1.14 "CureVac Indemnitees" has the meaning set forth in Section 9.6(b).

1.15 "Development and Option Agreement" has the meaning set forth in the Preamble.

1.16 "Diligent Efforts" means, with respect to the efforts to be expended by each Party with respect to the activities of a Party pursuant to this Agreement, active and sustained efforts to conduct the applicable activity, or to attempt to achieve the applicable requirement or goal, in a prompt and expeditious manner, as is reasonably practicable under the circumstances (including the level of FTE funding and budget for out-of-pocket and Third Party contractors set forth therein) and the terms of this Agreement.

1.17 "Disclosing Party" has the meaning set forth in Section 8.1

1.18 "Field of Use" means the treatment and diagnosis of all diseases and conditions.

1.19 "First Commercial Sale" means the first sale for use or consumption of any Licensed Product in a country after all required Regulatory Approvals for commercial sale of such Licensed Product have been obtained in such country.

1.20 "FTE" means a full-time person, or more than one person working the equivalent of a full-time person, where "full-time" is determined by the standard practices in the biopharmaceutical industry in the geographic area in which such personnel are working, consisting of a total of 1880 hours per year of work on the applicable activities. Any person who devotes less than 1880 hours per year on the applicable activities shall be treated as an FTE on a pro-rated basis, based upon the actual number of hours worked by such person on such activities, divided by 1880. Any person who devotes more than 1880 hours per year on the applicable activities shall be treated as one (1) FTE, i.e., in no event shall one person be counted as more than one FTE. FTE activities shall include the performance of the applicable activities and scientific management oversight, as reasonably required, but, for clarity, exclude (i) the work of general corporate or administrative personnel, overhead (including facilities costs), insurances and similar costs.

1.21 "FTE Costs" means an initial rate of [*****] Dollars ($[*****]) per FTE per year, which shall apply through December 31, 2019. Thereafter, the FTE Rate shall be changed bi-annually at the end of each second calendar year to reflect any percentage increase or decrease (as the case may be) in the Consumer Price Index in the U.S. (index for all items) ("**CPI**") (based on the change in the CPI from the most recent index available as of the Effective Date to the most recent index available as of the date of the calculation of such revised FTE Cost rate).

1.22 "IND" means an investigational new drug application, or equivalent application or submission for approval to conduct human clinical trials.

1.23 "Indemnification Claim Notice" has the meaning set forth in Section 9.6(c).

1.24 "Indemnified Party" has the meaning set forth in Section 9.6(c).

1.25 "Indication" means an individual disease or clinical condition with respect to which at least one adequate and well controlled study is required to support inclusion of such disease or condition in the indication statement of an FDA approved package insert for a Licensed Product.

1.26 "Initiation" means in connection with a clinical trial in any of its phases 1 through 3 the first dosing of the fifth patient or fifth healthy subject.

1.27 "Inventions" has the meaning set forth in Section 5.1.

1.28 "Joint Interest Patents" means the Patents generated under the Development and Option Agreement and jointly owned by the Parties. Such Joint Interest Patents are listed in **Appendix 1.28** hereto, as amended from time to time.

1.29 "Know-How" means all commercial, technical, scientific and other know-how and information, trade secrets, knowledge, technology, methods, processes, practices, formulae, instructions, skills, techniques, procedures, experiences, ideas, technical assistance, designs, drawings, assembly procedures, computer programs, specifications, data and results (including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, preclinical, clinical, safety, manufacturing and quality control data and know-how, including study designs and protocols), in all cases, provided it is confidential and proprietary, and regardless of whether patentable, in written, electronic or any other form now known or hereafter developed.

1.30 "Late Stage Development" means Development after the Initiation of a Phase 3 Study.

1.31 "Law" or "Laws" means all laws, statutes, rules, regulations, orders, judgments, or ordinances having the effect of law of any federal, national, multinational, state, provincial, county, city or other political subdivision.

1.32 "License Agreement" has the meaning set forth in the Preamble.

1.33 "License Agreement Effective Date" has the meaning set forth in the Preamble.

1.34 "Licensed Product" means [*****] product comprised of (i) LMD systems, which are covered by Arcturus LMD Technology; and containing (ii) one or more mRNA Constructs as the active pharmaceutical ingredient(s) intended to express the Target. In case of two or more mRNA Constructs these constructs may be contained in the same or separate LMDs. Licensed Product includes mRNA-LMD products which are administered jointly or separately, and mRNA-LMD products which are administered simultaneously or sequentially as a combination medicinal product or treatment. For Gene Editing purposes a Licensed Product may contain other RNA(s) (i.e., Guide RNA(s)) and/or DNA Sequence(s) which can be delivered together or separately (combined in one LMD or delivered in separate LMDs), in addition to the one or more mRNA Constructs intended to express the DNA Editing Protein.

1.35 "LMD Technology" means Technology Controlled by Arcturus that claims, embodies or incorporates delivery systems (and components thereof) based on or incorporating lipid-mediated delivery (LMD) systems.

1.36 "Losses" has the meaning set forth in Section 9.6(a).

1.37 "Materials" means any tangible chemical or biological material, including any compounds, LMD, DNA, RNA (including mRNA), clones, cells, and any expression product, progeny, derivative or other improvement thereto, along with any tangible chemical or biological material embodying any Know-How, Controlled by Arcturus.

1.38 "mRNA Construct" means any mRNA construct for the expression of a protein, including the sequence of such construct (which potentially comprises one (1) or more of a cap, 5' UTR, the associated open reading frame, 3'UTR and a poly A tail), the chemistry of natural and non-natural nucleic acids, and other chemical modifications associated with such construct, such mRNA Construct being covered by mRNA Technology.

1.39 "mRNA Technology" means Technology Controlled by CureVac that claims, embodies or incorporates expression systems (and components thereof), based on or incorporating mRNA.

1.40 "Milestones" means the milestones payable pursuant to Section 4.1.

1.41 "Milestone Event" has the meaning set forth in Section 4.1.

1.42 "Milestone Payment" has the meaning set forth in Section 4.1.

1.43 "Net Sales" means, with respect to any Licensed Product, the gross amount received by CureVac and its Affiliates and Sublicensees for *bona fide* sales of such Licensed Product to a Third Party (other than Affiliates and Sublicensees but including distributors for resale), less deductions, in each case to the extent reasonable, customary, actually allowed and taken in connection with the sale of such Licensed Product and not otherwise recovered or reimbursed:

(a) discounts (including cash, quantity and patient program discounts), retroactive price reductions, commissions, charge-back payments and rebates granted to managed health care organizations or to federal, state and local governments, their agencies, and purchasers and reimbursers or to trade customers;

(b) credits or allowances actually granted upon claims, damaged goods, rejections or returns of, such Licensed Product and not in excess of the selling price of such Product, including such Licensed Product returned in connection with recalls or withdrawals;

(c) freight out, postage, shipping and insurance charges for delivery of such Licensed Product;

(d) taxes or duties levied on, absorbed or otherwise imposed on the sale of such Licensed Product, including value-added taxes, or other governmental charges otherwise imposed upon the billed amount, as adjusted for rebates and refunds; and

(e) wholesaler and distributor administration fees

(f) other customary deductions taken in the ordinary course of business in accordance with IFRS (International Financial Reporting Standards) principles.

If a single item falls into more than one of the above categories above, such items will not be deducted more than once.

Net Sales shall not include any payments among CureVac, its Affiliates and Sublicensees. Net Sales shall be determined in accordance with generally accepted accounting principles, consistently applied across all products. Net Sales for any Combination Product shall be calculated on a country-by-country basis by multiplying actual Net Sales of such Combination Product by the fraction A/(A+B), where A is the weighted average price paid for the Licensed Product contained in such Combination Product sold separately in finished form in such country, and B is the weighted average invoice price paid for the other active ingredients contained in such Combination Product sold separately in finished form in such country, if such Licensed Product and such other active ingredients are each sold separately in such country.

If such other active ingredients are not sold separately in such country, then Net Sales for such Combination Product shall be calculated on a country-by-country basis by multiplying actual Net Sales of such Combination Product by the fraction A/C, where C is the weighted average invoice price paid for such Combination Product in such country. If such Licensed Product is not sold separately in finished form in such country, Net Sales for such Licensed Product will be determined by CureVac's good faith estimate of the relative contribution of such Licensed Product and each such other active ingredients in such Combination Product, and shall take into account in good faith any applicable allocations and calculations that may have been made for the same period in other countries.

1.44 "Non-Rare Disease Target" means a Target that addresses at a first place an indication related to a Licensed Product with an incidence of equal to or more than [*****] in [*****] people in the U.S. or EU. The indication for which the first IND or CTA application will be filed will determine whether a Target is a Non-Rare Disease Target.

1.45 "Patent(s)" means (a) an issued patent, a patent application, and a future patent issued from any such patent application, (b) a future patent issued from a patent application filed in any country worldwide which claims priority from a patent or patent application of (a), and (c) any additions, divisions, continuations, continuations-in-part, invention certificates, substitutions, reissues, reexaminations, extensions, registrations, utility models, supplementary protection certificates and renewals based on any patent or patent application under (a) or (b), but not including any rights that give rise to regulatory exclusivity periods (other than supplementary protection certificates, which will be treated as "Patents" hereunder)

1.46 "Patent Costs" means the reasonable, documented, out-of-pocket costs and expenses paid to outside legal counsel, and filing and maintenance expenses, actually and reasonably incurred by a Party in prosecuting and maintaining Patents with respect to Licensed Products and enforcing and defending them.

1.47 "Phase 1 Study" means a human clinical trial of a Licensed Product in any country that would satisfy the requirements of 21 CFR 312.21(a) or corresponding foreign regulations.

1.48 "Phase 2 Study" means a human clinical trial of a Licensed Product in any country that would satisfy the requirements of 21 CFR 312.21(b) or corresponding foreign regulations.

1.49 "Phase 3 Study" means a human clinical trial of a Licensed Product in any country that would satisfy the requirements of 21 CFR 312.21(c) or corresponding foreign regulations.

1.50 "Pre-Existing Licensing Restrictions" means, with respect to the Target, that Arcturus or its Affiliates have granted to a Third Party with respect to the Target a non-exclusive, co-exclusive or an exclusive license or option pursuant to a *bona fide* written agreement that is in effect at the time of the submission of the Acceptance Notice by CureVac pursuant to Section 5.1(b) of the (amended) Development and Option Agreement.

1.51 "Pre-Existing Prosecution, Enforcement and Defense Restrictions" means, with respect to the Target, those certain prosecution, enforcement and defense rights granted by Arcturus or its Affiliates to a Third Party(ies) with respect to the Patents pursuant to the *bona fide* written agreement(s) set forth on **Exhibit 1.51** hereto as such *bona fide* written agreement(s) were in effect as of the Effective Date of the Development and Option Agreement. For clarity, the exercise of such foregoing rights by a Third Party with respect to Patents that are not specific to the Target or Licensed Products shall be deemed a Pre-Existing Prosecution, Enforcement and Defense Restriction.

1.52 "Rare Disease Target" means a Target that addresses at a first place an indication related to a Licensed Product with an incidence of less than [*****] in [*****] people in the U.S. or EU. The indication for which the first IND or CTA application will be filed will determine whether a Target is a Rare Disease Target.

1.53 "Receiving Party" has the meaning set forth in Section 8.1.

1.54 "Regulatory Approval" means, with respect to a country or extra-national territory, any and all approvals (including BLAs and MAAs), licenses, registrations or authorizations of any Regulatory Authority necessary in order to commercially distribute, sell or market a product in such country or some or all of such extra-national territory, including solely to the extent required as a condition to commercial sale to end users, any pricing or reimbursement approvals.

1.55 "Regulatory Authority" means any national (e.g., the FDA), supra-national (e.g., the EMA), regional, state or local regulatory agency, department, bureau, commission, council or other governmental authority, in any jurisdiction in the world, involved in the granting of Regulatory Approval.

1.56 "Royalty Reduction" has the meaning set forth in Section 4.3(b).

1.57 "Royalty Term" has the meaning set forth in Section 4.3(d).

1.58 "Sublicensee" means any Third Party that is granted a sublicense as permitted by Section 2.2, either directly by CureVac or its Affiliates or indirectly by any other Sublicensee hereunder.

1.59 "Sublicense Income" means the fees and other payments, including upfront payments as well as development, regulatory milestone payments received by CureVac or its Affiliates from a Sublicensee, excluding: (a) royalty payments and net sales milestones; (b) reimbursement of costs and expenses, including for patent prosecution and enforcement and (c) equity or premium on equity and (d) loans or loans forgiven either (i) as a result of financial distress of the borrower or (ii) that are not specific to the Licensed Product.

1.60 "Target" means the Target identified in **Appendix 1.60** hereto. The Target includes

(a) up to N (N= [*****]) proteins, including all possible combinations resulting from removing one of the N proteins (N minus [*****] proteins), together with all variants of such proteins, including the wild type, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments), and species homologs, orthologs thereof; *provided, however*, that any such naturally occurring variant, engineered variant, or species homolog or ortholog possesses substantially similar biological activity to the naturally occurring protein; and

(b) [*****] antigens of a given pathogen, including [*****] antigen and any combination of such antigens, together with all variants of such antigens, including the wild type, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments), and species homologs, orthologs thereof, *provided, however*, that any such naturally occurring variant, engineered variant, or species homolog or ortholog possesses substantially similar biological activity to the naturally occurring antigen; and

(c) a DNA Target, *provided, however*, that the first DNA Target for each DNA Editing Protein would not count as a Target. Each subsequent DNA Target for this DNA Editing Protein would count as a Target. For clarity, a DNA Editing Protein would be defined as a Target under (a) above and count as a single Target.

If a given protein, *e.g.*, an antibody or enzyme, comprises separated amino acid chains which might be delivered by separated mRNA Constructs, such proteins would be defined as one Target.

1.61 "Technology" means collectively Patents and Know-How.

1.62 "Term" has the meaning set forth in Section 10.1.

1.63 "Territory" means worldwide.

1.64 "Third Party" means any person or entity other than CureVac, Arcturus and their respective Affiliates.

1.65 "Third Party Claims" has the meaning set forth in Section 9.6(a).

1.66 "Valid Claim" means a claim of

(a) an issued and unexpired patent (as may be extended through supplementary protection certificate or patent term extension) or

(b) a pending patent application, *provided, however*, that once the priority date or earliest filing date to which the pending patent application refers is more than seven years old, such claim shall not constitute a Valid Claim for purposes of this License Agreement anymore, unless and until a patent issues with such claim included in the Arcturus Technology Patents, which claim has not been revoked, held invalid or unenforceable by a patent office, court or other governmental agency of competent jurisdiction in a final and non-appealable decision (or decision from which no appeal was taken within the allowable time period) and has not been disclaimed, denied, abandoned or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise.

2. License Grants; Technology Transfer.

2.1 Licenses by Arcturus. Subject to the terms and conditions of this License Agreement, Arcturus hereby grants to CureVac a non-exclusive license, with the right to sublicense in multiple tiers under the Arcturus Technology Patents and the Arcturus Know-How, in each case solely to develop, have developed, make, have made, use and have used, sell, offer for sale, have sold and import and have imported Licensed Products in the Field of Use in the Territory. Arcturus covenants that, except as required by the Pre-Existing Licensing Restriction, Arcturus will not grant to any Third Party any additional licenses under the Arcturus Technology to develop, have developed, make, have made, use and have used, sell, offer for sale, have sold and import and have imported Licensed Products (or any LMD Product directed to the Target) in the Field of Use in the Territory.

2.2 Sublicensing Rights.

(a) *CureVac Sublicenses*. The licenses granted in Section 2.1 may be sublicensed (with the right to sublicense through multiple tiers), in full or in part, by CureVac, its Affiliates or Sublicensees to CureVac's Affiliates and Third Parties provided, that for any sublicense:

(i) Each sublicense will be in writing (*provided, however*, that not each sublicense to Affiliates must be in writing) and on terms consistent with and subject to the terms of this License Agreement, including but not limited to the limitations on patent prosecution, enforcement and defense rights of such Sublicensee as set forth in Sections 6.1(d) and 7.2(a);

(ii) CureVac will be responsible for any and all obligations of such Sublicensee (including Affiliates and Sublicensees) as if such Sublicensee were CureVac hereunder;

(iii) CureVac provide to Arcturus a copy of such sublicense agreement within thirty (30) days of execution (which copy may be redacted for terms that are not otherwise required to confirm conformance with the terms of this License Agreement); and

(iv) Any sublicense granted by CureVac (and any further sublicenses) to any rights licensed to it hereunder shall terminate immediately upon the termination of this License Agreement, provided that for sublicense to a Third Party, such sublicensed rights shall not terminate if, as of the effective date of such termination pursuant to Sections 10.2, 10.3(a) or 10.4, such Sublicensee is not in material default of its obligations under its sublicense agreement, and within [*****] days of such termination and the disclosure of this License Agreement to the Sublicensee, the Sublicensee agrees in writing to be bound directly to Arcturus under a license agreement substantially similar to this License Agreement with respect to the rights sublicensed hereunder, substituting such Sublicensee for CureVac.

(b) *Subcontractors.* For clarity purposes, CureVac is entitled to engage contract research organizations and contract manufacturing organizations for the development and manufacture of Licensed Products on behalf of CureVac. To the extent such contract organizations require a license to perform such subcontracted activities under applicable Laws, CureVac is entitled to grant a limited license solely to perform the work for which the subcontractor is engaged, without an obligation to meet the conditions of Section 2.2 (a)(iii).

(c) *Technology Transfer.* Following the License Agreement Effective Date, Arcturus will use Diligent Efforts to transfer the formulation process for the Licensed Products that are intended to express the Target to CureVac or a reputable and competent GMP manufacturer selected by CureVac and reasonably acceptable to Arcturus. Upon written request by CureVac, Arcturus will conduct a technology transfer to CureVac and/or its designee(s). Arcturus will make its personnel available without charge for a total of [*****] hours during normal working hours for such transfer, and for additional hours in excess of [*****] up to a total of [*****] hours to be invoiced monthly at the then current FTE Cost. Such designee(s) may be an Affiliate, sublicensee or Third Party manufacturers selected by CureVac and reasonably acceptable to Arcturus, and which Third Party manufacturers may also be a backup manufacturer or a second manufacturer of Licensed Products as required for the applicable transferee of the then- current process. CureVac shall reimburse Arcturus for the reasonable cost (including internal FTE Cost) incurred to conduct such technology transfer as specified above.

2.3 Updates to Appendix 1.4; Exclusion of Certain Patents. Arcturus shall notify CureVac at least once every [*****] months of Patents that are added to the Arcturus Technology following the License Agreement Effective Date or any Patents that have been abandoned or discontinued in accordance with the terms of this License Agreement**. Appendix 1.4** shall be deemed automatically updated to include any such added Patents, provided that with written notice to Arcturus, CureVac may elect upon [*****] days' irrevocable written notice to Arcturus to exclude any particular Arcturus Technology Patents. Following any such written notice by CureVac, upon the expiration of the notice period the identified Arcturus Technology Patents that CureVac specifies for exclusion from this License Agreement will no longer be licensed to CureVac hereunder, and CureVac shall not have any rights (including rights pursuant to this Agreement) under such Arcturus Technology Patents nor obligations hereunder with respect to such Arcturus Technology Patents. For clarity, in the event that the Licensed Product is subsequently determined to be covered or otherwise infringe a Valid Claim of any excluded patent hereunder, then such infringement shall be deemed to be a material breach of this License Agreement by CureVac.

2.4 Documents and Declarations. At CureVac's reasonable request and cost and expense, Arcturus shall execute all documents, deliver declarations regarding the licenses granted hereunder, and Arcturus shall reasonably cooperate with CureVac to the extent such documents, declarations and/or cooperation are required to give effect to this License Agreement and/or for the recording or registration of the licenses granted hereunder at the various patent offices in the Territory for the benefit of CureVac, its Affiliates or their Sublicensees.

2.5 Diligence; Reporting. CureVac shall use Diligent Efforts to develop, manufacture and commercialize Licensed Products in the Field of Use in the Territory, and shall keep Arcturus reasonably informed as to the progress and results of its and its Affiliates' and Sublicensees' development, manufacture and commercialization of the Licensed Product. Without limiting the foregoing, CureVac shall provide Arcturus with a written report of the development, manufacture and commercialization of the Licensed Product within [*****] days after the end of each calendar year, and shall promptly respond to Arcturus reasonable questions or requests for additional information relating to such activities.

2.6 Compliance. CureVac shall at all times comply with all applicable Laws (including anti-bribery laws) in the development, manufacture and commercialization of the Licensed Product and the performance of its other obligations under this License Agreement, and shall not use any employee or consultant who has been debarred by any Regulatory Authority or, to CureVac's knowledge, is the subject of debarment proceedings by a regulatory authority.

2.7 Updates. Arcturus shall inform CureVac within [*****] Business Days of intellectual property matters affecting the Arcturus Technology Patents and the Arcturus Know-How of which it becomes aware that would reasonably be considered to negatively impact the rights of CureVac pursuant to this Agreement.

2.8 Material. CureVac shall have the right to retain Material provided by Arcturus under the Development and Option Agreement, to the extent such Material is necessary or useful for the exercise of a CureVac's rights or obligations under this License Agreement. Following the License Agreement Effective Date, only the provisions of this License Agreement, but not of the Development and Option Agreement, shall apply in relation to such Material.

3. License Limitations.

3.1 Reserved Rights. No licenses or other rights are granted by Arcturus hereunder to use any trademark, trade name, trade dress or service mark owned or otherwise Controlled by Arcturus or any of its Affiliates. All licenses and other rights are or shall be granted only as expressly provided in this License Agreement, and no other licenses or other rights is or shall be created or granted by either Party hereunder by implication, estoppel or otherwise. CureVac shall not, and shall not permit any of its Affiliates or Sublicensees to, practice or use any Arcturus Technology outside of the scope of the license granted to it under Section 2.1 or in contravention of Section 3.1. Arcturus retains the exclusive right to practice, license and otherwise exploit the Arcturus Technology outside the scope of the licenses granted to CureVac under Section 2.1 and in an event to practice any rights that are not exclusive pursuant to Section 2.1.

3.2 Other Licenses. Arcturus acknowledges the rights granted to CureVac pursuant to this Agreement and shall not grant licenses under Arcturus Technology to Third Parties that are in conflict with this License Agreement it being understood that a license to enable or implement any Pre- Existing Licensing Restriction with respect to the Target shall not be deemed a conflict hereunder. In addition, Arcturus shall use Diligent Efforts to undertake that any licenses obtained from Third Parties will be sublicensable to CureVac, to the extent required or useful for the Licensed Product, provided that CureVac shall be responsible for an allocable portion of the payment and obligations that may be required in order to obtain rights with respect to the Licensed Product pursuant to such Third Party agreement.

4. Payments and Royalties.

4.1 Milestone Payments. CureVac will make milestone payments (each, a "Milestone Payment") to Arcturus upon the first occurrence of each of the milestone events (each, a "Milestone Event") by Licensed Product as set forth below in this Section 4.1. CureVac will notify Arcturus of the achievement of each Milestone Event (whether achieved by CureVac, its Affiliates or Sublicensees) within (i) [*****] Business Days of such achievement, if the Milestone Event is achieved by CureVac or its Affiliates, or (ii) [*****] Business Days of the receipt by CureVac of a notification about the achievement, if the Milestone Event is achieved by a Sublicensee.

Each Milestone Payment will be non-refundable, non-creditable and payable to Arcturus by CureVac within [*****] days of delivery of an invoice from Arcturus following notification from CureVac pursuant to the preceding paragraph, provided that if no such notification is timely provided by CureVac, the Milestone Payment shall be deemed payable [*****] days after (A) the achievement of such Milestone Event, if the Milestone Event is achieved by CureVac or its Affiliates, or (B) after the receipt by CureVac of the notification from CureVac pursuant to Section 4.1(ii). For clarity, the term "non-refundable" is not intended to limit either Party's rights to pursue damages arising from a breach of this Agreement.

If one or more of the Milestone Events set forth below are not achieved or not required for any reason, the payment for such skipped Milestone Event will be due at the same time as the payment for the next achieved Milestone Event. For clarity: [*****].

For clarity, to the extent that a Licensed Product is initiated against a Rare Disease Target and later expanded to a non-Rare Disease Target, then any and all Milestone Payments not previously made shall be due and payable upon the achievement of the next non-Rare Disease Milestone (e.g., [*****]).

Milestone Event	*Milestone Payment*
Rare Disease Targets	
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
Non-rare Disease Targets	
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

4.2 Sublicensing Revenues. If within twenty-four (24) months after the License Agreement Effective Date CureVac grants a sublicense to a Third Party under this License Agreement for the development and commercialization of Licensed Products, then CureVac will pay to Arcturus [*****] of all Sublicense Income actually received by CureVac, to the extent the Sublicense Income exceeds the Option Exercise Fee paid by CureVac under the Development and Option Agreement to exercise the Option for this License Agreement and the Milestone Payments paid by CureVac under this License Agreement. The payments will be made within [*****] days after receipt by CureVac from the Third Party. For purposes of clarity, if CureVac grants a sublicense to Third Parties later than [*****] months after the License Agreement Effective Date, CureVac will not owe any Sublicensing Income to Arcturus.

4.3 Royalties.

(a) *Royalty*. Subject to the remainder of this Section 4.3, on a country-by-country basis and a Licensed Product-by-Licensed Product basis, CureVac will pay to Arcturus (i) a royalty of [*****] of Net Sales of the Licensed Product (ii) as well as of any net sales milestones (without offset for any reductions pursuant to Section 4.3(b)) for such Licensed Product received from the Sublicensee.

(b) *Third Party Payments and Royalty Reductions*. If CureVac or its Affiliate or Sublicensee, in its reasonable judgment, considers it necessary or useful to obtain a license from any Third Party under any LMD Technology that Covers a Licensed Product in order to develop, manufacture or commercialize such Licensed Product, the amount of CureVac's royalty obligations under Sections 4.3(a) will be reduced by [*****] of the amount of the upfront, milestone and royalty payments made to such Third Party on account of the development, manufacture or commercialization of such Licensed Product ("Royalty Reductions"), *provided, however*, that any Royalty Reduction shall not result in less than the minimum royalty due to Arcturus under Section (c) below.

(c) *Minimum Royalty.* In no event will the Royalty payable by CureVac to Arcturus for any Licensed Product be less than (i) [*****] if the reduction in subsection (e) does not apply; or (ii) [*****] if the reduction in subsection (e) also applies.

(d) *Term.* The royalty term ("Royalty Term") shall expire on a country-by-country and Licensed Product-by-Licensed Product basis, on the last to occur of (i) expiration of the last to expire Valid Claim in the Arcturus Technology that, but for the license described herein from Arcturus to CureVac for the applicable Licensed Product, is infringed by the making, using or sale of such Licensed Product, (ii) expiration of any period of data exclusivity, market exclusivity or supplemental protection certificates covering the Licensed Product in such country; and (iii) ten (10) years after First Commercial Sale of Licensed Product in such country. For the avoidance of doubt, upon exhaustion of the obligation to pay Royalties to Arcturus as set forth above the continued use of Arcturus Know-How comprised in the Arcturus Technology for the development, manufacture and/or sale of th**e** Licensed Product shall not, in and of itself, obligate CureVac to pay further royalties to Arcturus. Thereafter, CureVac's license under Section 2.1 will become irrevocable, perpetual, fully paid-up and royalty-free on a country-by-country and Licensed Product-by-Licensed Product basis.

(e) *Know-How Royalty.* On a country-by-country, and a Licensed -Product-by-Licensed Product basis, in the event that during the Royalty Term a Licensed Product is not covered by a Valid Claim, the royalty otherwise payable for such Licensed Product, after the Royalty Reductions above, will be reduced by [*****].

4.4 Payment Terms.

(a) *Manner of Payment.* All payments to be made by CureVac hereunder will be made in U.S. dollars by wire transfer to such bank account as Arcturus may designate.

(b) *Records and Audits*. CureVac shall keep, and shall cause each of its Affiliates and Sublicensees, as applicable, to keep adequate books and records of accounting for the purpose of calculating all royalties and other amounts payable to Arcturus hereunder. For the [*****] years next following the end of the calendar year to which each shall pertain, such books and records of accounting (including those of CureVac's Affiliates and Sublicensees) shall be kept at each of their principal places of business and shall be open for inspection at reasonable times and upon reasonable notice by an independent certified accountant selected by Arcturus, and which is reasonably acceptable to CureVac, for the sole purpose of inspecting the Net Sales calculations and supporting details to the extent reasonably necessary and resulting royalties and other amounts due to Arcturus under this License Agreement. In no event shall such inspections be conducted hereunder more frequently than once every [*****] months. Such accountant must have executed and delivered to CureVac and its Affiliates, a confidentiality agreement as reasonably requested by CureVac, which shall include provisions limiting such accountant's disclosure to Arcturus to only the results and basis for such results of such inspection. The results of such inspection, if any, shall be binding on both Parties. Any underpayments plus interest from the original due date shall be paid by CureVac within [*****] days of notification of the results of such inspection. Any overpayments shall be fully creditable against amounts payable in subsequent payment periods. Arcturus shall pay for such inspections, except that in the event there is any upward adjustment in aggregate royalties and other amounts payable for any calendar year shown by such inspection of more than [*****] of the amount paid, CureVac shall reimburse Arcturus for any reasonable out-of-pocket costs of such accountant.

(c) *Reports and Royalty Payments*. For as long as royalties are due under Section 4.3, CureVac shall furnish to Arcturus written reports.

(i) Reports shall be provided within [*****] days of (1) the end of the Calendar Quarter if Net Sales are generated by CureVac and its Affiliates, and (2) the receipt of corresponding information (which may be estimated) from Sublicensees but in any event within [*****] days of the end of the Calendar Quarter with respect to Net Sales generated by such Sublicensees.

(ii) Royalty payments for each Calendar Quarter shall be due within [*****] Business Days of delivery of an invoice from Arcturus following submission of a royalty report from CureVac, but only subject to the prior receipt by CureVac of the corresponding royalty payment from the Sublicensee, if applicable; however such royalty payments due to Arcturus shall not be reduced by deductions which exceed those covered by the Net Sales definition according to Section 1.43.

(iii) The report shall include, at a minimum, the following information for the applicable Calendar Quarter for each Licensed Product if Net Sales are generated by CureVac and its Affiliates: (i) the gross sales by country reasonably required for the calculation of royalty payments due according to this Agreement, (ii) the calculation in reasonable detail of the Net Sales from such gross sales amounts, including the deductions pursuant to the definition of Net Sales and the amounts of any credits or reductions permitted by Section 4.2; and (iii) the computations for any Arcturus currency conversions pursuant to subsection (d) below.

(iv) CureVac will require each Sublicensee to share with Arcturus the information listed in the foregoing clauses as it relates to Net Sales made by such Sublicensee, and to the extent practicable, will include such Sublicensee information in such report; provided that the level of detail with respect to the items subject to report pursuant to Section 4.4(c)(iii) shall be limited to the information that CureVac actually receives from any such Sublicensee. All such reports shall be considered the Confidential Information of CureVac, subject to Section 4.4(b).

(d) *Currency Exchange*. With respect to Net Sales invoiced in U.S. dollars, the Net Sales and the amounts due to Arcturus hereunder will be expressed in U.S. dollars. With respect to Net Sales invoiced in a currency other than U.S. dollars, payments will be calculated based on the average of the closing exchange rates reported by the Wall Street Journal (*http://quotes.wsj.com/fx/EURUSD*), or such other source as the Parties may agree in writing, of the applicable reporting period for the payment due.

(e) *Taxes*. CureVac may withhold from payments due to Arcturus amounts for payment of any withholding tax that is required by Law to be paid to any taxing authority with respect to such payments. CureVac will provide Arcturus all relevant documents and correspondence, and will also provide to Arcturus any other cooperation or assistance on a reasonable basis as may be necessary to enable Arcturus to claim exemption from such withholding taxes and to receive a refund of such withholding tax or claim a foreign tax credit. CureVac will give proper evidence from time to time as to the payment of any such tax. The Parties will cooperate with each other in seeking deductions under any double taxation or other similar treaty or agreement from time to time in force. CureVac shall use Diligent Efforts to minimize withholding taxes. In the event that any tax deduction or withholding obligation arises or increases as a direct result of any reincorporation, redomiciliation, change in source of payments under this Agreement or other similar corporate structuring actions undertaken by CureVac from and after the License Agreement Effective Date, then CureVac shall increase the payment (in respect of which such deduction or withholding of tax is required to be made) to ensure that Arcturus receives an amount equal to the amount that it would have received had no such action occurred. Apart from any such permitted withholding and those deductions expressly included in the definition of Net Sales, the amounts payable by CureVac to Arcturus hereunder will not be reduced on account of any taxes, charges, duties or other levies. Each Party shall be solely responsible for the payment of all taxes imposed on its share of income arising directly or indirectly from the activities of the Parties under this License Agreement.

(f) *Blocked Payments*. In the event that, by reason of applicable law in any country, it becomes impossible or illegal for CureVac or its Affiliates or Sublicensees to transfer, or have transferred on its behalf, payments owed to Arcturus hereunder, CureVac will promptly notify Arcturus of the conditions preventing such transfer and such payments will be deposited in local currency in the relevant country to the credit of Arcturus in a recognized banking institution proposed by Arcturus and reasonably acceptable to CureVac or, if none is proposed by Arcturus within a period of [*****] days, in a recognized banking institution selected by CureVac or its Affiliate or Sublicensee, as the case may be, and identified in a written notice given to Arcturus.

(g) *Interest Due*. If any payment due to Arcturus under this License Agreement is overdue (and is not subject to a good faith dispute), then CureVac will pay interest thereon (before and after any judgment) at an annual rate of the lesser of [*****] above the prime rate as reported in The Wall Street Journal, Eastern Edition, and the maximum rate permitted by applicable Law, such interest to run from the date upon which payment of such sum became due until payment thereof in full together with such interest.

(h) *Mutual Convenience of the Parties*. The royalty and other payment obligations set forth hereunder have been agreed to by the Parties for the purpose of reflecting and advancing their mutual convenience, including the ease of calculating and paying royalties and other amounts to Arcturus.

5. Ownership and Inventorship of IP.

5.1 Solely-Owned IP. As between the Parties and subject to Section 5.3, each Party will own and retain all right, title and interest in and to any and all Know-How and Patents arising therefrom that are discovered, created, conceived, developed or reduced to practice under or in connection with this License Agreement (the "Inventions") solely by or on behalf of such Party. Subject to the licenses hereunder and the other terms and conditions of this License Agreement or any other agreement between the Parties, each Party will be solely responsible for the prosecution and maintenance, and the enforcement and defense, of its solely-owned Patents.

5.2 Inventorship. Inventorship of all Inventions shall be determined in accordance with applicable laws. Each Party will ensure that each employee, consultant and subcontractor conducting any activities under this License Agreement on behalf of such Party will be subject to written agreements to assign to such Party all of its right, title and interest in and to the Inventions so that such Party can comply with its obligations with respect to the ownership allocation of the Inventions as set forth below. In addition, each Party shall be solely responsible for payments that may be required to any of such Party's employees or consultants and subcontractors in connection with or with respect to such agreements, including moral rights payments.

5.3 Ownership. Notwithstanding inventorship in the first instance pursuant to Section 5.2, ownership of all Inventions, as between the Parties, will be assigned by the Parties as follows: (a) Arcturus will solely own all Inventions that are improvements solely to the LMD Technology ("LMD Inventions"), and (b) CureVac will solely own all Inventions that are improvements solely to the mRNA Technology ("mRNA Inventions"). Specifically, CureVac hereby assigns to Arcturus all of its right, title and interest in and to any and all LMD Inventions, and agrees to take such actions reasonably requested by Arcturus to evidence such assignment. Arcturus hereby assigns to CureVac all of its right, title and interest in and to any and all mRNA Inventions, and agrees to take such actions reasonably requested by CureVac to evidence such assignment. For clarity, the assignment provisions with respect to mRNA Inventions are restricted solely to improvements to the mRNA Technology.

6. Patent Prosecution and Maintenance.

6.1 Generally.

(a) As between the Parties and subject to Section 6.2 below, Arcturus (or its Third Party licensor, if any) will have the sole right, at its sole costs, to prosecute and maintain Arcturus Technology Patents, other than the Joint Interest Patents.

(b) In relation to any Arcturus Technology Patents that specifically claim the Licensed Product, prior to filing, Arcturus will provide CureVac with copies of all specific claims relevant to the Licensed Product in such applications for all such Arcturus Technology Patents, and all other material submissions and correspondence relating to such claims with any patent authorities regarding such Arcturus Technology Patents, in sufficient time (not to be less than [*****] days) to allow for review and comment by CureVac. In addition, Arcturus will provide CureVac and its counsel with an opportunity to consult with Arcturus and its counsel regarding prosecution and maintenance of any such Arcturus Technology Patents, and Arcturus will not unreasonably refuse to address all reasonable comments timely made by or on behalf of CureVac.

(c) As between the Parties, CureVac will have the first right to prosecute and maintain any and all Joint Interest Patents and the Parties will share equally all costs incurred by CureVac in connection with such efforts. Prior to filing, CureVac will provide Arcturus with copies of all applications for such Joint Interest Patents, and all other material submissions and correspondence with any patent authorities regarding such Joint Interest Patents, in sufficient time (not to be less than [*****] days) to allow for review and comment by Arcturus. In addition, CureVac will provide Arcturus and its counsel with an opportunity to consult with CureVac and its counsel regarding prosecution and maintenance of any such Joint Interest Patents, and CureVac will consider in good faith all reasonable comments timely made by or on behalf of Arcturus.

(d) In the event that CureVac or its Affiliates grants a sublicense pursuant to Section 2.2, as between CureVac and any such Sublicensee,

(i) to the extent any such Arcturus Technology Patent or Joint Interest Patent does not specifically claim the Licensed Product, CureVac shall retain its rights to prosecute any such sublicensed Arcturus Technology Patents and Joint Interest Patents as set forth in Sections 6.1(b) and 6.1(c); provided, however, that such Sublicense may provide for instruction by the Sublicensee of CureVac's exercise of its rights to prosecute any sublicensed Arcturus Technology Patent or Joint Interest Patent;

(ii) to the extent any such Arcturus Technology Patent or Joint Interest Patent specifically claims the Licensed Product (i.e., with respect to the claims limited to the Licensed Product, but not the broader claims that cover other products or potential products in such Arcturus Technology Patents or Joint Interest Patents), CureVac shall have the right to sublicense its rights to prosecute any such sublicensed Arcturus Technology Patents and Joint Interest Patents as set forth in Sections 6.1(b) and 6.1(c) to the Sublicensee.

6.2 Election Not to Prosecute or Maintain or Pay Patent Costs.

(a) If Arcturus elects not to pay its share of the Patent Costs associated with prosecution or maintenance of any Joint Interest Patents, then it shall assign its co-ownership share in such Patents to CureVac and the respective Patent shall no longer be considered a Joint Interest Patent.

(b) *By CureVac*. If CureVac elects not (i) to file, prosecute or maintain any Joint Interest Patents for which it is responsible under Section 6.1 in any particular country before the applicable filing deadline or continue such activities once filed in a particular country, or (ii) to pay its share of the Patent Costs associated with prosecution or maintenance of any Joint Interest Patents then in each such case CureVac will so notify Arcturus, promptly in writing and in good time to enable Arcturus to meet any deadlines by which an action must be taken to preserve such Joint Interest Patent in such country at Arcturus' expense, if Arcturus so requests. Upon receipt of each such notice by CureVac, Arcturus will have the right, but not the obligation, to notify CureVac in writing on a timely basis that CureVac should transfer the prosecution or maintenance of such Joint Interest Patent to Arcturus and at Arcturus' sole expense. Arcturus is entitled to discontinue the payment of Patent Costs for any Joint Interest Patents at any time, provided that it will so notify CureVac in writing in time for such discontinuance. In the event that Arcturus assumes the prosecution and maintenance of any such Joint Interest Patent, then CureVac would make available to Arcturus all documentation and correspondence with respect to such Joint Interest Patent, such Joint Interest Patent shall no longer be licensed under this Agreement with respect to the Licensed Product.

6.3 Cooperation. Each Party will reasonably cooperate with the other Party in those activities involving the Arcturus Technology Patents and Joint Interest Patents set forth in Sections 6.1 and 6.2. Such cooperation includes promptly executing all documents, or requiring inventors, subcontractors, employees and consultants and agents of CureVac and Arcturus and their respective Affiliates and Sublicensees to execute all documents, as reasonable and appropriate so as to enable such activities in respect of any such Arcturus Technology Patents in any country.

7. Patent Enforcement and Defense.

7.1 Notice. To the extent not in breach of an obligation of confidentiality, each Party will promptly notify, in writing, the other Party upon learning of any actual or suspected infringement of any Arcturus Technology Patents by a Third Party, or of any claim of invalidity, unenforceability, or non-infringement of any Arcturus Technology Patents, and will, along with such notice, supply the other Party with any evidence in its possession pertaining thereto.

7.2 Enforcement and Defense.

(a) *Enforcement*.

(i) As between the Parties,

(1) Arcturus and its Third Party licensor or licensee (solely to the extent of any existing back-up enforcement rights), at its cost, will have the first right, but not the obligation, to seek to abate any infringement of the Arcturus Technology Patents (other than those in subsection (2)) by a Third Party, or to file suit against any such Third Party for such infringement, and

(2) CureVac (or its sublicensee, if any) shall have the first right, but not the obligation, to take action or bring suit and bear all expenses against such Third Party infringer with respect to: (A) Joint Interest Patents; and/or (B) any other Arcturus Technology Patents that, on the date of first notice of such infringement, specifically claim the Licensed Product but are not necessary or useful for the research, development, manufacturing and commercialization of any product comprising Arcturus Technology that is exclusively licensed or optioned to a Third Party or is in Late Stage Development or being commercialized by Arcturus or its Affiliates.

(b) If the Party first responsible for such enforcement elects not to take action or to bring suit to prosecute such infringement or to continue such action or suit, it shall notify the other Party of such election within [*****] days after become aware of or receipt of the notice of the infringement or after the election to stop any such action or suit. If after the expiration of the [*****] days period (or, if earlier, the date upon which the responsible Party provides written notice that it does not plan to bring such action) the responsible Party has neither obtained a discontinuance of infringement nor filed suit against any such Third Party infringer of such Patent, then

(i) in the case of an election by Arcturus and its Third Party licensor or licensee (solely to the extent of any existing back-up enforcement rights) not to prosecute an infringement of an Arcturus Technology Patent specifically claiming the Licensed Product, CureVac shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patents, provided that the infringement is with respect to a product related to the Target(s) under this License Agreement, and further provided that CureVac shall bear all the expenses of such suit and

(ii) in the case of a CureVac election not to prosecute an infringement of a Joint Interest Patents or Arcturus Technology Patent with respect to which CureVac has rights to take first action, (i) Arcturus shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patents, provided that Arcturus shall bear all the expenses of such suit,and CureVac shall join Arcturus in such suit to the extent legally required, unless (ii) CureVac decides to assign its interest in such Joint Interest Patent - on a country-by-country basis - to Arcturus and such Joint Interest Patent shall become an Arcturus Technology Patent and no longer subject to license pursuant to this License Agreement.

(c) *Defense*.

(i) As between the Parties,

(1) Arcturus and its Third Party licensor or licensee (solely to the extent of any existing back-up defense rights) will have the first right, but not the obligation, at its sole costs, to defend against a declaratory judgment action or other action challenging any Arcturus Technology Patents, other than: (i) Joint Interest Patents; and (ii) any other Arcturus Technology Patents that, on the date of first notice of such action, specifically claim the Licensed Product but are not necessary or useful for the research, development, manufacturing and commercialization of any product comprising Arcturus Technology that is exclusively licensed or optioned to a Third Party or is in Late Stage Development or being commercialized by Arcturus or its Affiliates, and

(2) CureVac shall have the first right, but not the obligation, at its sole costs, to defend against a declaratory judgment action or other action challenging Joint Interest Patents as well as such other Arcturus Technology Patents that specifically claim the Licensed Product.

(ii) If the Party first responsible for such defense does not take steps to defend within a commercially reasonably time, or elects not to continue any such defense (in which case it will promptly provide notice thereof to the other Party), then (i) in the case of an election by Arcturus and its Third Party licensor or licensee (solely to the extent of any existing back-up defense rights) not to defend an Arcturus Technology Patent specifically claiming the Licensed Product, CureVac shall have the right, but not the obligation, to defend any Arcturus Technology Patents that cover Licensed Product and no other product licensed or optioned by Arcturus to a Third Party or commercialized by Arcturus, provided that CureVac shall bear all the expenses of such suit and (ii) in the case of a CureVac election not to defend the Joint Interest Patents, Arcturus shall have the right, but not the obligation, to take action or bring suit to defend such Patents, provided that Arcturus shall bear all the expenses of such suit. Notwithstanding the foregoing, in the event that CureVac elects not to prosecute an infringement of a Joint Interest Patent, then CureVac shall, at its discretion, either (i) assign such Joint Interest Patent to Arcturus - on a country-by-country basis -, which shall become an Arcturus Technology Patent and no longer subject to license pursuant to this License Agreement or (ii) join Arcturus in such suit to the extent legally required.

(d) Notwithstanding the foregoing, any response to a Third Party infringer's counterclaim of invalidity or unenforceability of any Arcturus Technology Patents shall be controlled by the Party who controls the relevant enforcement proceeding pursuant to Section 7.2(a) unless otherwise mutually agreed by the Parties.

(e) In the event that CureVac or its Affiliates grants a sublicense pursuant to Section 2.2, as between CureVac and any such Sublicensee,

(i) to the extent any such Arcturus Technology Patent or Joint Interest Patent does not specifically claim the Licensed Product, CureVac shall retain its rights to enforce and defend Arcturus Technology Patents and Joint Interest Patents as set forth in Sections 7.2(a), 7.2(b), 7.2(c) and 7.2(d); provided, however, that CureVac's exercise of its rights to enforce or defend such Arcturus Technology Patent or Joint Interest Patent may be instructed by a Sublicensee;

(ii) to the extent any such Arcturus Technology Patent or Joint Interest Patent specifically claims the Licensed Product, CureVac shall have the right to sublicense its rights to enforce and defend Arcturus Technology Patents and Joint Interest Patents as set forth in Sections 7.2(a), 7.2(b), 7.2(c) and 7.2(d) to the Sublicensee.

(f) *Withdrawal, Cooperation and Participation*. With respect to any infringement or defensive action identified above in this Section 7.2 which may be controlled by either CureVac or Arcturus:

(i) If the controlling Party ceases to pursue or withdraws from such action, it will promptly notify the other Party (in good time to enable the other Party to meet any deadlines by which any action must be taken to preserve any rights in such infringement or defensive action) and such other Party may substitute itself for the withdrawing Party, shall be granted the right and standing to sue in the other Party's name, and proceed under the terms and conditions of this Section 7.2.

(ii) The non-controlling Party will cooperate with the Party controlling any such action (as may be reasonably requested by the controlling Party), including (A) providing access to relevant documents and other evidence, (B) making its and its Affiliates and licensees and Sublicensees and all of their respective employees, subcontractors, consultants and agents available at reasonable business hours and for reasonable periods of time, but only to the extent relevant to such action, and (C) if necessary, by being joined as a party, subject for this clause (C) to the controlling Party agreeing to indemnify such non-controlling Party for its involvement as a named party in such action and paying those Patent Costs incurred by such Party in connection with such joinder. The Party controlling any such action will keep the other Party updated with respect to any such action, including providing copies of all documents received or filed in connection with any such action.

(iii) Each Party will have the right to participate or otherwise be involved in any such action controlled by the other Party, in each case at the participating (i.e., non-controlling) Party's sole cost and expense. If a Party elects to so participate or be involved, the controlling Party will provide the participating Party and its counsel with an opportunity to consult with the controlling Party and its counsel regarding the prosecution of such action (including reviewing the contents of any correspondence, legal papers or other documents related thereto), and the controlling Party will take into account reasonable requests of the participating Party regarding such enforcement or defense.

(g) *Settlement*. Neither Party will settle or consent to an adverse judgment in any action described in this Section 7.2 and controlled by such Party, including any judgment which affects the scope, validity or enforcement of any Arcturus Technology Patents involved therewith, without the prior written consent of the other Party (such consent not to be unreasonably withheld, delayed or conditioned).

(h) *Damages*. Unless otherwise agreed by the Parties, all monies recovered upon the final judgment or settlement of any action which may be controlled by either CureVac or Arcturus and described in Section 7.2(a) or 7.2(c) in each case will be used first to reimburse the controlling Party, and thereafter the non-controlling Party, for each of their out-of-pocket costs and expenses relating to the action, with the balance of any such recovery to be divided as follows:

(i) To the extent the action involves a Third Party's research, development, manufacture or commercialization of any product other than the Licensed Product (or a LMD product directed to the same Target as the Licensed Product), Arcturus shall retain all such recovery; and

(ii) To the extent the action involves a Third Party's research, development, manufacture or commercialization of the Licensed Product (or a LMD product directed to the same Target as the Licensed Product), CureVac will retain such recovery, less the amount of royalties payable to Arcturus by treating such recovery as "Net Sales" hereunder.

(i) Patent Marking. CureVac shall mark all Licensed Product if and to the extent required by the applicable patent marking laws, and shall require all of its Affiliates and sublicensees to do the same.

8. Confidentiality.

8.1 Confidential Information. Each Party ("Disclosing Party") may disclose to the other Party ("Receiving Party"), and Receiving Party may acquire during the course and conduct of activities under this License Agreement, certain proprietary or confidential information of Disclosing Party in connection with this License Agreement.

8.2 Restrictions. During the Term and for [*****] years thereafter, Receiving Party will keep all Disclosing Party's Confidential Information in confidence with the same degree of care with which Receiving Party holds its own confidential information, but in no event less than reasonable care. Receiving Party will not use Disclosing Party's Confidential Information except for in connection with the performance of its obligations and exercise of its rights under this License Agreement. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent to Receiving Party's Affiliates, and each of their employees, subcontractors, consultants and agents who have a need to know such Confidential Information in order to perform their obligations and exercise their rights under this License Agreement and who are under written obligation to comply with the restrictions on use and disclosure that are no less restrictive than those set forth in this Section 8.2. Receiving Party assumes responsibility for such entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

8.3 Exceptions. Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information will not apply to a specific portion of the Disclosing Party's Confidential Information to the extent that Receiving Party can demonstrate that such portion: (i) was known to Receiving Party or any of its Affiliates prior to the time of disclosure by the Disclosing Party without obligation of confidentiality; (ii) is or becomes public knowledge through no action or omission of Receiving Party or any of its Affiliates; (iii) is obtained on a non-confidential basis by Receiving Party or any of its Affiliates from a Third Party who to Receiving Party's knowledge is lawfully in possession thereof (or if possession is obviously unlawful) and under no obligation of confidentiality to Disclosing Party; or (iv) has been independently developed by or on behalf of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information as documented by the internal records of the Receiving Party.

8.4 Permitted Disclosures. Notwithstanding the obligations set forth in Section 8.2, Receiving Party may disclose Disclosing Party's Confidential Information (including this License Agreement and the terms herein) to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(a) in order to comply with applicable Law (including any securities Law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

(b) in connection with prosecuting or defending litigation, and filing, prosecuting and enforcing Arcturus Technology Patents in connection with Receiving Party's rights and obligations pursuant to this License Agreement;

(c) to attorneys, accountants, auditors, acquirers, licensees, partners or permitted assignees; financial advisors, investors and lenders, including potential acquirers, licensees, partners, assignees, financial advisors, investors and lenders; and

(d) in the case of CureVac, to (i) subcontractors; or (ii) potential licensees or collaboration partners, but only such information that is reasonably necessary or useful for the subcontractor to perform the subcontracted work or for the potential licensee or partner to evaluate the applicable Licensed Product, and LMD or Licensed Product manufacturing processes;

provided that (1) where reasonably possible, Receiving Party will notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant to subsections (a) and (b) sufficiently prior to making such disclosure so as to allow Disclosing Party reasonably adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to subsections (c), each of those persons or entities are required to comply with the restrictions on use and disclosure in Section 8.2 (other than financial advisors, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

8.5 Return of Confidential Information. Upon expiry or earlier termination of this License Agreement, upon written request of a Party (such request, if made, to be made within three (3) months of such expiry or termination) the other Party will destroy or return (as shall be specified in such request) to the requesting Party all copies of the Confidential Information of the requesting Party; provided that the Party may retain: (i) one copy of such Confidential Information for record-keeping purposes, for the sole purpose of ensuring compliance with this License Agreement; (ii) any copies of such Confidential Information as is required to be retained under applicable Law; (iii) any copies of such Confidential Information as is necessary or useful for such Party to exercise a right or fulfill an obligation under another License Agreement, if any, or as set forth in this License Agreement; and (iv) any copies of any computer records and files containing Confidential Information that have been created by such Party's routine archiving/backup procedures. Upon request of the requesting Party, the Receiving Party shall confirm in writing to the requesting Party the destruction or return of all copies of the Confidential Information of the requesting Party.

8.6 Publications. Notwithstanding anything in this License Agreement to the contrary, CureVac is permitted to publish the results of its development under this License Agreement, *provided, however*, that it will not disclose Arcturus Confidential Information in any publication by CureVac of the results of any Licensed Product development by CureVac without Arcturus' prior written consent, which will not be unreasonably withheld, conditioned or delayed.

8.7 Terms of this License Agreement; Press Release. The Parties agree that the existence and terms of the Parties' relationship and this License Agreement will be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 8.4. Except as mutually agreed or otherwise required by Law or securities exchange regulation, each Party agrees not to issue any press release or public statement disclosing information relating to the existence of this License Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party.

9. Warranties; Limitations of Liability; Indemnification.

9.1 Representations and Warranties. Each Party represents and warrants to the other as of the License Agreement Effective Date that:

(a) it is a corporation duly organized, validly existing, and in good standing under the Laws of the jurisdiction in which it is incorporated,

(b) it has the legal right and power to enter into this License Agreement, to extend the rights and licenses granted or to be granted to the other in this License Agreement, and to fully perform its obligations hereunder,

(c) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this License Agreement and the performance of its obligations hereunder,

(d) this License Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms and

(e) except with respect to any Pre-Existing Prosecution, Enforcement and Defense Restrictions, the execution, delivery and performance by such Party of this License Agreement and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any understanding, contract or agreement to which such Party is a party or by which it is bound, including, in the case of Arcturus, each of the agreements which Arcturus has identified to CureVac prior to the License Agreement Effective Date, in each case as would reasonably be expected to have a material adverse effect on the rights of the other Party hereunder.

9.2 Additional Representations of Arcturus. Arcturus hereby represents and warrants to CureVac as of the License Agreement Effective Date as follows:

(a) *Impairment*. Except with respect to any Pre-Existing Prosecution, Enforcement and Defense Restrictions, neither Arcturus nor any of its Affiliates has entered into any agreement or otherwise licensed, granted, assigned, transferred, conveyed or otherwise encumbered or disposed of any right, title or interest in or to any of its assets, including any intellectual property rights including Know-How, that would in any way conflict with or impair the scope of any rights or licenses granted to CureVac with respect to the Licensed Product hereunder.

(b) *Patents*. **Appendix 1.4** sets forth a complete and accurate list of all Arcturus Technology Patents. Arcturus Controls the Arcturus Technology, and is entitled to grant the licenses specified herein. To Arcturus' knowledge, the Arcturus Technology Patents have been procured or are being procured from the respective patent offices in accordance with applicable Law. None of the Arcturus Technology Patents is or has been involved in any opposition, cancellation, interference, reissue or reexamination proceeding, and to Arcturus' knowledge as of the License Agreement Effective Date, no Arcturus Technology is the subject of any judicial, administrative or arbitral order, award, decree, injunction, lawsuit, proceeding or stipulation. As of the License Agreement Effective Date, neither Arcturus nor any of its Affiliates has received any notice alleging that the Arcturus Technology Patents are invalid or unenforceable, or challenging Arcturus' ownership of or right to use any such rights.

(c) *Entire LMD Technology.* The Arcturus LMD Technology licensed to CureVac under this License Agreement comprises all LMD Technology Controlled by Arcturus which is necessary or useful to develop, manufacture and commercialize the Licensed Products for purposes of this License Agreement.

(d) *Encumbrances.* As of the License Agreement Effective Date, Arcturus has the right to grant the license herein to CureVac and neither Arcturus nor any of its Affiliates has granted any liens or security interests on the Arcturus Technology to any Third Party that is inconsistent with the license granted to CureVac under Section 2.1.

(e) *Litigation.* There is no action, suit, proceeding or investigation pending or, to the knowledge of Arcturus, currently threatened against or affecting Arcturus that questions the validity of this License Agreement or the right of Arcturus to enter into this License Agreement or consummate the transactions contemplated hereby or that relates to the Arcturus Technology.

(f) *Infringement*. Neither Arcturus nor any of its Affiliates has received any written notice of any claim, nor does Arcturus or its Affiliates have any knowledge of any claim, that any Patent, Know-How or other intellectual property owned or controlled by a Third Party would be infringed or misappropriated by the practice of any Arcturus LMD Technology in connection with the production, use, research, development, manufacture or commercialization of any Licensed Product.

(g) *Third Party Infringement*. To Arcturus' knowledge, no Third Party is infringing or has infringed any Patent within the Arcturus LMD Technology or is misappropriating or has misappropriated any Know-how within the Arcturus LMD Technology, in each case relating to the Target.

9.3 Disclaimers. Without limiting the respective rights and obligations of the Parties expressly set forth herein, each Party specifically disclaims any guarantee that any Licensed Product will be successful, in whole or in part. Except as otherwise expressly provided in this License Agreement, the Parties make no representations and extend no warranty of any kind under this License Agreement, neither express nor implied.

9.4 No Consequential Damages. Notwithstanding anything in this License Agreement or otherwise, neither Party will be liable to the other or any Third Party with respect to any subject matter of this License Agreement for any indirect or consequential damages, provided that this Section 9.4 will not apply to breaches of Article 8 or the Parties' indemnification rights or obligations under Section 9.6, or in the event of willful misconduct.

9.5 Performance by Others. The Parties recognize that each Party may perform some or all of its obligations under this License Agreement through Affiliates, subcontractors or - in the event of CureVac - Sublicensees, *provided, however*, that each Party will remain fully responsible and liable for the performance by its Affiliates, subcontractors and Sublicensees, and will cause its Affiliates, subcontractors and Sublicensees to comply with the provisions of this License Agreement in connection therewith.

9.6 Indemnification.

(a) *Indemnification by CureVac*. CureVac will indemnify Arcturus, its Affiliates and their respective directors, officers, employees, Third Party licensors and agents, and their respective successors, heirs and assigns (collectively, "Arcturus Indemnitees"), and defend and hold each of them harmless, from and against any and all losses, damages, liabilities, costs and expenses (including reasonable attorneys' fees and expenses) (collectively, "Losses") in connection with any and all suits, investigations, claims or demands of Third Parties (collectively, "Third Party Claims") against the Arcturus Indemnitees to the extent arising from or occurring as a result of: (i) the breach by CureVac of any representation or warranty of this License Agreement; (ii) any gross negligence or willful misconduct on the part of any CureVac Indemnitee; or (iii) the development, manufacture or commercialization by or on behalf of CureVac or any of its Affiliates or Sublicensees of Licensed Product other than if related to an LMD component thereof specifically provided by Arcturus, except in each case (i)-(iii) to the extent arising from or occurring as a result of the gross negligence or willful misconduct on the part of an Arcturus Indemnitee or Arcturus' breach of this License Agreement.

(b) *Indemnification by Arcturus*. Arcturus will indemnify CureVac, its Affiliates and their respective directors, officers, employees and agents, and their respective successors, heirs and assigns (collectively, "CureVac Indemnitees"), and defend and hold each of them harmless, from and against any and all Losses in connection with any and all Third Party Claims against CureVac Indemnitees to the extent arising from or occurring as a result of: (i) the breach by Arcturus of any representation or warranty of this License Agreement; or (ii) any gross negligence or willful misconduct on the part of any Arcturus Indemnitee, except in each case (i) and (ii) to the extent arising from or occurring as a result of the gross negligence or willful misconduct on the part of a CureVac Indemnitee or CureVac's breach of this License Agreement.

(c) *Notice of Claim*. All indemnification claims provided for in Sections 9.6(a) and 9.6(b) will be made solely by such Party to this License Agreement (the "Indemnified Party"). The Indemnified Party will promptly notify the indemnifying Party (an "Indemnification Claim Notice") of any Losses or the discovery of any fact upon which the Indemnified Party intends to base a request for indemnification under Section 9.6(a) and 9.6(b), but in no event will the indemnifying Party be liable for any Losses that result from any delay in providing such notice. Each Indemnification Claim Notice must contain a description of the claim and the nature and estimated amount of such Loss (to the extent that the nature and amount of such Loss is known at such time). The Indemnified Party will furnish promptly to the indemnifying Party copies of all papers and official documents received in respect of any Losses and Third Party Claims.

(d) *Defense, Settlement, Cooperation and Expenses.*

(i) *Control of Defense*. At its option, the indemnifying Party may assume the defense of any Third Party Claim by giving written notice to the Indemnified Party within thirty (30) days after the indemnifying Party's receipt of an Indemnification Claim Notice. The assumption of the defense of a Third Party Claim by the indemnifying Party will not be construed as an acknowledgment that the indemnifying Party is liable to indemnify the Indemnified Party in respect of the Third Party Claim, nor will it constitute a waiver by the indemnifying Party of any defenses it may assert against the Indemnified Party's claim for indemnification. Upon assuming the defense of a Third Party Claim, the indemnifying Party may appoint as lead counsel in the defense of the Third Party Claim any legal counsel selected by the indemnifying Party (the indemnifying Party will consult with the Indemnified Party with respect to such counsel and a possible conflict of interest of such counsel retained by the indemnifying Party). In the event the indemnifying Party assumes the defense of a Third Party Claim, the Indemnified Party will as soon as possible deliver to the indemnifying Party all original notices and documents (including court papers) received by the Indemnified Party in connection with the Third Party Claim. In the event that it is ultimately determined that the indemnifying Party is not obligated to indemnify, defend or hold harmless the Indemnified Party from and against the Third Party Claim, the Indemnified Party will reimburse the indemnifying Party for any and all costs and expenses (including reasonable attorneys' fees and costs of suit) and any Third Party Claims incurred by the indemnifying Party in its defense of the Third Party Claim.

(ii) *Right to Participate in Defense*. Without limiting Section 9.6(d)(i), any Indemnified Party will be entitled to participate in, but not control, the defense of such Third Party Claim and to engage counsel of its choice for such purpose; provided, however, that such engagement will be at the Indemnified Party's own cost and expense unless (i) the indemnifying Party has failed to promptly assume the defense and engage counsel in accordance with Section 9.6(d)(i) (in which case the Indemnified Party will control the defense) or (ii) the interests of the Indemnified Party and the indemnifying Party with respect to such Third Party Claim are sufficiently adverse to prohibit the representation by the same counsel of both Parties under applicable Law, ethical rules or equitable principles, in which case the indemnifying Party will assume one hundred percent (100%) of any such costs and expenses of counsel for the Indemnified Party.

(iii) *Settlement*. With respect to any Third Party Claims that relate solely to the payment of money damages in connection with a Third Party Claim and that will not result in the Indemnified Party's becoming subject to injunctive or other relief or otherwise adversely affecting the business of the Indemnified Party in any manner, and as to which the indemnifying Party will have acknowledged in writing the obligation to indemnify the Indemnified Party hereunder, the indemnifying Party will have the sole right to agree to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss, on such terms as the indemnifying Party, in its sole discretion, will deem appropriate. With respect to all other Losses in connection with Third Party Claims, where the indemnifying Party has assumed the defense of the Third Party Claim in accordance with Section 9.6(d)(i), the indemnifying Party will have authority to agree to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss provided it obtains the prior written consent of the Indemnified Party (such consent not to be unreasonably withheld, delayed or conditioned). The indemnifying Party will not be liable for any settlement or other disposition of a Loss by an Indemnified Party that is reached without the prior written consent of the indemnifying Party. Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, no Indemnified Party will admit any liability with respect to or settle, compromise or discharge, any Third Party Claim without the prior written consent of the indemnifying Party, such consent not to be unreasonably withheld, delayed or conditioned.

(iv) *Cooperation*. Regardless of whether the indemnifying Party choose so defend or prosecute any Third Party Claim, the Indemnified Party will, and will use Diligent Efforts to cause each other indemnified party to, cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith, at the indemnifying Party's expense. Such cooperation will include access during normal business hours afforded to the indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party Claim, and making indemnified parties and other employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder, and the indemnifying Party will reimburse the Indemnified Party for all its reasonable out-of-pocket costs and expenses in connection therewith.

(v) *Costs and Expenses*. Except as provided above in this Section 9.6(d), the costs and expenses, including attorneys' fees and expenses, incurred by the Indemnified Party in connection with any claim will be reimbursed on a Calendar Quarter basis by the indemnifying Party, without prejudice to the indemnifying Party's right to contest the Indemnified Party's right to indemnification and subject to refund in the event the indemnifying Party is ultimately held not to be obligated to indemnify the Indemnified Party.

9.7 Insurance. Each Party will maintain at its sole cost and expense, an adequate liability insurance or self- insurance program (including product liability insurance) to protect against potential liabilities and risk arising out of activities to be performed under this License Agreement, and any agreement related hereto and upon such terms (including coverages, deductible limits and self-insured retentions) as are customary in the respective industry of such Party for the activities to be conducted by such Party under this License Agreement. Subject to the preceding sentence, such liability insurance or self-insurance program will insure against all types of liability, including personal injury, physical injury or property damage arising out of the manufacture, sale, use, distribution or marketing of Licensed Product. The coverage limits set forth herein will not create any limitation on a Party's liability to the other under this License Agreement.

10. Term and Termination.

10.1 Term.

(a) This License Agreement will commence as of the License Agreement Effective Date and, unless sooner terminated in accordance with the terms hereof or by mutual written consent, will continue on a Licensed Product-by- Licensed Product and a country-by-country basis, until there are no more payments owed to Arcturus in such country (the longest such period of time hereunder, the "Term"). Upon there being no more such payments hereunder in such country, the license contained in Section 2.1 will become irrevocable, perpetual and fully paid up and will remain in effect with respect to such Licensed Product in such country.

(b) If the Target to which this License Agreement relates is chosen by the Parties for co-development under the Co-Development Agreement, this License Agreement will automatically terminate upon the written agreement of the Parties to include such programs under the Co-Development Agreement, in accordance with Section 4.2(a) of the Co-Development Agreement.

(c) The Parties agree that this Agreement and the Co-Development Agreement relate to different projects and, therefore, the validity, term and termination of this Agreement shall be independent from the validity, term and termination of the Co-Development Agreement.

10.2 Termination by Arcturus.

(a) *Breach*. Arcturus will have the right to terminate this License Agreement in full upon delivery of written notice to CureVac in the event of any material breach by CureVac of any terms and conditions of this License Agreement, provided that such breach has not been cured [*****] after written notice thereof is given by Arcturus to CureVac specifying the nature of the alleged breach.

(b) *Disputed Breach*. If CureVac disputes in good faith the existence or materiality of a breach specified in a notice provided in accordance with Section 10.2(a), and CureVac provides Arcturus notice of such dispute within such [*****] period, then Arcturus shall not have the right to terminate this License Agreement under Section 10.2(a) unless and until it is finally determined, in accordance with Section 11.1, that CureVac has materially breached this License Agreement and that CureVac fails to cure such breach within [*****] following such decision. It is understood and agreed that during the pendency of such dispute, all of the terms and conditions of this License Agreement shall remain in effect and the Parties shall continue to perform all of their respective obligations hereunder. During the pendency of any such dispute, CureVac shall pay to Arcturus all Milestone Payments and royalty payments set forth herein.

(c) *Patent Challenge*. Except to the extent the following is unenforceable under the Laws of a particular jurisdiction, Arcturus may terminate this License Agreement on a Patent-by-Patent basis upon delivery of [*****] prior written notice to CureVac

(i) if CureVac or its Affiliates, individually or in association with any other person or entity, commences a legal action challenging the validity, enforceability or scope of any Arcturus Technology Patents anywhere in the world and does not withdraw or settle such challenge within the [*****] cure period; or

(ii) if a sublicensee of CureVac, individually or in association with any other person or entity, commences a legal action challenging the validity, enforceability or scope of any Arcturus Technology Patents anywhere in the world and CureVac does not terminate the corresponding sublicense agreement or such challenge is not withdrawn or settled (by such sublicensee or CureVac) within the [*****] cure period.

10.3 Termination by CureVac; Certain Remedy for Breach.

(a) *Breach*. CureVac will have the right to terminate this License Agreement in full upon delivery of written notice to Arcturus in the event of any material breach by Arcturus of any terms and conditions of this License Agreement, provided that such breach has not been cured within [*****] after written notice thereof is given by CureVac to Arcturus specifying the nature of the alleged breach.

(b) *Discretionary Termination*. CureVac will have the right to terminate this License Agreement in full at its discretion for any reason by delivering written notice to Arcturus, such termination to be effective [*****] following the date of such notice.

(c) *Maintenance of License*. In the event of a material breach by Arcturus of Sections 2.2(c) or 3.2, if such breach has not been cured within [*****] after written notice thereof, CureVac may notify Arcturus in writing that the License Agreement shall remain in full force and effect, provided that any remaining payments to Arcturus pursuant to Sections 4.1, 4.2 and 4.3 following such notification shall be reduced by [*****].

10.4 Rights Upon Bankruptcy. All rights and licenses granted under or pursuant to this License Agreement by Arcturus or its Affiliates are, and will otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of right to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code. The Parties agree that CureVac and its Affiliates and Sublicensees, as licensees of such rights under this License Agreement, will retain and may fully exercise all of their rights and elections under the U.S. Bankruptcy Code and any foreign counterparts thereto. Without limiting the Parties' rights under Section 365(n) of the U.S. Bankruptcy Code, if a case under U.S. Bankruptcy Code is commenced by or against a Party, the other Party shall be entitled to a copy of any and all such intellectual property and all embodiments of such intellectual property, and the same, if not in the possession of such other Party, shall be promptly delivered to it (i) before this License Agreement is rejected by or on behalf of the bankrupt Party, within thirty (30) days after the other Party's written request, unless the bankrupt Party, or its trustee or receiver, elects within thirty (30) days to continue to perform all of its obligations under this License Agreement, or (ii) after any rejection of this License Agreement by or on behalf of the bankrupt Party, if not previously delivered as provided under clause (i) above. All rights of the Parties under this Section 10.4 and under Section 365(n) of the U.S. Bankruptcy Code are in addition to and not in substitution of any and all other rights, powers, and remedies that each Party may have under this License Agreement, under the U.S. Bankruptcy Code, and any other applicable Laws. The non-bankrupt Party shall have the right to perform the obligations of the bankrupt Party hereunder with respect to such intellectual property, but neither such provision nor such performance by the non-bankrupt Party shall release the bankrupt Party from any such obligation or liability for failing to perform it.

10.5 Effects of Termination.

(a) Upon termination (but not expiration pursuant to Section 10.1) of this License Agreement for any reason:

(i) *Cessation of Rights*. Except as expressly provided herein, including Sections 8.5, 10.5(a) and as necessary for CureVac to sell off existing inventory as permitted under Section 10.5(iii) below, all rights and licenses granted by Arcturus to CureVac under this License Agreement will terminate. CureVac shall wind down the development (including any clinical trials), manufacture and commercialization of the Licensed Product in compliance with all applicable Laws and at its own cost and expense.

(ii) *Sell Off.* Notwithstanding the termination of CureVac's licenses and other rights under this License Agreement, CureVac shall retain the right to distribute, sell or otherwise dispose of its existing inventory of the Licensed Products, in each case that is intended for distribution, sale or disposition in the Territory, for a period of not more than six (6) months following the date of the effective termination, as though this License Agreement had not been terminated, and such distribution, sale or other disposition shall not constitute infringement of the Patents or other intellectual property or proprietary rights of Arcturus or its Affiliates. CureVac's right to distribute, sell or otherwise dispose of its existing inventory of the Licensed Products pursuant to this Section 10.5(a)(ii) shall be subject to CureVac's continuing obligation to pay royalties with respect to the Net Sales.

(b) Upon termination pursuant to Section 10.1(b), Arcturus shall refund to CureVac the Option Exercise Fee (as defined in the Development and Option Agreement), the Milestone Payments already paid by CureVac and all other payments made by CureVac in relation to this License Agreement.

10.6 Survival. In addition to the termination consequences set forth in Section 10.5, the following provisions will survive termination or expiration of this License Agreement: Sections 1, 4 (to the extent of any outstanding payments accrued as of the effective date of termination), 5, 8, 9.4, 9.6, 10.5, 10.6 and 11. Termination or expiration of this License Agreement will not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this License Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations will terminate upon expiration of this License Agreement.

11. General Provisions.

11.1 Dispute Resolution.

(a) *Disputes*. Disputes arising under or in connection with this License Agreement will be resolved pursuant to this Section 11.1; *provided*, *however*, that in the event a dispute cannot be resolved without an adjudication of the rights or obligations of a Third Party (other than any CureVac Indemnitees or Arcturus Indemnitees identified in Section 9.6), the dispute procedures set forth Sections 11.1(c) and 11.1(c) will be inapplicable as to such dispute.

(b) *Dispute Escalation*. In the event of a dispute between the Parties, the Parties will first attempt in good faith to resolve such dispute by negotiation and consultation between themselves. In the event that such dispute is not resolved on an informal basis within thirty (30) days, either Party may, by written notice to the other, have such dispute referred to each Party's Chief Executive Officer or his or her designee (who will be a senior executive with the appropriate authority to determine the matter for such party), who will attempt in good faith to resolve such dispute by negotiation and consultation for a thirty (30) day period following receipt of such written notice

(c) *Dispute Resolution.* In the event the Chief Executive Officers of the Parties are not able to resolve such dispute as set forth above, the Parties agree to try to solve such dispute amicably by mediation. The Parties shall conduct a mediation procedure according to the Mediation Rules of the World Intellectual Property Organization (WIPO) in effect on the date of the commencement of the mediation proceedings. The location of the mediation proceedings will be New York City, New York, U.S.. The number of mediators will be one (1). The language of the mediation proceedings will be English. If the dispute has not been settled pursuant to the said rules within sixty (60) days following the filing of a request for mediation or within such other period as the Parties may agree in writing, either Party may submit the dispute to final and binding arbitration. Any dispute relating to the validity performance, construction or interpretation of this License Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in this Section 11.1, shall be submitted to arbitration in accordance with the Arbitration Rules of WIPO in effect on the date of the commencement of the arbitration proceedings. The location of the arbitration proceedings will be New York City, New York, U.S.. The number of arbitrators will be three (3). The language of the arbitration proceeding will be English. The decision of the arbitrators shall be final and binding upon the Parties (absent manifest error on the part of the arbitrator(s)) and enforceable in any court of competent jurisdiction.

11.2 Relationship of Parties. Nothing in this License Agreement is intended or will be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the Parties. No Party will incur any debts or make any commitments for the other, except to the extent, if at all, specifically provided therein. There are no express or implied third party beneficiaries hereunder (except for CureVac Indemnitees and Arcturus Indemnitees for purposes of Section 9.6). For clarity, CureVac does not grant to Arcturus any rights or licenses under this License Agreement to any CureVac technology or intellectual property rights.

11.3 Compliance with Law. Each Party will perform or cause to be performed any and all of its obligations or the exercise of any and all of its rights hereunder in good scientific manner and in compliance with all applicable Law.

11.4 Governing Law. This License Agreement will be governed by and construed in accordance with the Laws of the State of New York, U.S., without respect to its conflict of Laws rules.

11.5 Counterparts; Facsimiles. This License Agreement may be executed in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this License Agreement by either Party will constitute a legal, valid and binding execution and delivery of this License Agreement by such Party.

11.6 Headings. All headings in this License Agreement are for convenience only and will not affect the meaning of any provision hereof.

11.7 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this License Agreement. Accordingly, the rule of construction that any ambiguity in this License Agreement will be construed against the drafting party will not apply.

11.8 Interpretation. Whenever any provision of this License Agreement uses the term "including" (or "includes"), such term will be deemed to mean "including without limitation" (or "includes without limitations"). "Herein," "hereby," "hereunder," "hereof" and other equivalent words refer to this License Agreement as an entirety and not solely to the particular portion of this License Agreement in which any such word is used. All definitions set forth herein will be deemed applicable whether the words defined are used herein in the singular or the plural. Unless otherwise provided, all references to Sections and Appendices in this License Agreement are to Sections and Appendices of this License Agreement. References to any Sections include Sections and subsections that are part of the related Section.

11.9 Binding Effect. This License Agreement will inure to the benefit of and be binding upon the Parties, their Affiliates, and their respective lawful successors and assigns.

11.10 Assignment. This License Agreement may not be assigned by either Party, nor may either Party delegate its obligations or otherwise transfer licenses or other rights created by this License Agreement, except as expressly permitted hereunder or otherwise without the prior written consent of the other Party, which consent will not be unreasonably withheld, delayed or conditioned; provided that either Party may assign this License Agreement without such consent to an Affiliate or to its successor in connection with sale of all or substantially all of its assets or business or that portion of its business pertaining to the subject matter of this License Agreement (whether by merger, consolidation or otherwise).

11.11 Notices. All notices, requests, demands and other communications required or permitted to be given pursuant to this License Agreement will be in writing and will be deemed to have been duly given upon the date of receipt if delivered by hand, recognized international overnight courier, or registered or certified mail, return receipt requested, postage prepaid or facsimile (and promptly confirmed by personal delivery, registered or certified mail or overnight courier) to the following addresses (or to such address as a Party may subsequently provide by written notice in accordance with this Section 11.11):

If to CureVac: CureVac AG

Paul-Ehrlich-Str. 15
72076 Tübingen
Germany
Attention: CEO and General Counsel
Fax: +49 7071 9883 – 1101

If to Arcturus: Arcturus Therapeutics Inc.

10628 Science Center Drive
Suite 200
San Diego, California 92121 USA
Attn: Chief Executive Officer
Copy to: General Counsel
Fax: (858) 300-5028

with a copy to (which copy shall not constitute notice):

Cooley LLP
3175 Hanover St.
Palo Alto, CA 94303
Attn: Glen Y. Sato
Fax: (650) 849-7400

11.12 Amendment and Waiver. This License Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties; provided that any unilateral undertaking or waiver made by one Party in favor of the other will be enforceable if undertaken in a writing signed by the Party to be charged with the undertaking or waiver. Any waiver of any rights or failure to act in a specific instance will relate only to such instance and will not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

11.13 Severability. In the event that any provision of this License Agreement will, for any reason, be held to be invalid or unenforceable in any respect, such invalidity or unenforceability will not affect any other provision hereof, and the Parties will negotiate in good faith to modify the License Agreement to preserve (to the extent possible) their original intent.

11.14 Entire Agreement. This License Agreement together with the Development and Option Agreement and any other license agreements entered into during the Term pursuant to the Development and Option Agreement are the sole agreement with respect to the subject matter hereof and supersedes all other agreements and understandings between the Parties with respect to same.

11.15 Force Majeure. Neither Arcturus nor CureVac will be liable for failure of or delay in performing obligations set forth in this License Agreement (other than any obligation to pay monies when due), and neither will be deemed in breach of such obligations, if such failure or delay is due to natural disasters or any causes reasonably beyond the control of Arcturus or CureVac; provided that the Party affected will promptly notify the other of the force majeure condition and will exert reasonable efforts to eliminate, cure or overcome any such causes and to resume performance of its obligations as soon as possible.

Appendix 1.3

Description of the Arcturus LMD Technology

[*To be completed in accordance with Section 5.2 of the Development and Option Agreement.*]

Appendix 1.4

Patents and Know-How within the Arcturus Technology
as of the License Agreement Effective Date

[*To be updated in accordance with Section 5.2 of the Development and Option Agreement.*]]

(A) Patents

ARCTURUS LMD TECHNOLOGY

[*****]

[*****]

(B) Know-How

[*****]

Appendix 1.28

Joint Interest Patents

[*To be completed in accordance with Section 5.2 of the Development and Option Agreement and updated during the Term*]

Appendix 1.51

Pre-Existing Restrictions

- [*****]

Appendix 1.60

Description of the Target

The description for a Target described in sub-clause (a) of the definition of Target shall include the following information:

a. [*****];

b. [*****]; and

c. [*****]; and

d. [*****]

The description for a Target described in sub-clause (b) of the definition of Target shall include the following information:

a. [*****]

The description for a Target described in sub-clause (c) of the definition of Target shall include the following information:

a. [*****]; and

b. [*****]

Schedule 1-B

EXCLUSIVE LICENSE AGREEMENT

by and between

CUREVAC AG

and

ARCTURUS THERAPEUTICS INC.

Dated

May 3, 2018

Table of Contents

List of Appendices

Appendix 1.3	Description of the Arcturus LMD Technology
Appendix 1.4	Patents and Know-How within the Arcturus Technology as of the License Agreement Effective Date
Appendix 1.28	Joint Interest Patents
Appendix 1.50	Pre-Existing Restrictions
Appendix 1.59	Description of the Target

License Agreement

This License Agreement ("License Agreement"), effective as of delivery of an Acceptance Notice in accordance with Section 5.1(b) of the Development and Option Agreement (as defined below) (the "License Agreement Effective Date"), is made by and between Arcturus Therapeutics Inc., a Delaware corporation ("Arcturus"), and CureVac AG, a German stock corporation with offices at Paul-Ehrlich-Strasse 15, 72076 Tuebingen, Germany ("CureVac"). Each of Arcturus and CureVac may be referred to herein as a "Party" or together as the "Parties."

WHEREAS, Arcturus has expertise and intellectual property relating to the development of LMD Technologies (as defined below) that embody or incorporate delivery systems (and components thereof) for molecular therapeutics based on or incorporating lipid-enabled and unlocked nucleomonomer platform for delivery of nucleic acids as specified in **Appendix 1.3**, the Arcturus LMD Technology; and

WHEREAS, CureVac has expertise and intellectual property relating to mRNA Constructs (as defined below); and

WHEREAS, Arcturus and CureVac are parties to that certain Development and Option Agreement (dated January 1, 2018, and amended as of May 3, 2018) (the "Development and Option Agreement") pursuant to which CureVac has options to take licenses under the Arcturus LMD Technology (as defined below) with respect to CureVac's mRNA Constructs; and

WHEREAS, pursuant to the terms of the Development and Option Agreement, CureVac has exercised an option to obtain a license pursuant to this Agreement with respect to the Target (as defined below) and the Parties are now entering into a licensing arrangement whereby CureVac will have a license under the Arcturus LMD Technology to develop and commercialize Licensed Products (as defined below) with respect to such Target.

WHEREAS, the Parties intend to also co-develop an ornithine transcarbamylase ("OTC") deficiency product and possibly other products under a separate co-development and co-commercialization agreement ("Co-Development Agreement").

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the amount and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Definitions.

The following terms and their correlatives will have the following meanings:

1.1 "Affiliate" of a person or entity means any other entity which (directly or indirectly) is controlled by, controls or is under common control with such person or entity. For the purposes of this definition, the term "control" (including, with correlative meanings, the terms "controlled by" and "under common control with") as used with respect to an entity will mean (i) in the case of a corporate entity, direct or indirect ownership of voting securities entitled to cast at least fifty percent (50%) of the votes in the election of directors or (ii) in the case of a non-corporate entity, direct or indirect ownership of at least fifty percent (50%) of the equity interests with the power to direct the management and policies of such entity provided that if local Law restricts foreign ownership, control will be established by direct or indirect ownership of the maximum ownership percentage that may, under such local Law, be owned by foreign interests. [*****].

1.2 "Arcturus Indemnitees" has the meaning set forth in Section 9.6(a).

1.3 "Arcturus LMD Technology" means any and all LMD Technology for delivering RNA therapeutics that is Controlled by Arcturus or any of its Affiliates as of the Effective Date or during the Term, including the LUNAR™ platform, a description of which technology, as in existence as of the License Agreement Effective Date, is set forth on **Appendix 1.3**.

1.4 "Arcturus Technology" means any Patents and Know-How that are Controlled by Arcturus or any of its Affiliates as of the License Agreement Effective Date or during the Term and that are necessary or useful for the research, development, manufacturing and commercialization of Licensed Products. The Patents and Know-How comprised in the Arcturus Technology as of the License Agreement Effective Date are listed in **Appendix 1.4**. Arcturus Technology shall include the Arcturus LMD Technology. Notwithstanding the foregoing, Arcturus Technology shall exclude

(a) any Patents and Know-How acquired by Arcturus after License Agreement Effective Date if Arcturus is required to make any payment to a Third Party in connection with the grant, maintenance or exercise of a sublicense to CureVac, unless CureVac agrees in writing to reimburse Arcturus for all such payments; *provided*, *however*, that such payments shall reduce CureVac's royalty obligations in accordance with Section 4.3(b),

(b) any Patents and Know-How of a Third Party (including its Affiliates) that becomes Arcturus' Affiliate after the License Agreement Effective Date as a results of a Change of Control, but only if and to the extent that it is not LMD Technology, and

(c) any Patents that CureVac elects to exclude pursuant to Section 2.3.

1.5 "Arcturus Technology Patent(s)" means any and all Patents comprised in the Arcturus Technology during the Term, unless otherwise set forth herein. For clarity, Arcturus Technology Patents include Arcturus' interest in the Joint Interest Patents.

1.6 "Business Day" means a day other than a Saturday, Sunday, or bank or other public holiday in San Diego, California, USA or Tübingen, Germany or Boston, Massachusetts, USA.

1.7 "cGMP" means current Good Manufacturing Practices as specified in the U.S. C.F.R., ICH Guideline Q7A, or equivalent Laws of an applicable Regulatory Authority at the time of manufacture.

1.8 "Calendar Quarter" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

1.9 "Change of Control" with respect to Arcturus, shall be deemed to have occurred if during the Term (i) any person or entity is or becomes the "beneficial owner", directly or indirectly, of shares of capital stock or other interests (including partnership interests) of Arcturus then outstanding and normally entitled (without regard to the occurrence of any contingency) to vote in the election of the directors, managers or similar supervisory positions of Arcturus representing fifty percent (50%) or more of the total voting power of all outstanding classes of voting stock of Arcturus or has the power, directly or indirectly, to elect a majority of the members of Arcturus' board of directors, or similar governing body; or (ii) Arcturus enters into a merger, consolidation or similar transaction with another person or entity; or (iii) Arcturus sells or transfers to any Third Party, in one (1) or more related transactions, properties or assets representing all or substantially all of Arcturus' consolidated total assets to which this License Agreement relates, *provided however*, that:

(a) subsections (i) to (iii) shall only apply if the person or entity or Third Party acquiring control is (i) a pharmaceutical company which has experience in developing and commercializing pharmaceutical products (*i.e.*, is a strategic, not financial investor or partner) or (ii) a competitor, i.e., a company whose business consists principally of mRNA development, manufacturing and/or commercialization, and

(b) a bona fide financing transaction with Third Parties that does not otherwise meet the requirements of subsection (a) shall not constitute a Change of Control.

1.10 "Combination Product" means a Licensed Product that includes at least one additional active pharmaceutical ingredient other than LMDs, mRNA Constructs, and other RNAs (i.e., Guide RNA(s)) or DNA Sequence(s). Drug delivery vehicles, adjuvants, and excipients shall not be deemed to be "active ingredients", except in the case where such delivery vehicle, adjuvant, or excipient is recognized as an active ingredient in accordance with 21 C.F.R. 210.3(b)(7) or equivalent Laws in other jurisdictions, *provided however*, should LMDs comprised in a Licensed Product be characterized as "active ingredients" at any time during the Term, such LMDs will not be considered an "active ingredient" for the purposes of this definition.

1.11 "Confidential Information" of a Party means all proprietary Know-How, unpublished patent applications and other non-public information and data of a financial, commercial, business, operational, scientific or technical nature of such Party that is disclosed by or on behalf of such Party or any of its Affiliates or otherwise made available to the other Party or any of its Affiliates, whether made available orally, in writing or in electronic form in connection with this License Agreement, including information comprising or relating to concepts, discoveries, inventions, data, designs or formulae in connection with this License Agreement. In addition, any non-public information related to this License Agreement or the Licensed Products hereunder and disclosed by a Party to the other Party (or their respective Affiliates) under the Development and Option Agreement will be deemed such Party's Confidential Information hereunder. Technology will be considered the Confidential Information of the Party (or Parties) owning such Technology, and jointly-owned Technology will be considered Confidential Information of both Parties.

1.12 "Control" or "Controlled" means with respect to Technology, a Party owns or has a license to use and practice the respective Patent or Know-How without violating the terms of any agreement with any Third Party.

1.13 "CTA" means a clinical trial application.

1.14 "CureVac Indemnitees" has the meaning set forth in Section 9.6(b).

1.15 "Development and Option Agreement" has the meaning set forth in the Preamble.

1.16 "Diligent Efforts" means, with respect to the efforts to be expended by each Party with respect to the activities of a Party pursuant to this Agreement, active and sustained efforts to conduct the applicable activity, or to attempt to achieve the applicable requirement or goal, in a prompt and expeditious manner, as is reasonably practicable under the circumstances (including the level of FTE funding and budget for out-of-pocket and Third Party contractors set forth therein) and the terms of this Agreement.

1.17 "Disclosing Party" has the meaning set forth in Section 8.1

1.18 "Field of Use" means the treatment and diagnosis of all diseases and conditions.

1.19 "First Commercial Sale" means the first sale for use or consumption of any Licensed Product in a country after all required Regulatory Approvals for commercial sale of such Licensed Product have been obtained in such country.

1.20 "FTE" means a full-time person, or more than one person working the equivalent of a full-time person, where "full-time" is determined by the standard practices in the biopharmaceutical industry in the geographic area in which such personnel are working, consisting of a total of 1880 hours per year of work on the applicable activities. Any person who devotes less than 1880 hours per year on the applicable activities shall be treated as an FTE on a pro-rated basis, based upon the actual number of hours worked by such person on such activities, divided by 1880. Any person who devotes more than 1880 hours per year on the applicable activities shall be treated as one (1) FTE, i.e., in no event shall one person be counted as more than one FTE. FTE activities shall include the performance of the applicable activities and scientific management oversight, as reasonably required, but, for clarity, exclude (i) the work of general corporate or administrative personnel, overhead (including facilities costs), insurances and similar costs.

1.21 "FTE Costs" means an initial rate of [*****] Dollars ($[*****]) per FTE per year, which shall apply through December 31, 2019. Thereafter, the FTE Rate shall be changed bi-annually at the end of each second calendar year to reflect any percentage increase or decrease (as the case may be) in the Consumer Price Index in the U.S. (index for all items) ("**CPI**") (based on the change in the CPI from the most recent index available as of the Effective Date to the most recent index available as of the date of the calculation of such revised FTE Cost rate).

1.22 "IND" means an investigational new drug application, or equivalent application or submission for approval to conduct human clinical trials.

1.23 "Indemnification Claim Notice" has the meaning set forth in Section 9.6(c).

1.24 "Indemnified Party" has the meaning set forth in Section 9.6(c).

1.25 "Indication" means an individual disease or clinical condition with respect to which at least one adequate and well controlled study is required to support inclusion of such disease or condition in the indication statement of an FDA approved package insert for a Licensed Product.

1.26 "Initiation" means in connection with a clinical trial in any of its phases 1 through 3 the first dosing of the fifth patient or fifth healthy subject.

1.27 "Inventions" has the meaning set forth in Section 5.1.

1.28 "Joint Interest Patents" means the Patents generated under the Development and Option Agreement and jointly owned by the Parties. Such Joint Interest Patents are listed in **Appendix 1.28** hereto, as amended from time to time.

1.29 "Know-How" means all commercial, technical, scientific and other know-how and information, trade secrets, knowledge, technology, methods, processes, practices, formulae, instructions, skills, techniques, procedures, experiences, ideas, technical assistance, designs, drawings, assembly procedures, computer programs, specifications, data and results (including biological, chemical, pharmacological, toxicological, pharmaceutical, physical and analytical, preclinical, clinical, safety, manufacturing and quality control data and know-how, including study designs and protocols), in all cases, provided it is confidential and proprietary, and regardless of whether patentable, in written, electronic or any other form now known or hereafter developed.

1.30 "Late Stage Development" means Development after the Initiation of a Phase 3 Study.

1.31 "Law" or "Laws" means all laws, statutes, rules, regulations, orders, judgments, or ordinances having the effect of law of any federal, national, multinational, state, provincial, county, city or other political subdivision.

1.32 "License Agreement" has the meaning set forth in the Preamble.

1.33 "License Agreement Effective Date" has the meaning set forth in the Preamble.

1.34 "Licensed Product" means [*****] product comprised of (i) LMD systems, which are covered by Arcturus LMD Technology; and containing (ii) one or more mRNA Constructs as the active pharmaceutical ingredient(s) intended to express the Target. In case of two or more mRNA Constructs these constructs may be contained in the same or separate LMDs. Licensed Product includes mRNA-LMD products which are administered jointly or separately, and mRNA-LMD products which are administered simultaneously or sequentially as a combination medicinal product or treatment. For Gene Editing purposes a Licensed Product may contain other RNA(s) (i.e., Guide RNA(s)) and/or DNA Sequence(s) which can be delivered together or separately (combined in one LMD or delivered in separate LMDs), in addition to the one or more mRNA Constructs intended to express the DNA Editing Protein.

1.35 "LMD Technology" means Technology Controlled by Arcturus that claims, embodies or incorporates delivery systems (and components thereof) based on or incorporating lipid-mediated delivery (LMD) systems.

1.36 "Losses" has the meaning set forth in Section 9.6(a).

1.37 "Materials" means any tangible chemical or biological material, including any compounds, LMD, DNA, RNA (including mRNA), clones, cells, and any expression product, progeny, derivative or other improvement thereto, along with any tangible chemical or biological material embodying any Know-How, Controlled by Arcturus.

1.38 "mRNA Construct" means any mRNA construct for the expression of a protein, including the sequence of such construct (which potentially comprises one (1) or more of a cap, 5' UTR, the associated open reading frame, 3'UTR and a poly A tail), the chemistry of natural and non-natural nucleic acids, and other chemical modifications associated with such construct, such mRNA Construct being covered by mRNA Technology.

1.39 "mRNA Technology" means Technology Controlled by CureVac that claims, embodies or incorporates expression systems (and components thereof), based on or incorporating mRNA.

1.40 "Milestones" means the milestones payable pursuant to Section 4.1.

1.41 "Milestone Event" has the meaning set forth in Section 4.1.

1.42 "Milestone Payment" has the meaning set forth in Section 4.1.

1.43 "Net Sales" means, with respect to any Licensed Product, the gross amount received by CureVac and its Affiliates and Sublicensees for *bona fide* sales of such Licensed Product to a Third Party (other than Affiliates and Sublicensees but including distributors for resale), less deductions, in each case to the extent reasonable, customary, actually allowed and taken in connection with the sale of such Licensed Product and not otherwise recovered or reimbursed:

(a) discounts (including cash, quantity and patient program discounts), retroactive price reductions, commissions, charge-back payments and rebates granted to managed health care organizations or to federal, state and local governments, their agencies, and purchasers and reimbursers or to trade customers;

(b) credits or allowances actually granted upon claims, damaged goods, rejections or returns of, such Licensed Product and not in excess of the selling price of such Product, including such Licensed Product returned in connection with recalls or withdrawals;

(c) freight out, postage, shipping and insurance charges for delivery of such Licensed Product;

(d) taxes or duties levied on, absorbed or otherwise imposed on the sale of such Licensed Product, including value-added taxes, or other governmental charges otherwise imposed upon the billed amount, as adjusted for rebates and refunds; and

(e) wholesaler and distributor administration fees

(f) other customary deductions taken in the ordinary course of business in accordance with IFRS (International Financial Reporting Standards) principles.

If a single item falls into more than one of the above categories above, such items will not be deducted more than once.

Net Sales shall not include any payments among CureVac, its Affiliates and Sublicensees. Net Sales shall be determined in accordance with generally accepted accounting principles, consistently applied across all products. Net Sales for any Combination Product shall be calculated on a country-by-country basis by multiplying actual Net Sales of such Combination Product by the fraction A/(A+B), where A is the weighted average price paid for the Licensed Product contained in such Combination Product sold separately in finished form in such country, and B is the weighted average invoice price paid for the other active ingredients contained in such Combination Product sold separately in finished form in such country, if such Licensed Product and such other active ingredients are each sold separately in such country.

If such other active ingredients are not sold separately in such country, then Net Sales for such Combination Product shall be calculated on a country-by-country basis by multiplying actual Net Sales of such Combination Product by the fraction A/C, where C is the weighted average invoice price paid for such Combination Product in such country. If such Licensed Product is not sold separately in finished form in such country, Net Sales for such Licensed Product will be determined by CureVac's good faith estimate of the relative contribution of such Licensed Product and each such other active ingredients in such Combination Product, and shall take into account in good faith any applicable allocations and calculations that may have been made for the same period in other countries.

1.44 "Non-Rare Disease Target" means a Target that addresses at a first place an indication related to a Licensed Product with an incidence of equal to or more than [*****] in [*****] people in the U.S. or EU. The indication for which the first IND or CTA application will be filed will determine whether a Target is a Non-Rare Disease Target.

1.45 "Patent(s)" means (a) an issued patent, a patent application, and a future patent issued from any such patent application, (b) a future patent issued from a patent application filed in any country worldwide which claims priority from a patent or patent application of (a), and (c) any additions, divisions, continuations, continuations-in-part, invention certificates, substitutions, reissues, reexaminations, extensions, registrations, utility models, supplementary protection certificates and renewals based on any patent or patent application under (a) or (b), but not including any rights that give rise to regulatory exclusivity periods (other than supplementary protection certificates, which will be treated as "Patents" hereunder)

1.46 "Patent Costs" means the reasonable, documented, out-of-pocket costs and expenses paid to outside legal counsel, and filing and maintenance expenses, actually and reasonably incurred by a Party in prosecuting and maintaining Patents with respect to Licensed Products and enforcing and defending them.

1.47 "Phase 1 Study" means a human clinical trial of a Licensed Product in any country that would satisfy the requirements of 21 CFR 312.21(a) or corresponding foreign regulations.

1.48 "Phase 2 Study" means a human clinical trial of a Licensed Product in any country that would satisfy the requirements of 21 CFR 312.21(b) or corresponding foreign regulations.

1.49 "Phase 3 Study" means a human clinical trial of a Licensed Product in any country that would satisfy the requirements of 21 CFR 312.21(c) or corresponding foreign regulations.

1.50 "Pre-Existing Restrictions" means, with respect to the Target, those certain prosecution, enforcement and defense rights granted by Arcturus or its Affiliates to a Third Party(ies) with respect to the Patents pursuant to the *bona fide* written agreement(s) set forth on **Exhibit 1.50** hereto as such *bona fide* written agreement(s) were in effect as of the Effective Date of the Development and Option Agreement. For clarity, the exercise of such foregoing rights by a Third Party with respect to Patents that are not specific to the Target or Licensed Products shall be deemed a Pre-Existing Restriction.

1.51 "Rare Disease Target" means a Target that addresses at a first place an indication related to a Licensed Product with an incidence of less than [*****] in [*****] people in the U.S. or EU. The indication for which the first IND or CTA application will be filed will determine whether a Target is a Rare Disease Target.

1.52 "Receiving Party" has the meaning set forth in Section 8.1.

1.53 "Regulatory Approval" means, with respect to a country or extra-national territory, any and all approvals (including BLAs and MAAs), licenses, registrations or authorizations of any Regulatory Authority necessary in order to commercially distribute, sell or market a product in such country or some or all of such extra-national territory, including solely to the extent required as a condition to commercial sale to end users, any pricing or reimbursement approvals.

1.54 "Regulatory Authority" means any national (e.g., the FDA), supra-national (e.g., the EMA), regional, state or local regulatory agency, department, bureau, commission, council or other governmental authority, in any jurisdiction in the world, involved in the granting of Regulatory Approval.

1.55 "Royalty Reduction" has the meaning set forth in Section 4.3(b).

1.56 "Royalty Term" has the meaning set forth in Section 4.3(d).

1.57 "Sublicensee" means any Third Party that is granted a sublicense as permitted by Section 2.2, either directly by CureVac or its Affiliates or indirectly by any other Sublicensee hereunder.

1.58 "Sublicense Income" means the fees and other payments, including upfront payments as well as development, regulatory milestone payments received by CureVac or its Affiliates from a Sublicensee, excluding: (a) royalty payments and net sales milestones; (b) reimbursement of costs and expenses, including for patent prosecution and enforcement and (c) equity or premium on equity and (d) loans or loans forgiven either (i) as a result of financial distress of the borrower or (ii) that are not specific to the Licensed Product.

1.59 "Target" means the Target identified in **Appendix 1.59** hereto. The Target includes

(a) up to N (N= [*****]) proteins, including all possible combinations resulting from removing one of the N proteins (N minus [*****] proteins), together with all variants of such proteins, including the wild type, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments), and species homologs, orthologs thereof; *provided, however*, that any such naturally occurring variant, engineered variant, or species homolog or ortholog possesses substantially similar biological activity to the naturally occurring protein; and

(b) [*****] antigens of a given pathogen, including [*****] antigen and any combination of such antigens, together with all variants of such antigens, including the wild type, naturally occurring variants, engineered variants wherein modifications to the native amino acid sequence have been introduced (for example, mutated versions, derivatives or fragments), and species homologs, orthologs thereof, *provided, however*, that any such naturally occurring variant, engineered variant, or species homolog or ortholog possesses substantially similar biological activity to the naturally occurring antigen; and

(c) a DNA Target, *provided, however*, that the first DNA Target for each DNA Editing Protein would not count as a Target. Each subsequent DNA Target for this DNA Editing Protein would count as a Target. For clarity, a DNA Editing Protein would be defined as a Target under (a) above and count as a single Target.

If a given protein, *e.g.*, an antibody or enzyme, comprises separated amino acid chains which might be delivered by separated mRNA Constructs, such proteins would be defined as one Target.

1.60 "Technology" means collectively Patents and Know-How.

1.61 "Term" has the meaning set forth in Section 10.1.

1.62 "Territory" means worldwide.

1.63 "Third Party" means any person or entity other than CureVac, Arcturus and their respective Affiliates.

1.64 "Third Party Claims" has the meaning set forth in Section 9.6(a).

1.65 "Valid Claim" means a claim of

(a) an issued and unexpired patent (as may be extended through supplementary protection certificate or patent term extension) or

(b) a pending patent application, *provided, however*, that once the priority date or earliest filing date to which the pending patent application refers is more than seven years old, such claim shall not constitute a Valid Claim for purposes of this License Agreement anymore, unless and until a patent issues with such claim included in the Arcturus Technology Patents, which claim has not been revoked, held invalid or unenforceable by a patent office, court or other governmental agency of competent jurisdiction in a final and non-appealable decision (or decision from which no appeal was taken within the allowable time period) and has not been disclaimed, denied, abandoned or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise.

2. License Grants; Technology Transfer.

2.1 Licenses by Arcturus. Subject to the terms and conditions of this License Agreement, Arcturus hereby grants to CureVac an exclusive license, with the right to sublicense in multiple tiers under the Arcturus Technology Patents and the Arcturus Know-How, in each case solely to develop, have developed, make, have made, use and have used, sell, offer for sale, have sold and import and have imported Licensed Products in the Field of Use in the Territory.

2.2 Sublicensing Rights.

(a) *CureVac Sublicenses.* The licenses granted in Section 2.1 may be sublicensed (with the right to sublicense through multiple tiers), in full or in part, by CureVac, its Affiliates or Sublicensees to CureVac's Affiliates and Third Parties provided, that for any sublicense:

(i) Each sublicense will be in writing (*provided, however*, that not each sublicense to Affiliates must be in writing) and on terms consistent with and subject to the terms of this License Agreement, including but not limited to the limitations on patent prosecution, enforcement and defense rights of such Sublicensee as set forth in Sections 6.1(d) and 7.2(e);

(ii) CureVac will be responsible for any and all obligations of such Sublicensee (including Affiliates and Sublicensees) as if such Sublicensee were CureVac hereunder;

(iii) CureVac provide to Arcturus a copy of such sublicense agreement within thirty (30) days of execution (which copy may be redacted for terms that are not otherwise required to confirm conformance with the terms of this License Agreement); and

(iv) Any sublicense granted by CureVac (and any further sublicenses) to any rights licensed to it hereunder shall terminate immediately upon the termination of this License Agreement, provided that for sublicense to a Third Party, such sublicensed rights shall not terminate if, as of the effective date of such termination pursuant to Sections 10.2, 10.3(a) or 10.4, such Sublicensee is not in material default of its obligations under its sublicense agreement, and within [*****] days of such termination and the disclosure of this License Agreement to the Sublicensee, the Sublicensee agrees in writing to be bound directly to Arcturus under a license agreement substantially similar to this License Agreement with respect to the rights sublicensed hereunder, substituting such Sublicensee for CureVac.

(b) *Subcontractors.* For clarity purposes, CureVac is entitled to engage contract research organizations and contract manufacturing organizations for the development and manufacture of Licensed Products on behalf of CureVac. To the extent such contract organizations require a license to perform such subcontracted activities under applicable Laws, CureVac is entitled to grant a limited license solely to perform the work for which the subcontractor is engaged, without an obligation to meet the conditions of Section 2.2
(a)(iii).

(c) *Technology Transfer.* Following the License Agreement Effective Date, Arcturus will use Diligent Efforts to transfer the formulation process for the Licensed Products that are intended to express the Target to CureVac or a reputable and competent GMP manufacturer selected by CureVac and reasonably acceptable to Arcturus. Upon written request by CureVac, Arcturus will conduct a technology transfer to CureVac and/or its designee(s). Arcturus will make its personnel available without charge for a total of [*****] hours during normal working hours for such transfer, and for additional hours in excess of [*****] up to a total of [*****] hours to be invoiced monthly at the then current FTE Cost. Such designee(s) may be an Affiliate, sublicensee or Third Party manufacturers selected by CureVac and reasonably acceptable to Arcturus, and which Third Party manufacturers may also be a backup manufacturer or a second manufacturer of Licensed Products as required for the applicable transferee of the then- current process. CureVac shall reimburse Arcturus for the reasonable cost (including internal FTE Cost) incurred to conduct such technology transfer as specified above.

2.3 Updates to Appendix 1.4; Exclusion of Certain Patents. Arcturus shall notify CureVac at least once every [*****] months of Patents that are added to the Arcturus Technology following the License Agreement Effective Date or any Patents that have been abandoned or discontinued in accordance with the terms of this License Agreement**. Appendix 1.4** shall be deemed automatically updated to include any such added Patents, provided that with written notice to Arcturus, CureVac may elect upon [*****] days' irrevocable written notice to Arcturus to exclude any particular Arcturus Technology Patents. Following any such written notice by CureVac, upon the expiration of the notice period the identified Arcturus Technology Patents that CureVac specifies for exclusion from this License Agreement will no longer be licensed to CureVac hereunder, and CureVac shall not have any rights (including rights pursuant to this Agreement) under such Arcturus Technology Patents nor obligations hereunder with respect to such Arcturus Technology Patents. For clarity, in the event that the Licensed Product is subsequently determined to be covered or otherwise infringe a Valid Claim of any excluded patent hereunder, then such infringement shall be deemed to be a material breach of this License Agreement by CureVac.

2.4 Documents and Declarations. At CureVac's reasonable request and cost and expense, Arcturus shall execute all documents, deliver declarations regarding the licenses granted hereunder, and Arcturus shall reasonably cooperate with CureVac to the extent such documents, declarations and/or cooperation are required to give effect to this License Agreement and/or for the recording or registration of the licenses granted hereunder at the various patent offices in the Territory for the benefit of CureVac, its Affiliates or their Sublicensees.

2.5 Diligence; Reporting. CureVac shall use Diligent Efforts to develop, manufacture and commercialize Licensed Products in the Field of Use in the Territory, and shall keep Arcturus reasonably informed as to the progress and results of its and its Affiliates' and Sublicensees' development, manufacture and commercialization of the Licensed Product. Without limiting the foregoing, CureVac shall provide Arcturus with a written report of the development, manufacture and commercialization of the Licensed Product within [*****] days after the end of each calendar year, and shall promptly respond to Arcturus reasonable questions or requests for additional information relating to such activities.

2.6 Compliance. CureVac shall at all times comply with all applicable Laws (including anti-bribery laws) in the development, manufacture and commercialization of the Licensed Product and the performance of its other obligations under this License Agreement, and shall not use any employee or consultant who has been debarred by any Regulatory Authority or, to CureVac's knowledge, is the subject of debarment proceedings by a regulatory authority.

2.7 Updates. Arcturus shall inform CureVac within [*****] Business Days of intellectual property matters affecting the Arcturus Technology Patents and the Arcturus Know-How of which it becomes aware that would reasonably be considered to negatively impact the rights of CureVac pursuant to this Agreement.

2.8 Material. CureVac shall have the right to retain Material provided by Arcturus under the Development and Option Agreement, to the extent such Material is necessary or useful for the exercise of a CureVac's rights or obligations under this License Agreement. Following the License Agreement Effective Date, only the provisions of this License Agreement, but not of the Development and Option Agreement, shall apply in relation to such Material.

3. License Limitations.

3.1 Reserved Rights. No licenses or other rights are granted by Arcturus hereunder to use any trademark, trade name, trade dress or service mark owned or otherwise Controlled by Arcturus or any of its Affiliates. All licenses and other rights are or shall be granted only as expressly provided in this License Agreement, and no other licenses or other rights is or shall be created or granted by either Party hereunder by implication, estoppel or otherwise. CureVac shall not, and shall not permit any of its Affiliates or Sublicensees to, practice or use any Arcturus Technology outside of the scope of the license granted to it under Section 2.1 or in contravention of Section 3.1. Arcturus retains the exclusive right to practice, license and otherwise exploit the Arcturus Technology outside the scope of the licenses granted to CureVac under Section 2.1 Notwithstanding the exclusive license granted to CureVac under Section 2.1, Arcturus retains the right under the Arcturus Technology to perform, or have performed, Arcturus' obligations under this License Agreement

3.2 Other Licenses. Arcturus acknowledges the rights granted to CureVac pursuant to this Agreement and shall not grant licenses under Arcturus Technology to Third Parties that are in conflict with this License Agreement it being understood that a license to enable or implement any Pre-Existing Restriction with respect to the Target shall not be deemed a conflict hereunder. In addition, Arcturus shall use Diligent Efforts to undertake that any licenses obtained from Third Parties will be sublicensable to CureVac, to the extent required or useful for the Licensed Product, provided that CureVac shall be responsible for an allocable portion of the payment and obligations that may be required in order to obtain rights with respect to the Licensed Product pursuant to such Third Party agreement.

4. Payments and Royalties.

4.1 Milestone Payments. CureVac will make milestone payments (each, a "Milestone Payment") to Arcturus upon the first occurrence of each of the milestone events (each, a "Milestone Event") by Licensed Product as set forth below in this Section 4.1. CureVac will notify Arcturus of the achievement of each Milestone Event (whether achieved by CureVac, its Affiliates or Sublicensees) within (i) [*****] Business Days of such achievement, if the Milestone Event is achieved by CureVac or its Affiliates, or (ii) [*****] Business Days of the receipt by CureVac of a notification about the achievement, if the Milestone Event is achieved by a Sublicensee.

Each Milestone Payment will be non-refundable, non-creditable and payable to Arcturus by CureVac within [*****] days of delivery of an invoice from Arcturus following notification from CureVac pursuant to the preceding paragraph, provided that if no such notification is timely provided by CureVac, the Milestone Payment shall be deemed payable [*****] days after (A) the achievement of such Milestone Event, if the Milestone Event is achieved by CureVac or its Affiliates, or (B) after the receipt by CureVac of the notification from CureVac pursuant to Section 4.1(ii). For clarity, the term "non-refundable" is not intended to limit either Party's rights to pursue damages arising from a breach of this Agreement.

If one or more of the Milestone Events set forth below are not achieved or not required for any reason, the payment for such skipped Milestone Event will be due at the same time as the payment for the next achieved Milestone Event. For clarity: [*****].

For clarity, to the extent that a Licensed Product is initiated against a Rare Disease Target and later expanded to a non-Rare Disease Target, then any and all Milestone Payments not previously made shall be due and payable upon the achievement of the next non-Rare Disease Milestone (e.g., [*****]).

Milestone Event	***Milestone Payment***
Rare Disease Targets	
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

Milestone Event	*Milestone Payment*
[*****]	[*****]
Non-rare Disease Targets	
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

4.2 Sublicensing Revenues. If within twenty-four (24) months after the License Agreement Effective Date CureVac grants a sublicense to a Third Party under this License Agreement for the development and commercialization of Licensed Products, then CureVac will pay to Arcturus [*****] of all Sublicense Income actually received by CureVac, to the extent the Sublicense Income exceeds the Option Exercise Fee paid by CureVac under the Development and Option Agreement to exercise the Option for this License Agreement and the Milestone Payments paid by CureVac under this License Agreement. The payments will be made within [*****] days after receipt by CureVac from the Third Party. For purposes of clarity, if CureVac grants a sublicense to Third Parties later than [*****] months after the License Agreement Effective Date, CureVac will not owe any Sublicensing Income to Arcturus.

4.3 Royalties.

(a) *Royalty*. Subject to the remainder of this Section 4.3, on a country-by-country basis and a Licensed Product-by-Licensed Product basis, CureVac will pay to Arcturus (i) a royalty of [*****] of Net Sales of the Licensed Product (ii) as well as of any net sales milestones (without offset for any reductions pursuant to Section 4.3(b)) for such Licensed Product received from the Sublicensee.

(b) *Third Party Payments and Royalty Reductions.* If CureVac or its Affiliate or Sublicensee, in its reasonable judgment, considers it necessary or useful to obtain a license from any Third Party under any LMD Technology that Covers a Licensed Product in order to develop, manufacture or commercialize such Licensed Product, the amount of CureVac's royalty obligations under Sections 4.3(a) will be reduced by [*****] of the amount of the upfront, milestone and royalty payments made to such Third Party on account of the development, manufacture or commercialization of such Licensed Product ("Royalty Reductions"), *provided*, *however*, that any Royalty Reduction shall not result in less than the minimum royalty due to Arcturus under Section (c) below.

(c) *Minimum Royalty.* In no event will the Royalty payable by CureVac to Arcturus for any Licensed Product be less than (i) [*****] if the reduction in subsection (e) does not apply; or (ii) [*****] if the reduction in subsection (e) also applies.

(d) *Term.* The royalty term ("Royalty Term") shall expire on a country-by-country and Licensed Product-by-Licensed Product basis, on the last to occur of (i) expiration of the last to expire Valid Claim in the Arcturus Technology that, but for the license described herein from Arcturus to CureVac for the applicable Licensed Product, is infringed by the making, using or sale of such Licensed Product, (ii) expiration of any period of data exclusivity, market exclusivity or supplemental protection certificates covering the Licensed Product in such country; and (iii) ten (10) years after First Commercial Sale of Licensed Product in such country. For the avoidance of doubt, upon exhaustion of the obligation to pay Royalties to Arcturus as set forth above the continued use of Arcturus Know-How comprised in the Arcturus Technology for the development, manufacture and/or sale of th**e** Licensed Product shall not, in and of itself, obligate CureVac to pay further royalties to Arcturus. Thereafter, CureVac's license under Section 2.1 will become irrevocable, perpetual, fully paid-up and royalty-free on a country-by-country and Licensed Product-by-Licensed Product basis.

(e) *Know-How Royalty.* On a country-by-country, and a Licensed -Product-by-Licensed Product basis, in the event that during the Royalty Term a Licensed Product is not covered by a Valid Claim, the royalty otherwise payable for such Licensed Product, after the Royalty Reductions above, will be reduced by [*****].

4.4 Payment Terms.

(a) *Manner of Payment.* All payments to be made by CureVac hereunder will be made in U.S. dollars by wire transfer to such bank account as Arcturus may designate.

(b) *Records and Audits.* CureVac shall keep, and shall cause each of its Affiliates and Sublicensees, as applicable, to keep adequate books and records of accounting for the purpose of calculating all royalties and other amounts payable to Arcturus hereunder. For the [*****] years next following the end of the calendar year to which each shall pertain, such books and records of accounting (including those of CureVac's Affiliates and Sublicensees) shall be kept at each of their principal places of business and shall be open for inspection at reasonable times and upon reasonable notice by an independent certified accountant selected by Arcturus, and which is reasonably acceptable to CureVac, for the sole purpose of inspecting the Net Sales calculations and supporting details to the extent reasonably necessary and resulting royalties and other amounts due to Arcturus under this License Agreement. In no event shall such inspections be conducted hereunder more frequently than once every [*****] months. Such accountant must have executed and delivered to CureVac and its Affiliates, a confidentiality agreement as reasonably requested by CureVac, which shall include provisions limiting such accountant's disclosure to Arcturus to only the results and basis for such results of such inspection. The results of such inspection, if any, shall be binding on both Parties. Any underpayments plus interest from the original due date shall be paid by CureVac within [*****] days of notification of the results of such inspection. Any overpayments shall be fully creditable against amounts payable in subsequent payment periods. Arcturus shall pay for such inspections, except that in the event there is any upward adjustment in aggregate royalties and other amounts payable for any calendar year shown by such inspection of more than [*****] of the amount paid, CureVac shall reimburse Arcturus for any reasonable out-of-pocket costs of such accountant.

(c) *Reports and Royalty Payments.* For as long as royalties are due under Section 4.3, CureVac shall furnish to Arcturus written reports.

(i) Reports shall be provided within [*****] days of (1) the end of the Calendar Quarter if Net Sales are generated by CureVac and its Affiliates, and (2) the receipt of corresponding information (which may be estimated) from Sublicensees but in any event within [*****] days of the end of the Calendar Quarter with respect to Net Sales generated by such Sublicensees.

(ii) Royalty payments for each Calendar Quarter shall be due within [*****] Business Days of delivery of an invoice from Arcturus following submission of a royalty report from CureVac, but only subject to the prior receipt by CureVac of the corresponding royalty payment from the Sublicensee, if applicable; however such royalty payments due to Arcturus shall not be reduced by deductions which exceed those covered by the Net Sales definition according to Section 1.43.

(iii) The report shall include, at a minimum, the following information for the applicable Calendar Quarter for each Licensed Product if Net Sales are generated by CureVac and its Affiliates: (i) the gross sales by country reasonably required for the calculation of royalty payments due according to this Agreement, (ii) the calculation in reasonable detail of the Net Sales from such gross sales amounts, including the deductions pursuant to the definition of Net Sales and the amounts of any credits or reductions permitted by Section 4.2; and (iii) the computations for any Arcturus currency conversions pursuant to subsection (d) below.

(iv) CureVac will require each Sublicensee to share with Arcturus the information listed in the foregoing clauses as it relates to Net Sales made by such Sublicensee, and to the extent practicable, will include such Sublicensee information in such report; provided that the level of detail with respect to the items subject to report pursuant to Section 4.4(c)(iii) shall be limited to the information that CureVac actually receives from any such Sublicensee. All such reports shall be considered the Confidential Information of CureVac, subject to Section 4.4(b).

(d) *Currency Exchange*. With respect to Net Sales invoiced in U.S. dollars, the Net Sales and the amounts due to Arcturus hereunder will be expressed in U.S. dollars. With respect to Net Sales invoiced in a currency other than U.S. dollars, payments will be calculated based on the average of the closing exchange rates reported by the Wall Street Journal (*http://quotes.wsj.com/fx/EURUSD*), or such other source as the Parties may agree in writing, of the applicable reporting period for the payment due.

(e) *Taxes*. CureVac may withhold from payments due to Arcturus amounts for payment of any withholding tax that is required by Law to be paid to any taxing authority with respect to such payments. CureVac will provide Arcturus all relevant documents and correspondence, and will also provide to Arcturus any other cooperation or assistance on a reasonable basis as may be necessary to enable Arcturus to claim exemption from such withholding taxes and to receive a refund of such withholding tax or claim a foreign tax credit. CureVac will give proper evidence from time to time as to the payment of any such tax. The Parties will cooperate with each other in seeking deductions under any double taxation or other similar treaty or agreement from time to time in force. CureVac shall use Diligent Efforts to minimize withholding taxes. In the event that any tax deduction or withholding obligation arises or increases as a direct result of any reincorporation, redomiciliation, change in source of payments under this Agreement or other similar corporate structuring actions undertaken by CureVac from and after the License Agreement Effective Date, then CureVac shall increase the payment (in respect of which such deduction or withholding of tax is required to be made) to ensure that Arcturus receives an amount equal to the amount that it would have received had no such action occurred. Apart from any such permitted withholding and those deductions expressly included in the definition of Net Sales, the amounts payable by CureVac to Arcturus hereunder will not be reduced on account of any taxes, charges, duties or other levies. Each Party shall be solely responsible for the payment of all taxes imposed on its share of income arising directly or indirectly from the activities of the Parties under this License Agreement.

(f) *Blocked Payments*. In the event that, by reason of applicable law in any country, it becomes impossible or illegal for CureVac or its Affiliates or Sublicensees to transfer, or have transferred on its behalf, payments owed to Arcturus hereunder, CureVac will promptly notify Arcturus of the conditions preventing such transfer and such payments will be deposited in local currency in the relevant country to the credit of Arcturus in a recognized banking institution proposed by Arcturus and reasonably acceptable to CureVac or, if none is proposed by Arcturus within a period of [*****] days, in a recognized banking institution selected by CureVac or its Affiliate or Sublicensee, as the case may be, and identified in a written notice given to Arcturus.

(g) *Interest Due*. If any payment due to Arcturus under this License Agreement is overdue (and is not subject to a good faith dispute), then CureVac will pay interest thereon (before and after any judgment) at an annual rate of the lesser of [*****] above the prime rate as reported in The Wall Street Journal, Eastern Edition, and the maximum rate permitted by applicable Law, such interest to run from the date upon which payment of such sum became due until payment thereof in full together with such interest.

(h) *Mutual Convenience of the Parties.* The royalty and other payment obligations set forth hereunder have been agreed to by the Parties for the purpose of reflecting and advancing their mutual convenience, including the ease of calculating and paying royalties and other amounts to Arcturus.

5. Ownership and Inventorship of IP.

5.1 Solely-Owned IP. As between the Parties and subject to Section 5.3, each Party will own and retain all right, title and interest in and to any and all Know-How and Patents arising therefrom that are discovered, created, conceived, developed or reduced to practice under or in connection with this License Agreement (the "Inventions") solely by or on behalf of such Party. Subject to the licenses hereunder and the other terms and conditions of this License Agreement or any other agreement between the Parties, each Party will be solely responsible for the prosecution and maintenance, and the enforcement and defense, of its solely-owned Patents.

5.2 Inventorship. Inventorship of all Inventions shall be determined in accordance with applicable laws. Each Party will ensure that each employee, consultant and subcontractor conducting any activities under this License Agreement on behalf of such Party will be subject to written agreements to assign to such Party all of its right, title and interest in and to the Inventions so that such Party can comply with its obligations with respect to the ownership allocation of the Inventions as set forth below. In addition, each Party shall be solely responsible for payments that may be required to any of such Party's employees or consultants and subcontractors in connection with or with respect to such agreements, including moral rights payments.

5.3 Ownership. Notwithstanding inventorship in the first instance pursuant to Section 5.2, ownership of all Inventions, as between the Parties, will be assigned by the Parties as follows: (a) Arcturus will solely own all Inventions that are improvements solely to the LMD Technology ("LMD Inventions"), and (b) CureVac will solely own all Inventions that are improvements solely to the mRNA Technology ("mRNA Inventions"). Specifically, CureVac hereby assigns to Arcturus all of its right, title and interest in and to any and all LMD Inventions, and agrees to take such actions reasonably requested by Arcturus to evidence such assignment. Arcturus hereby assigns to CureVac all of its right, title and interest in and to any and all mRNA Inventions, and agrees to take such actions reasonably requested by CureVac to evidence such assignment. For clarity, the assignment provisions with respect to mRNA Inventions are restricted solely to improvements to the mRNA Technology.

6. Patent Prosecution and Maintenance.

6.1 Generally.

(a) As between the Parties and subject to Section 6.2 below, Arcturus (or its Third Party licensor, if any) will have the sole right, at its sole costs, to prosecute and maintain Arcturus Technology Patents, other than the Joint Interest Patents.

(b) In relation to any Arcturus Technology Patents that specifically claim the Licensed Product, prior to filing, Arcturus will provide CureVac with copies of all specific claims relevant to the Licensed Product in such applications for all such Arcturus Technology Patents, and all other material submissions and correspondence relating to such claims with any patent authorities regarding such Arcturus Technology Patents, in sufficient time (not to be less than [*****] to allow for review and comment by CureVac. In addition, Arcturus will provide CureVac and its counsel with an opportunity to consult with Arcturus and its counsel regarding prosecution and maintenance of any such Arcturus Technology Patents, and Arcturus will not unreasonably refuse to address all reasonable comments timely made by or on behalf of CureVac.

(c) As between the Parties, CureVac will have the first right to prosecute and maintain any and all Joint Interest Patents and the Parties will share equally all costs incurred by CureVac in connection with such efforts. Prior to filing, CureVac will provide Arcturus with copies of all applications for such Joint Interest Patents, and all other material submissions and correspondence with any patent authorities regarding such Joint Interest Patents, in sufficient time (not to be less than [*****] days) to allow for review and comment by Arcturus. In addition, CureVac will provide Arcturus and its counsel with an opportunity to consult with CureVac and its counsel regarding prosecution and maintenance of any such Joint Interest Patents, and CureVac will consider in good faith all reasonable comments timely made by or on behalf of Arcturus.

(d) In the event that CureVac or its Affiliates grants a sublicense pursuant to Section 2.2, as between CureVac and any such Sublicensee,

(i) to the extent any such Arcturus Technology Patent or Joint Interest Patent does not specifically claim the Licensed Product, CureVac shall retain its rights to prosecute any such sublicensed Arcturus Technology Patents and Joint Interest Patents as set forth in Sections 6.1(b) and 6.1(c); provided, however, that such Sublicense may provide for instruction by the Sublicensee of CureVac's exercise of its rights to prosecute any sublicensed Arcturus Technology Patent or Joint Interest Patent;

(ii) to the extent any such Arcturus Technology Patent or Joint Interest Patent specifically claims the Licensed Product (i.e., with respect to the claims limited to the Licensed Product, but not the broader claims that cover other products or potential products in such Arcturus Technology Patents or Joint Interest Patents), CureVac shall have the right to sublicense its rights to prosecute any such sublicensed Arcturus Technology Patents and Joint Interest Patents as set forth in Sections 6.1(b) and 6.1(c) to the Sublicensee.

6.2 Election Not to Prosecute or Maintain or Pay Patent Costs.

(a) If Arcturus elects not to file, prosecute or maintain any Arcturus Technology Patents that specifically claim the Licensed Product for which it is responsible under Section 6.1 in any particular country before the applicable filing deadline or continue such activities once filed in a particular country, then Arcturus will so notify CureVac, promptly in writing with reasonable notice to enable CureVac to meet any deadlines by which an action must be taken to preserve such Arcturus Technology Patent that specifically claim the Licensed Product in such country, if CureVac so requests. Upon receipt of each such notice by Arcturus, CureVac will have the right, but not the obligation, to notify Arcturus in writing on a timely basis that Arcturus should transfer the prosecution or maintenance of such Arcturus Technology Patents that specifically claim the Licensed Product to CureVac and at CureVac's sole expense or continue the prosecution and/or maintenance of such Arcturus Technology Patent that specifically claim the Licensed Product in the respective country, and thereafter, Arcturus would prosecute and maintain such Arcturus Technology Patent that specifically claim the Licensed Product in such country at the sole direction and expense of CureVac, Arcturus would make available to CureVac all documentation and correspondence with respect to such Arcturus Technology Patent. CureVac's license to such Arcturus Technology Patent under Section 2.1 will be irrevocable and royalty-free, and such Arcturus Technology Patent will thereafter no longer be part of the Arcturus Technology for purposes of this License Agreement. CureVac is entitled to discontinue the payment of Patent Cost for any Arcturus Technology Patents that specifically claim the Licensed Product at any time, provided that it will so notify Arcturus in writing in time for such discontinuance.

(b) If Arcturus elects not to pay its share of the Patent Costs associated with prosecution or maintenance of any Joint Interest Patents, then it shall assign its co-ownership share in such Patents to CureVac and the respective Patent shall no longer be considered a Joint Interest Patent.

(c) *By CureVac*. If CureVac elects not (i) to file, prosecute or maintain any Joint Interest Patents for which it is responsible under Section 6.1 in any particular country before the applicable filing deadline or continue such activities once filed in a particular country, or (ii) to pay its share of the Patent Costs associated with prosecution or maintenance of any Joint Interest Patents then in each such case CureVac will so notify Arcturus, promptly in writing and in good time to enable Arcturus to meet any deadlines by which an action must be taken to preserve such Joint Interest Patent in such country at Arcturus' expense, if Arcturus so requests. Upon receipt of each such notice by CureVac, Arcturus will have the right, but not the obligation, to notify CureVac in writing on a timely basis that CureVac should transfer the prosecution or maintenance of such Joint Interest Patent to Arcturus and at Arcturus' sole expense. Arcturus is entitled to discontinue the payment of Patent Costs for any Joint Interest Patents at any time, provided that it will so notify CureVac in writing in time for such discontinuance. In the event that Arcturus assumes the prosecution and maintenance of any such Joint Interest Patent, then CureVac would make available to Arcturus all documentation and correspondence with respect to such Joint Interest Patent, such Joint Interest Patent shall no longer be licensed under this Agreement with respect to the Licensed Product.

6.3 Cooperation. Each Party will reasonably cooperate with the other Party in those activities involving the Arcturus Technology Patents and Joint Interest Patents set forth in Sections 6.1 and 6.2. Such cooperation includes promptly executing all documents, or requiring inventors, subcontractors, employees and consultants and agents of CureVac and Arcturus and their respective Affiliates and Sublicensees to execute all documents, as reasonable and appropriate so as to enable such activities in respect of any such Arcturus Technology Patents in any country.

7. Patent Enforcement and Defense.

7.1 Notice. To the extent not in breach of an obligation of confidentiality, each Party will promptly notify, in writing, the other Party upon learning of any actual or suspected infringement of any Arcturus Technology Patents by a Third Party, or of any claim of invalidity, unenforceability, or non-infringement of any Arcturus Technology Patents, and will, along with such notice, supply the other Party with any evidence in its possession pertaining thereto.

7.2 Enforcement and Defense.

(a) *Enforcement*.

(i) As between the Parties,

(1) Arcturus and its Third Party licensor or licensee (solely to the extent of any existing back-up enforcement rights), at its cost, will have the first right, but not the obligation,to seek to abate any infringement of the Arcturus Technology Patents (other than those in subsection (2)) by a Third Party, or to file suit against any such Third Party for such infringement, and

(2) CureVac (or its sublicensee, if any) shall have the first right, but not the obligation, to take action or bring suit and bear all expenses against such Third Party infringer with respect to: (A) Joint Interest Patents; and/or (B) any other Arcturus Technology Patents that, on the date of first notice of such infringement, specifically claim the Licensed Product but are not necessary or useful for the research, development, manufacturing and commercialization of any product comprising Arcturus Technology that is exclusively licensed or optioned to a Third Party or is in Late Stage Development or being commercialized by Arcturus or its Affiliates.

(b) If the Party first responsible for such enforcement elects not to take action or to bring suit to prosecute such infringement or to continue such action or suit, it shall notify the other Party of such election within [*****] days after become aware of or receipt of the notice of the infringement or after the election to stop any such action or suit. If after the expiration of the [*****] days period (or, if earlier, the date upon which the responsible Party provides written notice that it does not plan to bring such action) the responsible Party has neither obtained a discontinuance of infringement nor filed suit against any such Third Party infringer of such Patent, then

(i)in the case of an election by Arcturus and its Third Party licensor or licensee (solely to the extent of any existing back-up enforcement rights) not to prosecute an infringement of an Arcturus Technology Patent specifically claiming the Licensed Product, CureVac shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patents, provided that the infringement is with respect to a product related to the Target(s) under this License Agreement, and further provided that CureVac shall bear all the expenses of such suit and

(ii)in the case of a CureVac election not to prosecute an infringement of a Joint Interest Patents or Arcturus Technology Patent with respect to which CureVac has rights to take first action, (i) Arcturus shall have the right, but not the obligation, to take action or bring suit against such Third Party infringer of such Patents, provided that Arcturus shall bear all the expenses of such suit,and CureVac shall join Arcturus in such suit to the extent legally required, unless (ii) CureVac decides to assign its interest in such Joint Interest Patent - on a country-by-country basis - to Arcturus and such Joint Interest Patent shall become an Arcturus Technology Patent and no longer subject to license pursuant to this License Agreement.

(c) *Defense*.

(i) As between the Parties,

(1) Arcturus and its Third Party licensor or licensee (solely to the extent of any existing back-up defense rights) will have the first right, but not the obligation, at its sole costs, to defend against a declaratory judgment action or other action challenging any Arcturus Technology Patents, other than: (i) Joint Interest Patents; and (ii) any other Arcturus Technology Patents that, on the date of first notice of such action, specifically claim the Licensed Product but are not necessary or useful for the research, development, manufacturing and commercialization of any product comprising Arcturus Technology that is exclusively licensed or optioned to a Third Party or is in Late Stage Development or being commercialized by Arcturus or its Affiliates, and

(2) CureVac shall have the first right, but not the obligation, at its sole costs, to defend against a declaratory judgment action or other action challenging Joint Interest Patents as well as such other Arcturus Technology Patents that specifically claim the Licensed Product.

(ii) If the Party first responsible for such defense does not take steps to defend within a commercially reasonably time, or elects not to continue any such defense (in which case it will promptly provide notice thereof to the other Party), then (i) in the case of an election by Arcturus and its Third Party licensor or licensee (solely to the extent of any existing back-up defense rights) not to defend an Arcturus Technology Patent specifically claiming the Licensed Product, CureVac shall have the right, but not the obligation, to defend any Arcturus Technology Patents that cover Licensed Product and no other product licensed or optioned by Arcturus to a Third Party or commercialized by Arcturus, provided that CureVac shall bear all the expenses of such suit and (ii) in the case of a CureVac election not to defend the Joint Interest Patents, Arcturus shall have the right, but not the obligation, to take action or bring suit to defend such Patents, provided that Arcturus shall bear all the expenses of such suit. Notwithstanding the foregoing, in the event that CureVac elects not to prosecute an infringement of a Joint Interest Patent, then CureVac shall, at its discretion, either (i) assign such Joint Interest Patent to Arcturus - on a country-by-country basis -, which shall become an Arcturus Technology Patent and no longer subject to license pursuant to this License Agreement or (ii) join Arcturus in such suit to the extent legally required.

(d) Notwithstanding the foregoing, any response to a Third Party infringer's counterclaim of invalidity or unenforceability of any Arcturus Technology Patents shall be controlled by the Party who controls the relevant enforcement proceeding pursuant to Section 7.2(a) unless otherwise mutually agreed by the Parties.

(e) In the event that CureVac or its Affiliates grants a sublicense pursuant to Section 2.2, as between CureVac and any such Sublicensee,

(i) to the extent any such Arcturus Technology Patent or Joint Interest Patent does not specifically claim the Licensed Product, CureVac shall retain its rights to enforce and defend Arcturus Technology Patents and Joint Interest Patents as set forth in Sections 7.2(a), 7.2(b), 7.2(c) and 7.2(d); provided, however, that CureVac's exercise of its rights to enforce or defend such Arcturus Technology Patent or Joint Interest Patent may be instructed by a Sublicensee;

(ii) to the extent any such Arcturus Technology Patent or Joint Interest Patent specifically claims the Licensed Product, CureVac shall have the right to sublicense its rights to enforce and defend Arcturus Technology Patents and Joint Interest Patents as set forth in Sections 7.2(a), 7.2(b), 7.2(c) and 7.2(d) to the Sublicensee.

(f) *Withdrawal, Cooperation and Participation.* With respect to any infringement or defensive action identified above in this Section 7.2 which may be controlled by either CureVac or Arcturus:

(i) If the controlling Party ceases to pursue or withdraws from such action, it will promptly notify the other Party (in good time to enable the other Party to meet any deadlines by which any action must be taken to preserve any rights in such infringement or defensive action) and such other Party may substitute itself for the withdrawing Party, shall be granted the right and standing to sue in the other Party's name, and proceed under the terms and conditions of this Section 7.2.

(ii) The non-controlling Party will cooperate with the Party controlling any such action (as may be reasonably requested by the controlling Party), including (A) providing access to relevant documents and other evidence, (B) making its and its Affiliates and licensees and Sublicensees and all of their respective employees, subcontractors, consultants and agents available at reasonable business hours and for reasonable periods of time, but only to the extent relevant to such action, and (C) if necessary, by being joined as a party, subject for this clause (C) to the controlling Party agreeing to indemnify such non-controlling Party for its involvement as a named party in such action and paying those Patent Costs incurred by such Party in connection with such joinder. The Party controlling any such action will keep the other Party updated with respect to any such action, including providing copies of all documents received or filed in connection with any such action.

(iii) Each Party will have the right to participate or otherwise be involved in any such action controlled by the other Party, in each case at the participating (i.e., non-controlling) Party's sole cost and expense. If a Party elects to so participate or be involved, the controlling Party will provide the participating Party and its counsel with an opportunity to consult with the controlling Party and its counsel regarding the prosecution of such action (including reviewing the contents of any correspondence, legal papers or other documents related thereto), and the controlling Party will take into account reasonable requests of the participating Party regarding such enforcement or defense.

(g) *Settlement*. Neither Party will settle or consent to an adverse judgment in any action described in this Section 7.2 and controlled by such Party, including any judgment which affects the scope, validity or enforcement of any Arcturus Technology Patents involved therewith, without the prior written consent of the other Party (such consent not to be unreasonably withheld, delayed or conditioned).

(h) *Damages*. Unless otherwise agreed by the Parties, all monies recovered upon the final judgment or settlement of any action which may be controlled by either CureVac or Arcturus and described in Section 7.2(a) or 7.2(c) in each case will be used first to reimburse the controlling Party, and thereafter the non-controlling Party, for each of their out-of-pocket costs and expenses relating to the action, with the balance of any such recovery to be divided as follows:

(i) To the extent the action involves a Third Party's research, development, manufacture or commercialization of any product other than the Licensed Product (or a LMD product directed to the same Target as the Licensed Product), Arcturus shall retain all such recovery; and

(ii) To the extent the action involves a Third Party's research, development, manufacture or commercialization of the Licensed Product (or a LMD product directed to the same Target as the Licensed Product), CureVac will retain such recovery, less the amount of royalties payable to Arcturus by treating such recovery as "Net Sales" hereunder.

(i) Patent Marking. CureVac shall mark all Licensed Product if and to the extent required by the applicable patent marking laws, and shall require all of its Affiliates and sublicensees to do the same.

8. Confidentiality.

8.1 Confidential Information. Each Party ("Disclosing Party") may disclose to the other Party ("Receiving Party"), and Receiving Party may acquire during the course and conduct of activities under this License Agreement, certain proprietary or confidential information of Disclosing Party in connection with this License Agreement.

8.2 Restrictions. During the Term and for [*****] years thereafter, Receiving Party will keep all Disclosing Party's Confidential Information in confidence with the same degree of care with which Receiving Party holds its own confidential information, but in no event less than reasonable care. Receiving Party will not use Disclosing Party's Confidential Information except for in connection with the performance of its obligations and exercise of its rights under this License Agreement. Receiving Party has the right to disclose Disclosing Party's Confidential Information without Disclosing Party's prior written consent to Receiving Party's Affiliates, and each of their employees, subcontractors, consultants and agents who have a need to know such Confidential Information in order to perform their obligations and exercise their rights under this License Agreement and who are under written obligation to comply with the restrictions on use and disclosure that are no less restrictive than those set forth in this Section 8.2. Receiving Party assumes responsibility for such entities and persons maintaining Disclosing Party's Confidential Information in confidence and using same only for the purposes described herein.

8.3 Exceptions. Receiving Party's obligation of nondisclosure and the limitations upon the right to use the Disclosing Party's Confidential Information will not apply to a specific portion of the Disclosing Party's Confidential Information to the extent that Receiving Party can demonstrate that such portion: (i) was known to Receiving Party or any of its Affiliates prior to the time of disclosure by the Disclosing Party without obligation of confidentiality; (ii) is or becomes public knowledge through no action or omission of Receiving Party or any of its Affiliates; (iii) is obtained on a non-confidential basis by Receiving Party or any of its Affiliates from a Third Party who to Receiving Party's knowledge is lawfully in possession thereof (or if possession is obviously unlawful) and under no obligation of confidentiality to Disclosing Party; or (iv) has been independently developed by or on behalf of Receiving Party or any of its Affiliates without the aid, application or use of Disclosing Party's Confidential Information as documented by the internal records of the Receiving Party.

8.4 Permitted Disclosures. Notwithstanding the obligations set forth in Section 8.2, Receiving Party may disclose Disclosing Party's Confidential Information (including this License Agreement and the terms herein) to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances:

(e) in order to comply with applicable Law (including any securities Law or regulation or the rules of a securities exchange) or with a legal or administrative proceeding;

(f) in connection with prosecuting or defending litigation, and filing, prosecuting and enforcing Arcturus Technology Patents in connection with Receiving Party's rights and obligations pursuant to this License Agreement;

(g) to attorneys, accountants, auditors, acquirers, licensees, partners or permitted assignees; financial advisors, investors and lenders, including potential acquirers, licensees, partners, assignees, financial advisors, investors and lenders; and

(h) in the case of CureVac, to (i) subcontractors; or (ii) potential licensees or collaboration partners, but only such information that is reasonably necessary or useful for the subcontractor to perform the subcontracted work or for the potential licensee or partner to evaluate the applicable Licensed Product, and LMD or Licensed Product manufacturing processes;

provided that (1) where reasonably possible, Receiving Party will notify Disclosing Party of Receiving Party's intent to make any disclosure pursuant to subsections (a) and (b) sufficiently prior to making such disclosure so as to allow Disclosing Party reasonably adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) with respect to subsections (c), each of those persons or entities are required to comply with the restrictions on use and disclosure in Section 8.2 (other than financial advisors, investors and lenders, which must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

8.5 Return of Confidential Information. Upon expiry or earlier termination of this License Agreement, upon written request of a Party (such request, if made, to be made within three (3) months of such expiry or termination) the other Party will destroy or return (as shall be specified in such request) to the requesting Party all copies of the Confidential Information of the requesting Party; provided that the Party may retain: (i) one copy of such Confidential Information for record-keeping purposes, for the sole purpose of ensuring compliance with this License Agreement; (ii) any copies of such Confidential Information as is required to be retained under applicable Law; (iii) any copies of such Confidential Information as is necessary or useful for such Party to exercise a right or fulfill an obligation under another License Agreement, if any, or as set forth in this License Agreement; and (iv) any copies of any computer records and files containing Confidential Information that have been created by such Party's routine archiving/backup procedures. Upon request of the requesting Party, the Receiving Party shall confirm in writing to the requesting Party the destruction or return of all copies of the Confidential Information of the requesting Party.

8.6 Publications. Notwithstanding anything in this License Agreement to the contrary, CureVac is permitted to publish the results of its development under this License Agreement, *provided*, *however*, that it will not disclose Arcturus Confidential Information in any publication by CureVac of the results of any Licensed Product development by CureVac without Arcturus' prior written consent, which will not be unreasonably withheld, conditioned or delayed.

8.7 Terms of this License Agreement; Press Release. The Parties agree that the existence and terms of the Parties' relationship and this License Agreement will be treated as Confidential Information of both Parties, and thus may be disclosed only as permitted by Section 8.4. Except as mutually agreed or otherwise required by Law or securities exchange regulation, each Party agrees not to issue any press release or public statement disclosing information relating to the existence of this License Agreement or the transactions contemplated hereby or the terms hereof without the prior written consent of the other Party.

9. Warranties; Limitations of Liability; Indemnification.

9.1 Representations and Warranties. Each Party represents and warrants to the other as of the License Agreement Effective Date that:

(a) it is a corporation duly organized, validly existing, and in good standing under the Laws of the jurisdiction in which it is incorporated,

(b) it has the legal right and power to enter into this License Agreement, to extend the rights and licenses granted or to be granted to the other in this License Agreement, and to fully perform its obligations hereunder,

(c) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this License Agreement and the performance of its obligations hereunder,

(d) this License Agreement has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms and

(e) except with respect to any Pre-existing Restrictions, the execution, delivery and performance by such Party of this License Agreement and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any understanding, contract or agreement to which such Party is a party or by which it is bound, including, in the case of Arcturus, each of the agreements which Arcturus has identified to CureVac prior to the License Agreement Effective Date, in each case as would reasonably be expected to have a material adverse effect on the rights of the other Party hereunder.

9.2 Additional Representations of Arcturus. Arcturus hereby represents and warrants to CureVac as of the License Agreement Effective Date as follows:

(a) *Impairment*. Except with respect to any Pre-existing Restrictions, neither Arcturus nor any of its Affiliates has entered into any agreement or otherwise licensed, granted, assigned, transferred, conveyed or otherwise encumbered or disposed of any right, title or interest in or to any of its assets, including any intellectual property rights including Know-How, that would in any way conflict with or impair the scope of any rights or licenses granted to CureVac with respect to the Licensed Product hereunder.

(b) *Patents*. **Appendix 1.4** sets forth a complete and accurate list of all Arcturus Technology Patents. Arcturus Controls the Arcturus Technology, and is entitled to grant the licenses specified herein. To Arcturus' knowledge, the Arcturus Technology Patents have been procured or are being procured from the respective patent offices in accordance with applicable Law. None of the Arcturus Technology Patents is or has been involved in any opposition, cancellation, interference, reissue or reexamination proceeding, and to Arcturus' knowledge as of the License Agreement Effective Date, no Arcturus Technology is the subject of any judicial, administrative or arbitral order, award, decree, injunction, lawsuit, proceeding or stipulation. As of the License Agreement Effective Date, neither Arcturus nor any of its Affiliates has received any notice alleging that the Arcturus Technology Patents are invalid or unenforceable, or challenging Arcturus' ownership of or right to use any such rights.

(c) *Entire LMD Technology.* The Arcturus LMD Technology licensed to CureVac under this License Agreement comprises all LMD Technology Controlled by Arcturus which is necessary or useful to develop, manufacture and commercialize the Licensed Products for purposes of this License Agreement.

(d) *Encumbrances.* As of the License Agreement Effective Date, Arcturus has the right to grant the license herein to CureVac and neither Arcturus nor any of its Affiliates has granted any liens or security interests on the Arcturus Technology to any Third Party that is inconsistent with the license granted to CureVac under Section 2.1.

(e) *Litigation.* There is no action, suit, proceeding or investigation pending or, to the knowledge of Arcturus, currently threatened against or affecting Arcturus that questions the validity of this License Agreement or the right of Arcturus to enter into this License Agreement or consummate the transactions contemplated hereby or that relates to the Arcturus Technology.

(f) *Infringement*. Neither Arcturus nor any of its Affiliates has received any written notice of any claim, nor does Arcturus or its Affiliates have any knowledge of any claim, that any Patent, Know-How or other intellectual property owned or controlled by a Third Party would be infringed or misappropriated by the practice of any Arcturus LMD Technology in connection with the production, use, research, development, manufacture or commercialization of any Licensed Product.

(g) *Third Party Infringement.* To Arcturus' knowledge, no Third Party is infringing or has infringed any Patent within the Arcturus LMD Technology or is misappropriating or has misappropriated any Know-how within the Arcturus LMD Technology, in each case relating to the Target.

9.3 Disclaimers. Without limiting the respective rights and obligations of the Parties expressly set forth herein, each Party specifically disclaims any guarantee that any Licensed Product will be successful, in whole or in part. Except as otherwise expressly provided in this License Agreement, the Parties make no representations and extend no warranty of any kind under this License Agreement, neither express nor implied.

9.4 No Consequential Damages. Notwithstanding anything in this License Agreement or otherwise, neither Party will be liable to the other or any Third Party with respect to any subject matter of this License Agreement for any indirect or consequential damages, provided that this Section 9.4 will not apply to breaches of Article 8 or the Parties' indemnification rights or obligations under Section 9.6, or in the event of willful misconduct.

9.5 Performance by Others. The Parties recognize that each Party may perform some or all of its obligations under this License Agreement through Affiliates, subcontractors or - in the event of CureVac - Sublicensees, *provided*, *however*, that each Party will remain fully responsible and liable for the performance by its Affiliates, subcontractors and Sublicensees, and will cause its Affiliates, subcontractors and Sublicensees to comply with the provisions of this License Agreement in connection therewith.

9.6 Indemnification.

(a) *Indemnification by CureVac*. CureVac will indemnify Arcturus, its Affiliates and their respective directors, officers, employees, Third Party licensors and agents, and their respective successors, heirs and assigns (collectively, "Arcturus Indemnitees"), and defend and hold each of them harmless, from and against any and all losses, damages, liabilities, costs and expenses (including reasonable attorneys' fees and expenses) (collectively, "Losses") in connection with any and all suits, investigations, claims or demands of Third Parties (collectively, "Third Party Claims") against the Arcturus Indemnitees to the extent arising from or occurring as a result of: (i) the breach by CureVac of any representation or warranty of this License Agreement; (ii) any gross negligence or willful misconduct on the part of any CureVac Indemnitee; or (iii) the development, manufacture or commercialization by or on behalf of CureVac or any of its Affiliates or Sublicensees of Licensed Product other than if related to an LMD component thereof specifically provided by Arcturus, except in each case (i)-(iii) to the extent arising from or occurring as a result of the gross negligence or willful misconduct on the part of an Arcturus Indemnitee or Arcturus' breach of this License Agreement.

(b) *Indemnification by Arcturus*. Arcturus will indemnify CureVac, its Affiliates and their respective directors, officers, employees and agents, and their respective successors, heirs and assigns (collectively, "CureVac Indemnitees"), and defend and hold each of them harmless, from and against any and all Losses in connection with any and all Third Party Claims against CureVac Indemnitees to the extent arising from or occurring as a result of: (i) the breach by Arcturus of any representation or warranty of this License Agreement; or (ii) any gross negligence or willful misconduct on the part of any Arcturus Indemnitee, except in each case (i) and (ii) to the extent arising from or occurring as a result of the gross negligence or willful misconduct on the part of a CureVac Indemnitee or CureVac's breach of this License Agreement.

(c) *Notice of Claim*. All indemnification claims provided for in Sections 9.6(a) and 9.6(b) will be made solely by such Party to this License Agreement (the "Indemnified Party"). The Indemnified Party will promptly notify the indemnifying Party (an "Indemnification Claim Notice") of any Losses or the discovery of any fact upon which the Indemnified Party intends to base a request for indemnification under Section 9.6(a) and 9.6(b), but in no event will the indemnifying Party be liable for any Losses that result from any delay in providing such notice. Each Indemnification Claim Notice must contain a description of the claim and the nature and estimated amount of such Loss (to the extent that the nature and amount of such Loss is known at such time). The Indemnified Party will furnish promptly to the indemnifying Party copies of all papers and official documents received in respect of any Losses and Third Party Claims.

(d) *Defense, Settlement, Cooperation and Expenses.*

(i) *Control of Defense*. At its option, the indemnifying Party may assume the defense of any Third Party Claim by giving written notice to the Indemnified Party within thirty (30) days after the indemnifying Party's receipt of an Indemnification Claim Notice. The assumption of the defense of a Third Party Claim by the indemnifying Party will not be construed as an acknowledgment that the indemnifying Party is liable to indemnify the Indemnified Party in respect of the Third Party Claim, nor will it constitute a waiver by the indemnifying Party of any defenses it may assert against the Indemnified Party's claim for indemnification. Upon assuming the defense of a Third Party Claim, the indemnifying Party may appoint as lead counsel in the defense of the Third Party Claim any legal counsel selected by the indemnifying Party (the indemnifying Party will consult with the Indemnified Party with respect to such counsel and a possible conflict of interest of such counsel retained by the indemnifying Party). In the event the indemnifying Party assumes the defense of a Third Party Claim, the Indemnified Party will as soon as possible deliver to the indemnifying Party all original notices and documents (including court papers) received by the Indemnified Party in connection with the Third Party Claim. In the event that it is ultimately determined that the indemnifying Party is not obligated to indemnify, defend or hold harmless the Indemnified Party from and against the Third Party Claim, the Indemnified Party will reimburse the indemnifying Party for any and all costs and expenses (including reasonable attorneys' fees and costs of suit) and any Third Party Claims incurred by the indemnifying Party in its defense of the Third Party Claim.

(ii) *Right to Participate in Defense*. Without limiting Section 9.6(d)(i), any Indemnified Party will be entitled to participate in, but not control, the defense of such Third Party Claim and to engage counsel of its choice for such purpose; provided, however, that such engagement will be at the Indemnified Party's own cost and expense unless (i) the indemnifying Party has failed to promptly assume the defense and engage counsel in accordance with Section 9.6(d)(i) (in which case the Indemnified Party will control the defense) or (ii) the interests of the Indemnified Party and the indemnifying Party with respect to such Third Party Claim are sufficiently adverse to prohibit the representation by the same counsel of both Parties under applicable Law, ethical rules or equitable principles, in which case the indemnifying Party will assume one hundred percent (100%) of any such costs and expenses of counsel for the Indemnified Party.

(iii) *Settlement*. With respect to any Third Party Claims that relate solely to the payment of money damages in connection with a Third Party Claim and that will not result in the Indemnified Party's becoming subject to injunctive or other relief or otherwise adversely affecting the business of the Indemnified Party in any manner, and as to which the indemnifying Party will have acknowledged in writing the obligation to indemnify the Indemnified Party hereunder, the indemnifying Party will have the sole right to agree to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss, on such terms as the indemnifying Party, in its sole discretion, will deem appropriate. With respect to all other Losses in connection with Third Party Claims, where the indemnifying Party has assumed the defense of the Third Party Claim in accordance with Section 9.6(d)(i), the indemnifying Party will have authority to agree to the entry of any judgment, enter into any settlement or otherwise dispose of such Loss provided it obtains the prior written consent of the Indemnified Party (such consent not to be unreasonably withheld, delayed or conditioned). The indemnifying Party will not be liable for any settlement or other disposition of a Loss by an Indemnified Party that is reached without the prior written consent of the indemnifying Party. Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, no Indemnified Party will admit any liability with respect to or settle, compromise or discharge, any Third Party Claim without the prior written consent of the indemnifying Party, such consent not to be unreasonably withheld, delayed or conditioned.

(iv) *Cooperation*. Regardless of whether the indemnifying Party chooses to defend or prosecute any Third Party Claim, the Indemnified Party will, and will use Diligent Efforts to cause each other indemnified party to, cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection therewith, at the indemnifying Party's expense. Such cooperation will include access during normal business hours afforded to the indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party Claim, and making indemnified parties and other employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder, and the indemnifying Party will reimburse the Indemnified Party for all its reasonable out-of-pocket costs and expenses in connection therewith.

(v) *Costs and Expenses*. Except as provided above in this Section 9.6(d), the costs and expenses, including attorneys' fees and expenses, incurred by the Indemnified Party in connection with any claim will be reimbursed on a Calendar Quarter basis by the indemnifying Party, without prejudice to the indemnifying Party's right to contest the Indemnified Party's right to indemnification and subject to refund in the event the indemnifying Party is ultimately held not to be obligated to indemnify the Indemnified Party.

9.7 Insurance. Each Party will maintain at its sole cost and expense, an adequate liability insurance or self- insurance program (including product liability insurance) to protect against potential liabilities and risk arising out of activities to be performed under this License Agreement, and any agreement related hereto and upon such terms (including coverages, deductible limits and self-insured retentions) as are customary in the respective industry of such Party for the activities to be conducted by such Party under this License Agreement. Subject to the preceding sentence, such liability insurance or self-insurance program will insure against all types of liability, including personal injury, physical injury or property damage arising out of the manufacture, sale, use, distribution or marketing of Licensed Product. The coverage limits set forth herein will not create any limitation on a Party's liability to the other under this License Agreement.

10. Term and Termination.

10.1 Term.

(a) This License Agreement will commence as of the License Agreement Effective Date and, unless sooner terminated in accordance with the terms hereof or by mutual written consent, will continue on a Licensed Product-by- Licensed Product and a country-by-country basis, until there are no more payments owed to Arcturus in such country (the longest such period of time hereunder, the "Term"). Upon there being no more such payments hereunder in such country, the license contained in Section 2.1 will become irrevocable, perpetual and fully paid up and will remain in effect with respect to such Licensed Product in such country.

(b) If the Target to which this License Agreement relates is chosen by the Parties for co-development under the Co-Development Agreement, this License Agreement will automatically terminate upon the written agreement of the Parties to include such programs under the Co-Development Agreement, in accordance with Section 4.2(a) of the Co- Development Agreement.

(c) The Parties agree that this Agreement and the Co-Development Agreement relate to different projects and, therefore, the validity, term and termination of this Agreement shall be independent from the validity, term and termination of the Co-Development Agreement.

10.2 Termination by Arcturus.

(a) *Breach*. Arcturus will have the right to terminate this License Agreement in full upon delivery of written notice to CureVac in the event of any material breach by CureVac of any terms and conditions of this License Agreement, provided that such breach has not been cured within [*****] after written notice thereof is given by Arcturus to CureVac specifying the nature of the alleged breach.

(b) *Disputed Breach*. If CureVac disputes in good faith the existence or materiality of a breach specified in a notice provided in accordance with Section 10.2(a), and CureVac provides Arcturus notice of such dispute within such [*****] period, then Arcturus shall not have the right to terminate this License Agreement under Section 10.2(a) unless and until it is finally determined, in accordance with Section 11.1, that CureVac has materially breached this License Agreement and that CureVac fails to cure such breach within [*****] following such decision. It is understood and agreed that during the pendency of such dispute, all of the terms and conditions of this License Agreement shall remain in effect and the Parties shall continue to perform all of their respective obligations hereunder. During the pendency of any such dispute, CureVac shall pay to Arcturus all Milestone Payments and royalty payments set forth herein.

(c) *Patent Challenge.* Except to the extent the following is unenforceable under the Laws of a particular jurisdiction, Arcturus may terminate this License Agreement on a Patent-by-Patent basis upon delivery of [*****] prior written notice to CureVac

(i) if CureVac or its Affiliates, individually or in association with any other person or entity, commences a legal action challenging the validity, enforceability or scope of any Arcturus Technology Patents anywhere in the world and does not withdraw or settle such challenge within the [*****] cure period; or

(ii) if a sublicensee of CureVac, individually or in association with any other person or entity, commences a legal action challenging the validity, enforceability or scope of any Arcturus Technology Patents anywhere in the world and CureVac does not terminate the corresponding sublicense agreement or such challenge is not withdrawn or settled (by such sublicensee or CureVac) within the [*****] cure period.

10.3 Termination by CureVac; Certain Remedy for Breach.

(a) *Breach.* CureVac will have the right to terminate this License Agreement in full upon delivery of written notice to Arcturus in the event of any material breach by Arcturus of any terms and conditions of this License Agreement, provided that such breach has not been cured within [*****] after written notice thereof is given by CureVac to Arcturus specifying the nature of the alleged breach.

(b) *Discretionary Termination*. CureVac will have the right to terminate this License Agreement in full at its discretion for any reason by delivering written notice to Arcturus, such termination to be effective [*****] following the date of such notice.

(c) *Maintenance of License*. In the event of a material breach by Arcturus of Sections 2.2(c) or 3.2, if such breach has not been cured within [*****] after written notice thereof, CureVac may notify Arcturus in writing that the License Agreement shall remain in full force and effect, provided that any remaining payments to Arcturus pursuant to Sections 4.1, 4.2 and 4.3 following such notification shall be reduced by [*****].

10.4 Rights Upon Bankruptcy. All rights and licenses granted under or pursuant to this License Agreement by Arcturus or its Affiliates are, and will otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of right to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code. The Parties agree that CureVac and its Affiliates and Sublicensees, as licensees of such rights under this License Agreement, will retain and may fully exercise all of their rights and elections under the U.S. Bankruptcy Code and any foreign counterparts thereto. Without limiting the Parties' rights under Section 365(n) of the U.S. Bankruptcy Code, if a case under U.S. Bankruptcy Code is commenced by or against a Party, the other Party shall be entitled to a copy of any and all such intellectual property and all embodiments of such intellectual property, and the same, if not in the possession of such other Party, shall be promptly delivered to it (i) before this License Agreement is rejected by or on behalf of the bankrupt Party, within thirty (30) days after the other Party's written request, unless the bankrupt Party, or its trustee or receiver, elects within thirty (30) days to continue to perform all of its obligations under this License Agreement, or (ii) after any rejection of this License Agreement by or on behalf of the bankrupt Party, if not previously delivered as provided under clause (i) above. All rights of the Parties under this Section 10.4 and under Section 365(n) of the U.S. Bankruptcy Code are in addition to and not in substitution of any and all other rights, powers, and remedies that each Party may have under this License Agreement, under the U.S. Bankruptcy Code, and any other applicable Laws. The non-bankrupt Party shall have the right to perform the obligations of the bankrupt Party hereunder with respect to such intellectual property, but neither such provision nor such performance by the non-bankrupt Party shall release the bankrupt Party from any such obligation or liability for failing to perform it.

10.5 Effects of Termination.

(a) Upon termination (but not expiration pursuant to Section 10.1) of this License Agreement for any reason:

(i) *Cessation of Rights.* Except as expressly provided herein, including Sections 8.5, 10.5(a) and as necessary for CureVac to sell off existing inventory as permitted under Section 10.5(iii) below, all rights and licenses granted by Arcturus to CureVac under this License Agreement will terminate. CureVac shall wind down the development (including any clinical trials), manufacture and commercialization of the Licensed Product in compliance with all applicable Laws and at its own cost and expense.

(ii) *Sell Off.* Notwithstanding the termination of CureVac's licenses and other rights under this License Agreement, CureVac shall retain the right to distribute, sell or otherwise dispose of its existing inventory of the Licensed Products, in each case that is intended for distribution, sale or disposition in the Territory, for a period of not more than six (6) months following the date of the effective termination, as though this License Agreement had not been terminated, and such distribution, sale or other disposition shall not constitute infringement of the Patents or other intellectual property or proprietary rights of Arcturus or its Affiliates. CureVac's right to distribute, sell or otherwise dispose of its existing inventory of the Licensed Products pursuant to this Section 10.5(a)(ii) shall be subject to CureVac's continuing obligation to pay royalties with respect to the Net Sales.

(b) Upon termination pursuant to Section 10.1(b), Arcturus shall refund to CureVac the Option Exercise Fee (as defined in the Development and Option Agreement), the Milestone Payments already paid by CureVac and all other payments made by CureVac in relation to this License Agreement.

10.6 Survival. In addition to the termination consequences set forth in Section 10.5, the following provisions will survive termination or expiration of this License Agreement: Sections 1, 4 (to the extent of any outstanding payments accrued as of the effective date of termination), 5, 8, 9.4, 9.6, 10.5, 10.6 and 11. Termination or expiration of this License Agreement will not relieve the Parties of any liability or obligation which accrued hereunder prior to the effective date of such termination or expiration nor preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this License Agreement nor prejudice either Party's right to obtain performance of any obligation. All other rights and obligations will terminate upon expiration of this License Agreement.

11. General Provisions.

11.1 Dispute Resolution.

(a) *Disputes*. Disputes arising under or in connection with this License Agreement will be resolved pursuant to this Section 11.1; *provided*, *however*, that in the event a dispute cannot be resolved without an adjudication of the rights or obligations of a Third Party (other than any CureVac Indemnitees or Arcturus Indemnitees identified in Section 9.6), the dispute procedures set forth Sections 11.1(c) and 11.1(c) will be inapplicable as to such dispute.

(b) *Dispute Escalation*. In the event of a dispute between the Parties, the Parties will first attempt in good faith to resolve such dispute by negotiation and consultation between themselves. In the event that such dispute is not resolved on an informal basis within thirty (30) days, either Party may, by written notice to the other, have such dispute referred to each Party's Chief Executive Officer or his or her designee (who will be a senior executive with the appropriate authority to determine the matter for such party), who will attempt in good faith to resolve such dispute by negotiation and consultation for a thirty (30) day period following receipt of such written notice

(c) *Dispute Resolution.* In the event the Chief Executive Officers of the Parties are not able to resolve such dispute as set forth above, the Parties agree to try to solve such dispute amicably by mediation. The Parties shall conduct a mediation procedure according to the Mediation Rules of the World Intellectual Property Organization (WIPO) in effect on the date of the commencement of the mediation proceedings. The location of the mediation proceedings will be New York City, New York, U.S.. The number of mediators will be one (1). The language of the mediation proceedings will be English. If the dispute has not been settled pursuant to the said rules within sixty (60) days following the filing of a request for mediation or within such other period as the Parties may agree in writing, either Party may submit the dispute to final and binding arbitration. Any dispute relating to the validity performance, construction or interpretation of this License Agreement, which cannot be resolved amicably between the Parties after following the procedure set forth in this Section 11.1, shall be submitted to arbitration in accordance with the Arbitration Rules of WIPO in effect on the date of the commencement of the arbitration proceedings. The location of the arbitration proceedings will be New York City, New York, U.S.. The number of arbitrators will be three (3). The language of the arbitration proceeding will be English. The decision of the arbitrators shall be final and binding upon the Parties (absent manifest error on the part of the arbitrator(s)) and enforceable in any court of competent jurisdiction.

11.2 Relationship of Parties. Nothing in this License Agreement is intended or will be deemed to constitute a partnership, agency, employer-employee or joint venture relationship between the Parties. No Party will incur any debts or make any commitments for the other, except to the extent, if at all, specifically provided therein. There are no express or implied third party beneficiaries hereunder (except for CureVac Indemnitees and Arcturus Indemnitees for purposes of Section 9.6). For clarity, CureVac does not grant to Arcturus any rights or licenses under this License Agreement to any CureVac technology or intellectual property rights.

11.3 Compliance with Law. Each Party will perform or cause to be performed any and all of its obligations or the exercise of any and all of its rights hereunder in good scientific manner and in compliance with all applicable Law.

11.4 Governing Law. This License Agreement will be governed by and construed in accordance with the Laws of the State of New York, U.S., without respect to its conflict of Laws rules.

11.5 Counterparts; Facsimiles. This License Agreement may be executed in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this License Agreement by either Party will constitute a legal, valid and binding execution and delivery of this License Agreement by such Party.

11.6 Headings. All headings in this License Agreement are for convenience only and will not affect the meaning of any provision hereof.

11.7 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this License Agreement. Accordingly, the rule of construction that any ambiguity in this License Agreement will be construed against the drafting party will not apply.

11.8 Interpretation. Whenever any provision of this License Agreement uses the term "including" (or "includes"), such term will be deemed to mean "including without limitation" (or "includes without limitations"). "Herein," "hereby," "hereunder," "hereof" and other equivalent words refer to this License Agreement as an entirety and not solely to the particular portion of this License Agreement in which any such word is used. All definitions set forth herein will be deemed applicable whether the words defined are used herein in the singular or the plural. Unless otherwise provided, all references to Sections and Appendices in this License Agreement are to Sections and Appendices of this License Agreement. References to any Sections include Sections and subsections that are part of the related Section.

11.9 Binding Effect. This License Agreement will inure to the benefit of and be binding upon the Parties, their Affiliates, and their respective lawful successors and assigns.

11.10 Assignment. This License Agreement may not be assigned by either Party, nor may either Party delegate its obligations or otherwise transfer licenses or other rights created by this License Agreement, except as expressly permitted hereunder or otherwise without the prior written consent of the other Party, which consent will not be unreasonably withheld, delayed or conditioned; provided that either Party may assign this License Agreement without such consent to an Affiliate or to its successor in connection with sale of all or substantially all of its assets or business or that portion of its business pertaining to the subject matter of this License Agreement (whether by merger, consolidation or otherwise).

11.11 Notices. All notices, requests, demands and other communications required or permitted to be given pursuant to this License Agreement will be in writing and will be deemed to have been duly given upon the date of receipt if delivered by hand, recognized international overnight courier, or registered or certified mail, return receipt requested, postage prepaid or facsimile (and promptly confirmed by personal delivery, registered or certified mail or overnight courier) to the following addresses (or to such address as a Party may subsequently provide by written notice in accordance with this Section 11.11):

If to CureVac: CureVac AG
Paul-Ehrlich-Str. 15
72076 Tübingen
Germany
Attention: CEO and General Counsel
Fax: +49 7071 9883 - 1101

If to Arcturus: Arcturus Therapeutics Inc.
10628 Science Center Drive
Suite 200
San Diego, California 92121
USA
Attn: Chief Executive Officer
Copy to: General Counsel
Fax: (858) 300-5028

with a copy to (which copy shall not constitute notice):
Cooley LLP 3175
Hanover St.
Palo Alto, CA 94303
Attn: Glen Y. Sato
Fax: (650) 849-7400

11.12 Amendment and Waiver. This License Agreement may be amended, supplemented, or otherwise modified only by means of a written instrument signed by both Parties; provided that any unilateral undertaking or waiver made by one Party in favor of the other will be enforceable if undertaken in a writing signed by the Party to be charged with the undertaking or waiver. Any waiver of any rights or failure to act in a specific instance will relate only to such instance and will not be construed as an agreement to waive any rights or fail to act in any other instance, whether or not similar.

11.13 Severability. In the event that any provision of this License Agreement will, for any reason, be held to be invalid or unenforceable in any respect, such invalidity or unenforceability will not affect any other provision hereof, and the Parties will negotiate in good faith to modify the License Agreement to preserve (to the extent possible) their original intent.

11.14 Entire Agreement. This License Agreement together with the Development and Option Agreement and any other license agreements entered into during the Term pursuant to the Development and Option Agreement are the sole agreement with respect to the subject matter hereof and supersedes all other agreements and understandings between the Parties with respect to same.

11.15 Force Majeure. Neither Arcturus nor CureVac will be liable for failure of or delay in performing obligations set forth in this License Agreement (other than any obligation to pay monies when due), and neither will be deemed in breach of such obligations, if such failure or delay is due to natural disasters or any causes reasonably beyond the control of Arcturus or CureVac; provided that the Party affected will promptly notify the other of the force majeure condition and will exert reasonable efforts to eliminate, cure or overcome any such causes and to resume performance of its obligations as soon as possible.

Appendix 1.3

Description of the Arcturus LMD Technology

[*To be completed in accordance with Section 5.2 of the Development and Option Agreement.*]

Appendix 1.4

Patents and Know-How within the Arcturus Technology
as of the License Agreement Effective Date
[*To be updated in accordance with Section 5.2 of the Development and Option Agreement.*]

(C) Patents

ARCTURUS LMD TECHNOLOGY

[*****]

[*****]

(D) Know-How

[*****]

Appendix 1.28

Joint Interest Patents

[*To be completed in accordance with Section 5.2 of the Development and Option Agreement and updated during the Term*]

Appendix 1.50

Pre-Existing Restrictions

- [*****]

Appendix 1.59

Description of the Target

The description for a Target described in sub-clause (a) of the definition of Target shall include the following information:

a. [*****];

b. [*****]; and

c. [*****]; and

d. [*****]

The description for a Target described in sub-clause (b) of the definition of Target shall include the following information:

b. [*****]

The description for a Target described in sub-clause (c) of the definition of Target shall include the following information:

a. [*****]; and

b. [*****]

REDACTED
Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

RESTATED AMENDMENT

TO DEVELOPMENT AND OPTION AGREEMENT

THIS RESTATED AMENDMENT TO DEVELOPMENT AND OPTION AGREEMENT (this "Amendment"), dated as of September 28, 2018 (the "Amendment Restatement Date"), is made by and between CureVac AG, a German stock corporation with offices at Paul-Ehrlich-Strasse 15, 72076 Tubingen, Germany ("CureVac"), and Arcturus Therapeutics Inc., a Delaware corporation with offices at 10628 Science Center Drive #200, San Diego, CA 92121, USA ("Arcturus"). Each of CureVac and Arcturus may be referred to herein as a "Party" or together as the "Parties".

WHEREAS, the Parties are parties to that certain Development and Option Agreement, dated as of January 1, 2018 (the "Development and Option Agreement");

WHEREAS, an amendment to the Development and Option Agreement was executed by the Parties on May 8, 2018 ("Original Amendment"); and

WHEREAS, CureVac and Arcturus desire to amend and restate the Original Amendment in its entirety, effective as of the Amendment Restatement Date.

NOW, THEREFORE, in consideration of the foregoing and the promises and mutual agreements contained in this Amendment, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound, the Parties agree as follows:

SECTION 1. Amendment and Restatement of Original Amendment.

The Original Amendment is hereby amended and restated in its entirety as of the Amendment Restatement Date, and all provisions of, and rights granted and covenants made in the Original Amendment, if and to the extent not restated herein, are hereby waived, released and superseded in their entirety and shall have no further force or effect.

SECTION 2. Irrevocable Offer.

(a) The heading of Article 5 of the Development and Option Agreement is hereby amended and restated in its entirety as follows: "Irrevocable Offer to Licenses" and the Table of Contents is updated accordingly. The heading of Section 5.1 of the Development and Option Agreement is amended and restated in its entirety as follows: "Irrevocable Offer."

(b) Section 5.1(a) of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"(a) Arcturus hereby makes a final, binding irrevocable offer (the "Irrevocable Offer") to CureVac to enter into, on the terms of, and subject to the conditions set forth in, the Exclusive License Agreement or, if the Reserved Target is only available on a non-exclusive basis, the Non-Exclusive License Agreement, on a Reserved Target-by-Target basis, a maximum of [*****] under the Arcturus LMD Technology with respect to the development, manufacture and commercialization of Licensed Products containing mRNA Constructs intended to express such Reserved Target in the form of the License Agreement. Upon the execution of this Amendment, the Irrevocable Offer shall remain valid and legally binding on Arcturus and in effect, and the Irrevocable Offer from Arcturus shall be irrevocable and open for acceptance from CureVac for the period commencing on the Effective Date and ending on the expiration of the Term (the "Offer Period")."

(c) Section 5.1(b) of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"(b) If, prior to the expiration of the Offer Period, CureVac delivers written notice to Arcturus of its intention to enter into a license for a Reserved Target, which such notice shall set forth the particular Reserved Target which is intended to be expressed by the Licensed Products (each such notice, an "Acceptance Notice"), then upon delivery thereof, for the Reserved Target set forth in such Acceptance Notice, the licenses and all other rights under the applicable License Agreement shall immediately be in effect without the requirement of either Party to execute any further documentation and there shall exist a legal, valid and binding obligation of Arcturus, enforceable against Arcturus in accordance with the terms of the Exclusive License Agreement or, if the Reserved Target set forth in such Acceptance Notice is only available on a non-exclusive basis, the Non-Exclusive License Agreement. A separate Acceptance Notice and Acceptance Fee will be required for each License Agreement with respect to which CureVac accepts the Irrevocable Offer pursuant to this Section 5.1, and CureVac will pay to Arcturus the Acceptance Fee for each such License Agreement as set forth in Section 5.3. In the event that CureVac terminations a license(s) during the Term, the Target(s) subject to the license(s) will be removed from the Reserved Target List and the number of License Agreements for which the Irrevocable Offer exists shall be reduced by one (1) (i.e. the delivery of an Acceptance Notice reduces the total number of License Agreements for which CureVac may accept the Irrevocable Offer by one regardless of whether CureVac elects to continue such License Agreement in effect)."

(d) Section 5.1(c) of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"(c) In the event that CureVac terminates a License Agreement during the Term, the Targets subject to such license(s) will no longer be available as a Target pursuant to this Agreement."

(e) Section 5.2 of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"5.2 CureVac's Acceptance of Irrevocable Offer. As soon as practicable following CureVac's delivery of each Acceptance Notice to Arcturus, CureVac and Arcturus will prepare the appendices to the corresponding License Agreement. The License Agreement shall nevertheless enter into force (including payment obligations of CureVac in accordance with the terms of the License Agreement) upon delivery of the Acceptance Notice by CureVac."

(f) Section 5.3 of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"5.3 Acceptance Fee. If CureVac delivers an Acceptance Notice for a Rare Disease Target pursuant to Section 5.1, CureVac shall pay an Acceptance Fee of [*****] and if CureVac delivers an Acceptance Notice for a Non-Rare Disease Target pursuant to Section 5.1, CureVac shall pay an Acceptance Fee of [*****], hereinafter both the "Acceptance Fee". On the [*****] day that it delivers an Acceptance Notice, CureVac shall pay the applicable Acceptance Fee by wire transfer in immediately available funds to the bank account of Arcturus set forth on Schedule 3 (or such other bank account notified in writing to CureVac prior to such date)."

(g) Section 5.4 of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"5.4 Co-Development Agreement. For clarification, the selection of any program under the Co-Development Agreement shall not constitute the delivery of an Acceptance Notice in accordance with this Section 5, and, accordingly, no Acceptance Fee will be payable and any paid Acceptance Fee shall be credited against any other payments by CureVac applied first to any outstanding payment obligations to Arcturus, and to the extent any remaining amounts remain creditable, then to the next due future payment obligations."

(g) Definitions. Each of the following Sections of the Development and Option Agreement are hereby amended and restated in their entirety as "Intentionally Omitted." : Section 1.35, Section 1.62, Section 1.64, Section 1.65, Section 1.66 and Section 1.67 The following Sections are inserted immediately following Section 1.94 of the Development and Option Agreement:

"**1.95** "Irrevocable Offer" has the meaning set forth in Section 5.1(a).

1.96 "Acceptance Notice" has the meaning set forth in Section 5.1(b).

1.97 "Acceptance Fee" has the meaning set forth in Section 5.3."

(h) Additional Modifications.

(i) In Section 3.1(f) of the Development and Option Agreement, the occurrence of "exercise of an Option and entry into a License Agreement" in the first sentence is hereby replaced with "delivery of an Acceptance Notice and the entering into force of a License Agreement".

(ii) In Section 3.3(c) of the Development and Option Agreement, the occurrence of "whether to exercise an Option" in the third sentence is hereby replaced with "whether to delivery an Acceptance Notice".

(iii) In Section 4.2(c)(iii) of the Development and Option Agreement, the occurrence of "option" in the second sentence is hereby replaced with "right".

(iv) In Section 4.2(d)(ii) of the Development and Option Agreement, the occurrence of "shall be reduced by each exercise of an Option" in the first sentence is hereby replaced with "shall be reduced by each delivery of an Acceptance Notice" and the occurrence of "applying from and after the date of exercise of an Option." in the first sentence is hereby replaced with "applying from and after the date of an Acceptance Notice.".

(v) In Section 6.4(c)(ii) of the Development and Option Agreement, the occurrence of "an Option Notice" in the first sentence is hereby replaced with "an Acceptance Notice".

(vi) In Section 6.4(c)(iii) of the Development and Option Agreement, the occurrence of "to the Options" in the first sentence is hereby replaced with "pursuant to the Irrevocable Offer".

(vii) In Section 9.2(a)(iv) of the Development and Option Agreement, the occurrence of "the Option Exercise Fee" is hereby replaced with "the Acceptance Fee".

(viii)vIn Section 9.2(a) of the Development and Option Agreement, in the sentence immediately following subsection (iv), the occurrence of "or the Options" is hereby replaced with "or the Irrevocable Offers".

SECTION 3. License Agreements.

(a) "Non-Exclusive License Agreement" means the terms of the Non-Exclusive License Agreement agreed by the Parties, incorporated by reference into the Development and Option Agreement and set forth on Schedule 1-A to this Amendment.

(b) "Exclusive License Agreement" means the terms of the License Agreement agreed by the Parties, incorporated by reference into the Development and Option Agreement and set forth on Schedule 1-B to this Amendment.

SECTION 4. Termination of Security Interest. CureVac acknowledges and agrees that the security interests in, and Liens (as defined in the Original Amendment) on, the Collateral (as defined in the Original Amendment) in favor of CureVac are released and terminated. CureVac shall promptly prepare and file a UCC termination statement in order to evidence the termination of the Liens and security interests granted pursuant to the Original Amendment.

SECTION 5. Additional Expenses. In consideration for the rights granted pursuant to Section 2 of this Amendment, CureVac agrees to perform the Work under the Work Plan as part of which CureVac will fund [*****] scientists per year at Arcturus for a period of [*****] months at the FTE Costs.

SECTION 6. Targets. In consideration for the termination of the security interests granted to CureVac in the Original Amendment, Arcturus agrees that CureVac will have

(a) the right to select up to [*****] Targets at any one time to be placed on the Reserved Target List as exclusive Reserved Targets according to Section 4.2(d)(ii) the Development and Option Agreement and

(b) a total of [*****] options, on a Reserved Target-by-Reserved Target basis, to enter into a maximum of [*****] licenses under the Arcturus LMD Technology with respect to the development, manufacture and commercialization of Licensed Products containing mRNA Constructs in accordance with Section 5.1 of the Development and Option Agreement.

SECTION 7. Representations and Warranties. Each Party represents and warrants to the other as of the Amendment Restatement Date that (a) it is a corporation duly organized, validly existing, and in good standing under the Laws of the jurisdiction in which it is incorporated, (b) it has the legal right and power to enter into this Amendment, to extend the rights and licenses granted or to be granted to the other in the Development and Option Agreement, and to fully perform its obligations hereunder, (c) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this Amendment and the performance of its obligations under the Development and Option Agreement (d) this Amendment has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms, and (e) the execution, delivery and performance by a Party of this Amendment and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any understanding, contract or agreement to which such Party is a party or by which it is bound.

SECTION 8. Ratification of Agreement. Except as expressly provided in this Amendment, all of the terms, covenants, and other provisions of the Development and Option Agreement are hereby ratified and confirmed and shall continue to be in full force and effect in accordance with their respective terms. From and after the date hereof, all references to the Development and Option Agreement shall refer to the Development and Option Agreement as amended by this Amendment. Capitalized terms used but not defined in this Amendment shall have the meanings assigned to them in the Development and Option Agreement.

SECTION 9. Governing Law. This Amendment shall be governed by and construed in accordance with the Laws of the State of New York, USA, without respect to its conflict of Laws rules. In the event of a dispute arising out of or relating to this Amendment, the provisions of Section 10.1 of the Development and Option Agreement shall govern the resolution of such dispute.

SECTION 10. Counterparts. This Amendment may be executed and in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this Amendment by either Party will constitute a legal, valid and binding execution and delivery of this Amendment by such Party.

[*signature page follows*]

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their respective duly authorized officers as of the date hereof.

CUREVAC AG

By: /s/ Daniel L. Menichella
Name: Daniel L. Menichella
Title: Chief Executive Officer

ARCTURUS THERAPEUTICS INC.

By: /s/ Joseph E. Payne
Name: Joseph E. Payne
Title: Chief Executive Officer

Schedule 1-A

Non-Exclusive License Agreement

See Original Amendment.

Schedule 1-B

Exclusive License Agreement

See Original Amendment.

Schedule 3

[*****]

Exhibit 10.16

REDACTED

Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

THIS THIRD AMENDMENT (this "Third Amendment") to the Development and Option Agreement dated January 1, 2018 (the "Original Agreement"), is entered into by and between CureVac AG, a German stock corporation with offices at Paul-Ehrlich-Strasse 15, 72076 Tubingen, Germany ("CureVac"), and Arcturus Therapeutics Inc., a Delaware corporation with offices at 10628 Science Center Drive #200, San Diego, CA 92121, USA ("Arcturus"; each of CureVac and Arcturus individually a "Party" and together the "Parties") as of July 26, 2019 (the "Third Amendment Date").

RECITALS

WHEREAS, the Parties have previously amended the Original Agreement by (i) a first amendment dated May 3, 2018 (the "First Amendment") and (ii) a second amendment amending and restating the First Amendment in its entirety dated September 28, 2018 (the "Second Amendment"; the Original Agreement, as amended to the date hereof by the First Amendment and the Second Amendment, being referred to as the "Development and Option Agreement").

WHEREAS, the Parties desire to amend the Development and Option Agreement effective as of the Third Amendment Date.

NOW, THEREFORE, in consideration of the foregoing and the promises and mutual agreements contained in this Third Amendment, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound, the Parties agree as follows:

1. DELETION OF SECTION 5 AND SECTION 6 OF THE SECOND AMENDMENT

(a) Section 5 of the Second Amendment is hereby deleted in its entirety and shall have no further force and effect. Section 3.2(a) of the Original Agreement shall be restored as to its substance from and after the Third Amendment Date, and, for clarification purposes, is hereby amended and restated as follows:

"**(a)** ***Generally.*** Arcturus will perform the Work under the Work Plan, and as part of the Program CureVac will fund up to three (3) scientists per year at Arcturus to perform the Work as defined and in accordance with the Work Plan for a period of up to twenty-four (24) months beginning at the Third Amendment Date at the FTE Costs. The Parties may agree to extend the performance of Work by Arcturus for an additional year."

(b) Section 6 of the Second Amendment is hereby deleted in its entirety and shall have no further force and effect. Section 4.2(d)(ii) (Maximum Number Reserved Targets) and Section 5.1(a) (Maximum Options) of the Original Agreement are hereby restored with the effect that the maximum number of Reserved Targets and the total number of Options to enter into a maximum number of licenses under the Arcturus LMD Technology are reduced from [*****].

2. AMENDMENT OF ARTICLE 9 OF THE DEVELOPMENT AND OPTION AGREEMENT

(a) Section 9.1(a) and Section 9.1 (b) of the Development and Option Agreement are hereby amended and restated in their entirety as follows:

"**(a)** This Agreement will commence as of the Effective Date and, unless sooner terminated or extended in accordance with the terms hereof or by mutual written consent, will continue for a period of four (4) years from the Third Amendment Date, (the "Initial Term", as may be extended pursuant to Section 9.1(b), the "Term").

(b) At any time during the Initial Term, CureVac shall have the option to extend the Initial Term for eighteen (18) months, by providing written notice to Arcturus, subject to payment by CureVac to Arcturus of a non-refundable extension fee of one million US dollars (U.S. $1,000,000), payable within fifteen (15) Business Days after notice of the exercise of such option. If the $1,000,000 payment is not made within such fifteen (15) Business Day period the Term will be the Initial Term without extension."

(b) Section 9.1(c) of the Development and Option Agreement is hereby amended and restated in its entirety as "Intentionally Omitted".

(c) Section 9.2, first paragraph of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"**(9.2) Termination by CureVac.**

(a) Breach, Change of Control. CureVac will have the right to terminate this Agreement in full or on a Program-by-Program basis upon delivery of written notice to Arcturus in the event of

(i) any material breach by Arcturus

(A) of any terms and conditions of this Agreement, provided that such breach has not been cured within sixty (60) days after written notice thereof is given by CureVac to Arcturus specifying in reasonable detail the nature of the alleged breach; or

(B) in particular the failure of the Trusted Arcturus Employee to send the Target Response Notice within the period provided for in Section 4.2(c)(i), provided that such failure has not been cured neither within a first cure period of five (5) Business Days after written notice thereof is given by CureVac to Arcturus nor within a second cure period of five (5) Business Days after written notice of the lapse of the first cure period is given by CureVac to Arcturus, or

(ii) a Change of Control of Arcturus."

3. AMENDMENT OF ARTICLE 4 OF THE OPTION AND DEVELOPMENT AGREEMENT

Article 4 of the Development and Option Agreement is hereby amended and restated in its entirety as follows:

"**ARTICLE 4**
Reserved Targets

4.1 Generally. CureVac will select the Targets that will be the subject of the Works to be performed as part of a Program from the Reserved Target List. CureVac shall have the right, but not the obligation, to reserve Targets (or replace a Reserved Target with a new Target) in accordance with this Article 4.

4.2 Restricted Target List.

(a) Pre-existing Restrictions. Arcturus shall ensure that the Trusted Arcturus Employee has access to an updated list of Targets that are subject to Pre-Existing Restrictions at any time (the "Restricted Target List"). The Restricted Target List will identify for each Target listed in the Restricted Target List whether the Target is subject to Third Party rights or is under development at Arcturus. If the Target is subject to Third Party rights, the Restricted Target List will identify whether the Pre-Existing Restrictions are exclusive, non-exclusive or co-exclusive. If the Target is under development at Arcturus, Arcturus will provide the Trusted Arcturus Employee with Proof of Concept Data. Arcturus represents, warrants and covenants to CureVac that (i) the Restricted Target List is and will at all times be accurate in accordance with this Section 4.2(a); and (ii) Arcturus will not add any Reserved Targets to the Restricted Target List and will not engage in any research, development or other activities with respect to a Reserved Target or grant to any Third Party any licenses or options under the Arcturus LMD Technology with respect to the then current Reserved Target List that would preclude Arcturus from entering into a License Agreement with respect to such Reserved Target as set forth herein.

(b) Target Notices.

From time to time during the Term, if CureVac desires to include a Target as a Reserved Target hereunder, CureVac will notify the Trusted Arcturus Employee in writing of the Targets for potential inclusion on the Reserved Target List, which notice will provide (i) the information on the Target Reservation Request Form attached hereto as **Exhibit 4.2**; and (ii) the identity of each Reserved Target (if any) that CureVac desires to remove as a Reserved Target (each such notice, a "Target Notice"). For clarity, the Target Notices shall not include more Targets than the Maximum Targets then available (taking into consideration any removed Targets previously reserved) and shall be deemed to be a request for an exclusive license at the outset unless there is a Pre-Existing Restriction. For clarity, CureVac's rights to enter into a Non-Exclusive License Agreement shall apply only if the Pre-Existing Restriction permits a non-exclusive license right to such proposed Reserved Target.

In addition to the formal Target reservation mechanism described in Section 4.2(b)(i), the Trusted Arcturus Employee will in good faith respond to any interim requests (not to exceed three (3) requests per month) on whether certain Targets can be reserved as Reserved Targets, in order to assist CureVac in planning of development projects. For clarity, the interim requests shall not include more than the Maximum Target then available (taking into consideration any removed Targets previously reserved).

(c) Target Response Notices.

(i) The Trusted Arcturus Employee, on behalf of Arcturus, will review each Target Notice provided by CureVac hereunder to determine whether or not any such proposed Target is on the Restricted Target List and if listed, the applicable Pre-Existing Restriction as of the date of such Target Notice. Within ten (10) Business Days of the Trusted Arcturus Employee's receipt of a Target Notice, the Trusted Arcturus Employee will provide CureVac with written notice that includes the information set forth in subsection (c)(ii) and (iii) (each such notice, a "Target Response Notice").

If, as of the date of CureVac's Target Notice for a Target, such Target is on the Restricted Target List and is listed as being subject to Pre-Existing Restrictions, then such Target shall not be available to become a Reserved Target. The Target Response Notice issued for such Target will certify to CureVac that such Target is on the Restricted Target List and is listed as being subject to Pre-Existing Restrictions. The Target Response Notice issued for such Target shall identify whether the Target is subject to Third Party rights or is under development at Arcturus. If the Target is subject to Third Party rights, the Target Response Notice shall identify whether the Pre-Existing Restrictions are exclusive, non-exclusive or co-exclusive. If the Target is under development at Arcturus, upon CureVac's request, Arcturus shall provide to CureVac Proof of Concept Data within five (5) Business Days following such request in order to enable CureVac to confirm that the Proof of Concept Data is sufficient for Arcturus to reject the qualification of the Target as Reserved Target.

If, as of the date of CureVac's Target Notice for a Target, such Target is not listed on the Restricted Target List, then such Target will become a Reserved Target and will be added to the Reserved Target List subject to the Concurrent Reserved List Limits set forth in subsection (d) below. To the extent that the Pre-Existing Restriction is non-exclusive, then such Target may be added by CureVac to the Reserved Target List, but CureVac shall only have the right to enter into a Non-Exclusive License Agreement.

(iv) In case of a dispute between the Parties as to whether a Target is eligible to become a Reserved Target, the Parties will involve an independent Third Party qualified scientist mutually agreed upon by both Parties (the "Auditor") within ten (10) Business Days as of the date of the Target Response Notice. Promptly upon the Auditor's designation, Arcturus shall submit to the Auditor all documents and materials which are necessary for the Auditor to identify the Pre-Existing Restrictions. The Auditor shall determine whether the Target is eligible to become a Reserved Target in accordance with the applicable provisions of this Agreement. The Auditor's determination shall be binding upon the Parties. The Auditor shall be required to enter into a reasonably acceptable confidentiality agreement and will not share any information provided by Arcturus to CureVac or any Third Party.

(d) ***Concurrent Reserved List Limits and Removal of Targets.*** The following concurrent reserved list limits will apply to all Reserved Targets ("Concurrent Reserved List Limits").

(i) Reserved Targets and Removal thereof. CureVac may select Reserved Targets up to the totals allowed for in subparagraph (ii) below, in accordance with the process specified in Sections 4.2(b) and (c). CureVac shall have the right to remove a Target or replace a Target on the Reserved Target List with another Target, in accordance with the process specified in Section 4.2(b), provided (A) the total number of Targets on the Reserved Target List does not exceed the Maximum Targets at any one time; and (B) a newly nominated Target is not on the Restricted Target List. Any abandoned Target(s) revert(s) back to Arcturus.

(ii) Maximum Number Reserved Targets. CureVac will have the right to select up to [*****] at any one time to be placed on the Reserved Target List as Reserved Targets; provided that the [*****] total shall be reduced by each delivery of an Acceptance Notice (the "Maximum Targets") (e.g., if [*****] License Agreements have been executed, then the total number of Reserved Targets shall be reduced to [*****]), with such reduction in the total Targets applying from and after the date of exercise of an Acceptance Notice.

4.3 **Expiration of Pre-Existing Restrictions.** If any Pre-Existing Restrictions identified in a Target Response Notice that precluded Arcturus from granting CureVac a license (whether or not CureVac has elected to designate such Target on the Reserved Target List on a non-exclusive basis subject to the Pre-Existing Restriction) under the Arcturus LMD Technology later expire or otherwise are modified or terminated such that Arcturus is no longer precluded under the terms of the applicable Third Party agreement from granting a license to CureVac with respect to such Target, the Trusted Arcturus Employee will notify CureVac of such event and CureVac will have an exclusive option, for a period of thirty (30) days following delivery of notice to CureVac, to add (or extend its rights) such Target to the Reserved Target List as a Reserved Target in accordance with Section 4.2(c), subject to the Concurrent Reserved List Limits. For clarity, CureVac will at all times thereafter have the right to provide a Target Notice for such Target to the Trusted Arcturus Employee pursuant to Section 4.2(b) but such Target Notice will be subject to any intervening Pre-Existing Restrictions.

4.4 **Trusted Arcturus Employee.** Arcturus shall ensure that the Trusted Arcturus Employee abides by the terms set forth herein. On the Third Amendment Date, (i) Arcturus shall communicate the name, title and contact details of the Trusted Arcturus Employee to CureVac and (ii) Arcturus and CureVac will terminate - if - any existing Escrow Agreement and jointly instruct and permit the Escrow Agent to send the current Reserved Target List to the Trusted Arcturus Employee. Arcturus shall ensure that only the Trusted Arcturus Employee knows the identity of Reserved Targets and that the Trusted Arcturus Employee is bound by obligations of confidentiality obliging the Trusted Arcturus Employee to keep the Reserved Target List and the identity of Reserved Targets confidential. All costs and expenses incurred through the Trusted Arcturus Employee after the Third Amendment Date will be borne by Arcturus. If Arcturus appoints a new Arcturus employee to serve as the Trusted Arcturus Employee after the Third Amendment Date, Arcturus shall promptly notify CureVac of such appointment.

4. **FURTHER AMENDMENTS**

(a) Section 1.69 of the Development and Option Agreement (Definition of Pre-Existing Restrictions) is hereby amended and restated in its entirety as follows:

(b) "**1.69**"Pre-Existing Restrictions" means, with respect to a Target on the Restricted Target List pursuant to Section 4.2(a), that (i) Arcturus or its Affiliates have granted to a Third Party with respect to such Target a non-exclusive, co-exclusive or an exclusive license or option pursuant to a *bona fide* written agreement that is in effect at the date of the Target Notice by CureVac pursuant to Section 4.2, restricting Arcturus from granting the applicable license to CureVac under the LMD Technology with respect to such Target, or (ii) such Target is under development at Arcturus and Arcturus has completed, at minimum, preclinical *in vivo* Proof of Concept Data with respect to such Target.

(c) Section 1.77 of the Development and Option Agreement (Definition of Reserved Target) is hereby amended and restated in its entirety as follows:

"**1.77** "Reserved Target" means a Target (i) which is included in the Reserved Target List on the Third Amendment Date or (ii) with respect to which CureVac shall have delivered to the Trusted Arcturus Employee a Target Notice and in response thereto the Trusted Arcturus Employee shall have delivered to CureVac a Target Response Notice under Section 4.2(c)(i) for such Target to become a Reserved Target. A Reserved Target that is abandoned or replaced pursuant to Section 4.2 will no longer be deemed a Reserved Target."

(d) The following Sections are inserted immediately following Section 1.97 of the Development and Option Agreement:

"**1.98** "Trusted Arcturus Employee" means an employee (not on the C-Level or business development) of Arcturus designated by Arcturus, being the only individual in the Arcturus' organization who knows the CureVac Reservation List, steering the Target Response Notice.

1.99 "Proof of Concept Data" means any of the following: (i) data for two mRNAs encoding a Target with positive results (i.e. a biological and/or pharmacological effect) in at least one *in vivo* study (i.e. in animals); or (ii) data for two mRNAs encoding a Target demonstrating *in vivo* expression of the encoded Target.

1.100 "Auditor" has the meaning set forth in Section 4.2(c)(iv).

5. Disclosure

The Parties will mutually agree upon a Form 8-K to be filed by Arcturus with the Securities and Exchange Commission to disclose this Third Amendment (the "**Form 8-K**"). Except for the Form 8-K, unless required by applicable law, neither Party will disclose any information relating to the circumstances which have led to the amendment of the Development and Option Agreement or the amendment of the Development and Option Agreement (including the terms of this Third Amendment).

7. Non-Disparagement

Neither Party or any of its Affiliates shall make any statements, verbal or written, or cause or encourage others to make any statements, verbal or written, that defame, disparage, or in any way criticize the personal or business reputation, practices, or conduct of, the other Party or its shareholders, directors, officers, employees, or agents, including but not limited to statements made regarding the past relationship and past interactions between the Parties. This prohibition extends to statements, verbal or written, made to anyone, including but not limited to, the news media, investors, potential investors, any board of directors or advisory board of directors, industry analysts, competitors, strategic partners, vendors, employees (past and present), and clients. Any breach of this paragraph shall be a material breach of the Development and Option Agreement. For the avoidance of any doubt, this Section 7 shall not prohibit the disclosure of any factual statements required by applicable Law.

8. Representations and Warranties

Each Party represents and warrants to the other as of the Third Amendment Date that (a) it is a corporation duly organized, validly existing, and in good standing under the Laws of the jurisdiction in which it is incorporated, (b) it has the legal right and power to enter into this Third Amendment, to extend the rights and licenses granted or to be granted to the other in the Development and Option Agreement, and to fully perform its obligations hereunder, (c) it has taken all necessary corporate action on its part required to authorize the execution and delivery of this Third Amendment and the performance of its obligations under the Development and Option Agreement (d) this Third Amendment has been duly executed and delivered on behalf of such Party, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms, and (e) the execution, delivery and performance by a Party of this Third Amendment and the consummation of the transactions contemplated hereby will not result in any violation of, conflict with, result in a breach of or constitute a default under any understanding, contract or agreement to which such Party is a party or by which it is bound.

9. Ratification of Development and Option Agreement

Except as expressly provided in this Third Amendment, all of the terms, covenants, and other provisions of the Development and Option Agreement are hereby ratified and confirmed and shall continue to be in full force and effect in accordance with their respective terms. From and after the date hereof, all references to the Development and Option Agreement shall refer to the Development and Option Agreement as amended by this Third Amendment. Capitalized terms used but not defined in this Amendment shall have the meanings assigned to them in the Development and Option Agreement.

10. Governing Law

This Third Amendment shall be governed by and construed in accordance with the Laws of the State of New York, USA, without respect to its conflict of Laws rules. In the event of a dispute arising out of or relating to this Third Amendment, the provisions of Section 10.1 of the Development and Option Agreement shall govern the resolution of such dispute.

11. Counterparts

This Third Amendment may be executed and in one or more counterparts, each of which will be deemed an original, and all of which together will be deemed to be one and the same instrument. Facsimile or PDF execution and delivery of this Third Amendment by either Party will constitute a legal, valid and binding execution and delivery of this Third Amendment by such Party.

[*signature page follows*]

IN WITNESS WHEREOF, the Parties intending to be bound have caused this Third Agreement to be executed by their duly authorized representatives as of the Effective Date.

Arcturus Therapeutics, Inc.

By: /s/ Joseph Payne
Name: Joseph Payne
Title: Chief Executive Officer

CureVac AG

By: /s/ Daniel Menichella
Name: Daniel Menichella
Title: Chief Executive Officer

By: /s/ Dr. Franz-Werner Haas
Name: Dr. Franz-Werner Haas
Title: Chief Operating Officer

Exhibit 10.17

Convertible Loan

between

Mr. Dietmar Hopp, Johann-Jakob-Astor-Str. 57, 69190 Walldorf

- hereinafter also referred to as "Lender" -

and

CureVac AG, Paul-Ehrlich-Str. 15, 72076 Tübingen

- hereinafter also referred to as "Borrower" -

Preamble

For the purposes of the financing of the business of the Borrower, the Lender has granted the Borrower a loan in an amount of EUR 50 million ("**Convertible Loan I**") by agreement dated 3rd May 2019 ("**Agreement regarding a Convertible Loan**"). The Convertible Loan I has already been disbursed completely.

The Lender is willing to grant the Borrower a further loan in an amount of USD 70 Mio. ("**Convertible Loan II**") (Convertible Loan I and Convertible Loan II together also the "**Convertible Loans**" or "Loans"

The following provisions and conditions shall be applicable for both, the Convertible Loan I and the Convertible Loan II with the effect that the Agreement Regarding a Convertible loan I terminates.

Pursuant hereto, the Parties agree as follows:

1 Granting of the Convertible Loan II

1.1 The Lender grants the Borrower another loan with a conversion option in a nominal amount of EUR 63.926.900,00 (equivalent to USD 70 million calculated on the basis of the exchange rate relevant on the date of conclusion of this agreement), the Convertible Loan II

1.2 The Borrower has the right to use the Convertible Loan II in two tranches of EUR 20 milion each and one final tranche of EUR 23.926.900,00 until 31 December 2021 if Borrower's cash balance falls below EUR 15 million.

1.3 The Lender shall pay the respective requested tranche within ten working days upon receipt of the written request of the Borrower to the account of the Borrower at Deutsche Bank Stuttgart, IBAN : DE96 6407 0085 0034 6361 00, BIC: DEUTDESS640.

1.4 The Lender is entitled to assign and transfer its rights and obligations from this agreement in total or in part to company which is directly or indirectly affiliated with the Lender and/or a member of the family of the Lender according to Paragraph 15 German Stock Corporation Act *(Aktiengesetz - AktG)*

2 Interest

The Loans shall bear interest in the amount of 8.0% p. a. and shall be calculated to the exact date. The interest shall be added to the amount of the Loans and be due with the Loans. Compound interest shall not be due.

3 Term

The Convertible Loans are granted for an indefinite term.

4 Repayment or conversion of Convertible Loans

4.1 The Lender is entitled to terminate the Convertible Loans at any time in full or in part, however not before 31 December 2021.

4.2 If in the time until 31 December 2021 the Borrower (i) initiates or concludes the acquisition of a company or a sale or merger with another company of an affiliate, in which the entire business or the majority of the assets of the Borrower are transferred to, or is acquired or sold or merges with another company or (ii) carries out a capital increase (including the issuance of convertibles), the Lender is entitled to terminate the Convertible Loans with immediate effect.

4.3 Only in the case of a termination according to Sec. 4.1 and 4.2 (i), the Convertible loans shall be actually repaid within one month of receipt of the termination letter by the Lender. In the case of a termination according to Sec. 4.2(ii) the Lender has rights and obligations according to Sec. 4.5.

4.4 The Borrower is entitled to terminate the Convertible Loans if the Borrower executes a cross over financing round in direct or indirect preparation of an IPO.

4.5. To the extent permissible under the existing Investment and Shareholders' Agreement by and between the Borrower, dievini Hopp BioTech holding GmbH & Co. KG, a company affiliated with the Lender and all other shareholders of the Borrower, the Lender or its legal successor according to Section 1.4 of this agreement after a termination according to Section 4.1 or 4.2 (i) is, instead of its claim to the repayment of the Convertible Loans, entitled to fully or partially contribute his eventual repayment claims (including the claims for payment of interests) in the context of a capital increase of the Borrower as contribution in kind.

If the Borrower makes use of its termination right according to Section 4.4 and in case of a termination according to Section 4.2 (ii) and to the extent permissible under applicable law as well as the existing Investment and Shareholders' Agreement by and between the Borrower, dievini Hopp BioTech holding GmbH & Co. KG, a company affiliated with the Lender and all other shareholders of the Borrower, the Lender is obliged to (i) fully contribute his repayment claim (including all payment claims regarding interests) in the context of a capital increase of the Borrower as contribution in kind or (ii) to contribute an amount equivalent to his repayment claim (including all payment claims regarding interests) in the context of a capital increase of the Borrower as cash contribution; in case of (ii) the Convertible Loans shall be actually repaid according to Sec. 4.3 first sentence. All conditions of such capital increase shall apply accordingly for the contribution in kind.

4.6. The Lender and the Borrower agree that the before mentioned option to contribute the repayment claims does not constitute a commitment of the Borrower regarding the subscription of new stock, which would be invalid pursuant to § 187 para. 2 German Stock Corporation Act.

5 Subordination

5.1 In order to avoid a potential over indebtedness of the Borrower, the Lender hereby subordinates its claim of repayment of the Convertible Loans to all existing and future claims of the other creditors of the Borrower. Repayments of the Convertible Loans shall only be made from future annual net income, net income from winding up or from other net income which exceeds the debts of the Borrower. The subordinated claim of the Lender shall be fulfilled only simultaneously and pro rata with the repayment claims of capital contribution by all other shareholders of the Borrower and together with those claims for which a declaration of subordination has been given. This shall also apply in the case of the Borrower's insolvency.

5.2 This subordination shall become invalid as soon as and to the extent an over indebtedness of the Borrower is not any more given or would have not been given without subordination.

6 Final provisions

6.1 This agreement fully replaces the Agreement regarding a Convertible Loan.

6.2 Insofar as individual provisions of this agreement are or become invalid or unenforceable or this agreement is incomplete, this shall not affect the effectiveness of the remaining provisions of this agreement. Instead of such invalid or unenforceable provisions, such valid provision shall be deemed to be agreed upon as the Parties had foreseeably concluded, had they known of the invalid, unenforceable or omitted provisions at the time of conclusion of this agreement. Insofar as a provision is or becomes invalid as to the scope of performance agreed upon, this scope of performance shall be amended so that it becomes legally permissible.

6.3 Changes and modifications to this agreement must be made in writing for these to take effect, insofar as the notarial form is not required. This also applies to the waiver of the written form requirement itself.

6.4 Place of jurisdiction for disputes arising from this agreement is – insofar as legally permissible – Mannheim.

6.5 The German version of this agreement is authoritative. The English version is a convenience translation for information purposes only.

24. October 2019	24. October 2019
/s/ Dietmar Hopp	/s/ CureVac AG
Dietmar Hopp	**CureVac AG**

REDACTED
Certain identified information, indicated by [*****] has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

YALE UNIVERSITY

COLLABORATIVE RESEARCH AGREEMENT

This is a RESEARCH AGREEMENT (the "Agreement") effective July 1st, 2019, (the "Effective Date") by and between YALE UNIVERSITY, a non-profit corporation organized and existing under and by virtue of a special charter granted by the General Assembly of the Colony and State of Connecticut (the "University") and Cure Vac AG, a German stock corporation, having its principal offices at Paul-Ehrlich-Strasse 15, 72076 Tubingen, Germany (the "Sponsor").

WITNESSETH:

WHEREAS, in pursuit of its educational purposes, which include research and training, the University undertakes scholarly, research, and experimental activities in a variety of academic disciplines; and

WHEREAS, the parties wish to undertake a research program in the field of pulmonary disease, as described more fully in Exhibit A, attached hereto; and

WHEREAS, in furtherance of its scholarly, research, and instructional interests, the University is willing to undertake such research upon the terms and conditions set forth below;

NOW, THEREFORE, in consideration of the premises and the mutual covenants herein contained, the parties hereto agree as follows:

1. **Scope of Research.** During the term of this Agreement, the parties shall use reasonable efforts to perform the research program described in Exhibit A, attached hereto and which hereby is incorporated herein (the "Research"). Notwithstanding the foregoing, the parties make no warranties or representations regarding its ability to achieve, nor shall either party be bound hereby to accomplish, any particular research objective or results.

2. **Personnel.**

(a) The Research at the University shall be performed by and under the supervision and direction of [*****] while employed by the University, who shall be designated the principal investigator ("Principal Investigator"), together with such additional personnel as may be assigned by the University. The University shall give Sponsor written notice of any change in its Principal Investigator, subject to Sponsor's approval, which shall not unreasonably be withheld.

(b) It is understood that the University and the personnel performing the Research hereunder may be involved in other activities and projects which entail pre-existing commitments to other sponsors. The University will use reasonable efforts to avoid conflicts with the terms of this Agreement; however, it is agreed that unless provided to the contrary herein, this Agreement is subject to the University's pre-existing commitments to such other sponsors.

3. University Policies and Procedures: Reimbursement of Costs.

3.1 All Research conducted hereunder shall be performed in accordance with established University policies and procedures, including, but not limited to, policies and procedures applicable to research involving human subjects, laboratory animals, and conflicts of interest.

3.2 Reimbursement of Costs.

(a) The Sponsor shall reimburse the University for all direct and indirect costs incurred by the University in connection with the Research, in accordance with the budget set forth as Exhibit B, in the amount of [*****] attached hereto and which hereby is incorporated herein; provided, however, that the University may submit to Sponsor at any time, and Sponsor may at its discretion approve in writing, a revised budget or budgets requesting additional funds. Indirect costs shall be equal to the facilities and administration rate for indirect costs negotiated between the University and the Federal Government.

(b) The Sponsor shall make quarterly advance payments to the University to fund estimated reimbursable costs, as determined in advance by Yale in good faith, it being understood that Yale's estimate is not a guarantee of actual reimbursable costs.

All invoices should be sent to [*****]

Payment terms: [*****]

All checks shall be made payable to Yale University, shall include reference to the Principal Investigator, and shall be sent to:

Yale University

[*****]

New Haven, CT 06508-1873

Or wired to:

[*****]

4. Materials.

4.1 Throughout the course of the Research, it may be necessary for University to send to Sponsor, and Sponsor to send to University, samples of biological materials ("Materials"). In such instances, the sending Party will be responsible for packaging and shipping of Materials, with an appropriate method, time and destination to be agreed upon by both Parties. The requesting party will be responsible for the expenses related to packaging and shipping.

4.2 Sponsor Materials: Sponsor retains sole ownership of its Confidential Information, (as defined below), as well as any other Sponsor biological materials, radiopharmaceuticals, study medications, equipment, supplies, or reagents to be used in the Research (which material and any progeny, modifications or derivatives thereof, "Sponsor Materials"). University may not use the Sponsor Materials for any purpose other than the Research, nor may University take, send, or otherwise provide the Sponsor Materials to any third party, except as expressly permitted herein, without the prior written approval of Sponsor.

4.3 University Materials: University owns and will retain sole ownership of University biological materials, radiopharmaceuticals, study medications, equipment, supplies, or reagents to be used in the Research and transferred to Sponsor under this Agreement to be used in the Research (which material and any progeny, modifications or derivatives thereof, "University Materials"). Sponsor may not use the University Materials for any purpose other than the Research as currently provided for in this Agreement, or as agreed to in writing by both parties, nor may Sponsor take, send, or otherwise provide the University Materials to any third party, except as expressly permitted herein, without the prior written approval of University.

4.4 By acquiring and using the Materials, both University and Sponsor agree:

i. the Materials will be used only in the laboratories of Sponsor or University in accordance with this Agreement;

ii. all Materials will be received, handled, stored, used and disposed of in compliance with all applicable laws, regulations and guidelines, and in accordance with safe and prudent practices, and will not be administered to human subjects or provided to any third parties;

iii. Sponsor and University have adequate systems, procedures and personnel to review and oversee arrangements for the receipt, handling, storage, use and disposal of Materials and all persons involved in receiving, handling, storing, using or disposing of Materials are adequately qualified by training and experience to do so safely and legally;

iv. Within [*****] of completion of the Research, or termination or expiration of this Agreement, if earlier, the providing party may request any and all remaining Materials, be returned to the providing party (or destroyed, if the providing party shall so specify, with such destruction confirmed in writing by the receiving party); and

v. All Materials transferred in connection with the Research are experimental in nature and shall be used with prudence and appropriate caution, since not all of their characteristics are known. ALL MATERIALS ARE PROVIDED WITHOUT WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED. MATERIALS TRANSFERRED UNDER THIS AGREEMENT WILL NOT BE USED IN HUMANS, INCLUDING FOR PURPOSES OF DIAGNOSTIC TESTING.

5. **Research Reports.** The parties shall furnish to each other during the term of this Agreement periodic informal reports regarding the progress of the Research. A final report setting forth the significant research findings shall be jointly prepared by the parties within a reasonable period following the expiration of the term of this Agreement or the effective date of early termination. Such reports shall be held in confidence pending the Principal Investigator's publication or presentation of the project results.

6. **Publication.**

a) Part of the University's mission is to publish and disseminate research results developed under collaborative research projects. Consistent with this Agreement, University, its Principal Investigator and other University employees and/or students may disseminate or publish the Results of the Research (as defined in Section 8(f)) without prior approval by the Sponsor. The University shall provide the Sponsor with a copy of any proposed publication [*****] in advance of submission to third parties. The Sponsor shall determine Whether any of its Confidential Information is included in the proposed publication. The Sponsor may reasonably require that any of its Confidential Information be removed from the proposed publication. The Sponsor may reasonably require that publication be delayed to permit the filing of patent applications pursuant to Section 8. The Sponsor shall make such determinations within [*****] of receipt of the proposed publication. Publication shall not be delayed more than [*****] after receipt of the proposed publication by the Sponsor. The Sponsor at its election shall be entitled to receive an acknowledgment of its sponsorship of the Research in any such publication. Authorship of any publication shall be determined by scientific custom.

b) The University shall have the final authority to determine the scope and content of any publications or presentations made by its students and employees in accordance with the limitations of this section but will consider in good faith Sponsor's comments.

7. Confidential Information.

a) Confidential Information consists of information that has been reduced to writing and marked "Confidential," or, if disclosed orally, has been reduced to writing and marked "Confidential" within[*****] of oral disclosure. Notwithstanding the foregoing, Confidential Information shall also include the following: Sponsor Materials; University Materials; and Results. Subject to the following exceptions, all Confidential Information of either party disclosed by it to the other party in connection with the Research hereunder will be treated as confidential throughout the term hereof or for [*****] thereafter, whichever is longer. Each party will use reasonable efforts to safeguard the confidentiality of the other party's Confidential Information, and will only use such Confidential Information for the purposes contemplated by this Agreement, and will require its employees, students and associates to adhere to such obligation of confidentiality. The following shall be exceptions to confidentiality:

(i) information that is previously known by the receiving party, as established by written records;

(ii) information that is revealed by third parties through no fault of the receiving party;

(iii) information which is or becomes publicly known through no fault of receiving party;

(iv) information that is independently developed by the receiving party without the use of the disclosing party's confidential information, as established by written records;

(v) information that is required by law;

b) Neither party shall knowingly convey Confidential Information that is subject to federal export control restrictions under the EAR or the ITAR without first so disclosing to the other party and providing the other party the opportunity to decline receiving such information.

c) Permitted disclosures. Receiving party may disclose disclosing party's Confidential Information to the extent (and only to the extent), that such disclosure is reasonably necessary in the following instances:

(i) to subcontractors in order to perform activities under the Research; and

(ii) in case of Sponsor, to acquirers or permitted assignees; investment bankers, investors and lenders, including potential acquirers, assignees, investment bankers,and lenders;

provided that for any such disclosure, those entities are under obligations of confidentiality and non-use no less restrictive than those of this Section 7.

d) Notwithstanding anything to the contrary in this Agreement, Sponsor shall have the right to disclose the Results of University to third parties under written obligations of confidentiality and non-use that are no less restrictive than those contained in this Agreement, but not to disclose any other University Confidential Information or the identity of University.

8. Intellectual Property.

(a) **Definition of Invention.** "Invention" shall mean any discovery, concept or idea, whether or not patentable, conceived or first reduced to practice, in whole or in part, in performance of the Research. For purposes of this Agreement, "Invention" shall also include any software written, created, and utilized in performance of this Agreement.

(b) **Ownership of Inventions.** The University shall own any Invention invented solely by its employees, students, or agents ("University Inventions"). Sponsor shall own any Inventions that are invented solely by Sponsor's employees or agents ("Sponsor Inventions"). Inventions invented jointly by University employees, students or agents and Sponsor employees or agents shall be owned jointly ("Joint Inventions").

(c) **Disclosure and Right to Patent Inventions.** The University and Sponsor shall promptly disclose to each other in writing any Invention, and reported to the University's Office of Cooperative Research ("OCR") or Sponsor's Intellectual Property Authority ("IPA") (see Section 11 "Notices"), respectively, and decide whether such Invention was solely or jointly invented. Such disclosure shall be considered Confidential Information of the party that owns such Invention. The University may elect to file and prosecute a patent application on any University Invention described in any such Invention disclosure. Sponsor shall reimburse the University for its documented out-of-pocket expenses incurred in the filing, prosecution, and maintenance of such patent or patent application. University shall make good-faith efforts to provide Sponsor with estimates of such out-of-pocket expenses in advance. Should the University elect not to do so, it shall give Sponsor prompt written notice, and in no event less than [*****] prior to any relevant patent office deadlines, so that the Sponsor may at its own cost file and prosecute any such patent application on behalf of the University. The Sponsor shall have the sole right (but not the obligation) to file and prosecute a patent application on any Sponsor Invention. With respect to Joint Inventions, Sponsor, using counsel chosen and paid by Sponsor and reasonably acceptable to University, will assume the lead in the filing, prosecution, and maintenance of patent applications and patents claiming Joint Inventions on behalf of the parties jointly. University shall promptly be provided with copies of all correspondence related to filing, prosecution, and maintenance of patent applications and patents claiming Joint Inventions, and shall be given the opportunity to review and comment on all such patent applications and patents. Unless otherwise agreed, Sponsor shall be responsible for all out-of- pocket patent costs with respect to such Joint Inventions. Should the Sponsor elect not to do file, prosecute, or maintain any patents or patent applications claiming Joint Inventions, it shall give University prompt written notice, and in no event less than [*****] prior to any relevant patent office deadlines, so that the University may, at its own cost, file, prosecute, and maintain any such patent application or patent on behalf of both the Sponsor and the University.

(e) **License.** For each Invention and the Results, for University's share of ownership, University shall grant to Sponsor an Exclusive License Agreement, based upon terms as described in Exhibit C. Any such License to Sponsor as provided herein will be granted by a separate license agreement signed by the parties, which shall include, in addition to those terms described in Exhibit C, a retention by University of a royalty-free right, sublicensable to its academic and non-profit research partners, to use the Inventions for teaching, research, or other educational or academic purposes; and (f) indemnification of the University. Each party hereby grants to the other party (and such other party hereby accepts) a non exclusive, non-transferable, cost-free and limited license to use such of the granting party's rights in Inventions and any other intellectual property originating from Principal Investigator (to the extent the University controls and can grant such license) as and to the extent it is necessary or useful for, and only for the purpose of, carrying out such other party's obligations under the Research during the Term.

(f) **Data.** The ownership of data generated in the performance of the Research ("Results") shall follow the ownership of Inventions as defined in Section 8. Subject to other provisions of this Agreement, including those pertaining to Confidential Information and intellectual property, each party will have access to the Results and may use such Results for the purposes set out in this Agreement, subject to the appropriate provisions for licensing, confidentiality and publication.

(g) **Tangible research property.** Except for Sponsor Material, University shall retain ownership of tangible property that is developed solely by University's employees, students, and agents, including, but not limited to, prototypes, biogenic materials, samples, lab notebooks graphs, maps, drawings, and documents created or acquired under this Agreement (collectively, "University Tangible Research Property"). Sponsor shall retain ownership of tangible property that is developed solely by Sponsor's employees, students, and agents, including, but not limited to, prototypes, biogenic materials, samples, lab notebooks graphs, maps, drawings, and documents created or acquired under this Agreement (collectively, "Sponsor Tangible Research Property").

(h) **Copyrightable material.** University shall own all right, title and interest in and to any and all copyrights and copyrightable materials, including data and excluding software, that is created solely by University employees, students or agents in performance of this Agreement (collectively "University Copyrights"). Sponsor shall own all right, title and interest in and to any and all copyrights and copyrightable materials, including data, created solely by Sponsor employees or agents in performance of this Agreement (collectively, "Sponsor Copyrights"). University and Sponsor shall jointly own all right, title and interest in and to any and all copyrights and copyrightable materials, including data, created jointly by University employees, students, or agents and Sponsor employees or agents in performance of this Agreement (collectively, "Joint Copyrights"). University shall have the sole right to determine the disposition of University Copyrights, provided that Sponsor shall have option rights, in accordance with Section 8, in computer software and databases developed and delivered under the Research. Sponsor shall have the sole right to determine the disposition of Sponsor Copyrights.

(i) **Background IP.** Neither Party shall, by virtue of this Agreement, acquire rights to inventions, copyrights, technical information, or tangible property concurrently created or acquired outside of this Agreement or that are owned by the other Party prior to entering into this Agreement, including any background technology required to practice Inventions, except as set out herein. Such rights may or may not be available for licensing.

9a. Background Option.

Subject to the terms and conditions of this Agreement, University hereby grants to Sponsor an exclusive option to negotiate an exclusive or non-exclusive (at the election of Sponsor) worldwide license (with the right to grant sublicenses) with University (the "Background Option") to certain intellectual property, specifically as described in Exhibit D (the "University Background Intellectual Property"). The Option shall commence on the Effective Date and exist fo [*****] (the "Option Period"). The field of any such license shall be limited to the use of University Background Intellectual Property for [*****].

In consideration for the grant of the Background Option, Sponsor shall reimburse University for all out-of-pocket expenses incurred after the Effective Date in the filing, prosecution, and maintenance of the University Background Intellectual Property. During the Option Period, University will not negotiate with or grant to any third party any rights to the University Background Intellectual Property in the Field, other than to non-profit academic and/or research institutions to make, use and practice the University Background Intellectual Property for research, clinical, teaching or other non-commercial purposes, and not for purposes of commercial development, use, manufacture or distribution. At the end of the Option Period, University shall have no further obligations to Sponsor unless [*****] between University and Sponsor.

Upon written notice from Sponsor and during the Option Period, the parties shall enter into good faith negotiations for a license agreement to the University Background Intellectual Property, which shall be based on customary terms and conditions necessary or appropriate for transactions of this type that are mutually acceptable to University and Sponsor. Such terms and conditions may include, but not be limited to, commercially reasonable financial terms, as well as diligence terms that may require monetary as well as reporting obligations.

9b. Ownership of Property. Title to any equipment purchased or created in the performance of the work funded under this Agreement shall vest in the University. University shall use the equipment for purposes of this agreement while the funded activities are ongoing. During that time, University may make the equipment available for incidental use on other projects or programs if such other use will not interfere with the work under the Agreement. When no longer needed for Agreement activities, University may use the equipment in connection with its other charitable purposes, without need for accounting.

10. Term and Termination.

(a) This Agreement shall be effective for the term July 1st, 2019 through June 30th, 2021, and may be extended thereafter by mutual agreement of the parties in writing (the "Term"); provided, however, that the termination of this Agreement shall not relieve either party of any obligation of such party accrued prior to such termination hereunder.

(b) Notwithstanding the foregoing, this Agreement may be terminated by Sponsor at any time upon [*****] advance written notice to University

(c) In the event that Sponsor terminates the Agreement without paying to University the full amount of [*****] as described in Section 3, then the obligation to grant the License Agreement in Section 8 shall automatically terminate.

(d) If Sponsor fails to meet any of its material obligations under this Agreement, and does not remedy such failure within [*****] after receipt of written notice thereof from University, University shall have the right to terminate this Agreement effective upon provision of written notice thereof to Sponsor.

(e) If University fails to meet any of its material obligations under this Agreement, and does not remedy such failure within[*****] after receipt of written notice thereof from Sponsor, Sponsor shall have the right to terminate this Agreement effective upon provision of written notice thereof to University. In this case the obligation to grant licenses under Subsection 8 (e) shall survive such termination.

11. **Notices**. Any notices given under this Agreement shall be in writing and shall be deemed delivered when sent by first-class mail, postage prepaid, addressed to the parties as follows (or at such other addresses as the parties may notify each other in writing):

Yale University

Yale University Office of Cooperative Research
Attn: Managing Director
433 Temple Street
New Haven CT 06511
[*****]

With a copy to

Yale University, Office of Sponsored Projects
150 Munson Street 3rd Floor
New Haven. CT 06520-8327
Attn: [*****]

Sponsor

Cure Vac AG
Attn: Vice President Legal
Paul-Ehrlich-Strasse 15
72076 Tubingen, Germany
[*****]

12. **Use of Name**. Neither party shall employ or use the name of the other party in any promotional materials or advertising without the prior express written permission of the other party.

13. **Relationship of the Parties.** The relationship of Sponsor and Institution established by this Agreement is that of independent contractors. Nothing in this Agreement shall be construed to create a relationship of employment or agency, nor shall either party's employees, servants, agents, or representatives be considered the employees, servants, agents, or representatives of the other. Nothing in this Agreement shall be construed to constitute the parties as partners or joint venturers, or allow either of the parties to create or assume any obligation on behalf of the other party.

14. **Indemnification.** The Sponsor shall therefore defend, indemnify and hold harmless University, the Principal Investigator, and any of University's faculty, students, employees, trustees, officers, affiliates, and agents (hereinafter referred to collectively as the "Indemnified Persons") from and against any and all third party claims, lawsuits,and/or losses, damages, costs or expenses (including attorneys' fees) arising thereunder, which the Indemnified Persons may hereafter incur, or be required to pay, based on or arising out of Sponsor's use of the Research or any University Invention, University Copyright, University Materials, or Results unless the third party claim was caused by gross negligence or willful misconduct of University University shall notify Sponsor upon learning of the institution or threatened institution of any such third party claims, lawsuits, and/or losses, damages, costs and expenses arising thereunder, and University shall cooperate with Sponsor in every proper way in the defense or settlement thereof at Sponsor's request and expense. Sponsor shall not dispose or settle any claim admitting liability on the part of the University without University's prior written consent.

15. **NO WARRANTIES.** NEITHER PARTY MAKES ANY WARRANTIES EITHER EXPRESS OR IMPLIED, AS TO ANY MATTER, INCLUDING, WITHOUT LIMITATION, THE RESULTS OF THE RESEARCH OR ANY INVENTIONS OR PRODUCT, TANGIBLE OR INTANGIBLE, CONCEIVED, DISCOVERED, OR DEVELOPED UNDER THIS AGREEMENT; OR THE OWNERSHIP, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE RESEARCH RESULTS OR OF ANY SUCH INVENTION OR PRODUCT. Neither party shall be liable for any indirect or consequential damages or lost profits suffered by the other party or by any Licensee or any others resulting from the use of the research results, including any invention, program, or product.

16. **Export Controls.** The University complies with all applicable laws and regulations, including, where applicable, federal export control regulations. Many of the University employees (faculty and staff) and students are residents of foreign countries, including individuals who may work on this contract and/or have access to information conveyed to the University pursuant hereto. The University does not screen its employees or students based on nationality. In most situations, the University relies on the fundamental research exclusion from export control laws, but makes no representation as to whether Sponsor's conveyance of information or material to the University pursuant hereto would be covered by the export control laws. Each party agrees that before knowingly providing the other with export-controlled materials or data, it will provide written notice, including a description of the materials or data, and, if known, the appropriate ECCN or MCL designation. No such materials or data shall knowingly be shared without prior written approval.

17. **Force Majeure.** Neither Party shall be liable for any failure to perform as required by this Agreement, to the extent such failure to perform is caused by any reason beyond the University's control, or by reason of any of the following: labor disturbances or disputes of any kind, accidents, failure of any required governmental approval, civil disorders, acts of aggression, acts of God, energy or other conservation measures, failure of utilities, mechanical breakdowns, material shortages, disease, or similar occurrences.

18. **Assignment.** Neither the University nor the Sponsor shall assign this Agreement to any other person without the prior written consent of the other party, which consent shall not unreasonably be withheld, conditioned or delayed, provided, that Sponsor can assign this Agreement without the prior written consent of University (i) to an Affiliate or (ii) to a third party in connection with the sale or transfer of substantially all of its assets with respect to the subject matter of this Agreement. Any permitted assignee shall assume all obligations of its assignor under this Agreement. This Agreement and the rights granted in this Agreement shall be binding upon and shall inure to the benefit of Sponsor, University and their respective successors and permitted assigns.

19. **Severability.** In the event that a court of competent jurisdiction holds any provision of this Agreement to be invalid, such holding shall have no effect on the remaining provisions of this Agreement, and they shall continue in full force and effect.

20. **Entire Agreement: Amendments.** This Agreement and the Exhibits hereto contain the entire agreement between the parties with respect to the subject matter hereof, and supersedes any prior or contemporaneous understanding or written or oral agreements with respect thereto, including, but not limited to, the Confidential Disclosure Agreement effective June 12, 2018 to the extent it relates to the subject matter hereof. No amendments or modifications to this Agreement shall be effective unless made in writing and signed by authorized representatives of both parties.

21. **Similar Research.** Nothing in this Agreement shall be construed to limit the freedom of the University or of its researchers who are not participants under this Agreement, from engaging in similar research made under other grants, contracts or agreements with parties other than the Sponsor.

22. **Governing Law**. This Agreement shall be governed by and construed in accordance with the laws of the State of Connecticut, without regard to provisions concerning conflict of laws. In the event of any controversy or claim arising out of or relating to any provision of this Agreement, the parties shall first try to settle those conflicts amicably between themselves. Each party hereby irrevocably consents that any legal action or proceeding under, arising out of or in any manner relating to this Agreement shall be brought in any state or federal court of competent jurisdiction located in the State of Connecticut.

23. **Survival.** Sections 4 to 24 shall survive any termination or expiration of the Agreement.

24. **Counterparts; Facsimile.** This Agreement may be executed in counterparts and delivered by facsimile with the same effect as an original. In the event a complete copy of this Agreement or any signature is delivered by an e-mail which contains a portable document format (.pdf) file of an executed signature page, such executed signature page shall create a valid and binding obligation of the party executing it (or on whose behalf such signature page is executed) with the same force and effect as if such executed signature page were an original thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized officers or representatives.

YALE UNIVERSITY
By _____
Title _____
Date _____

CureVac AG
By /s/ D. Menichella
Title CEO
Date 7-10-19

Read and acknowledged:

Principal Investigator

_____

L\contract\research\research\research template
Last revised 4/1/2010

/s/ Dimitris Voliotis
Dr. Dimitris Voliotis
Chief Development Office
CureVac
10-Jul-2019

EXHIBIT A

JOINT RESEARCH PLAN

PROJECT SCOPE AND BUDGET JUSTIFICATION

[*****]

Exhibit B

[*****]

Exhibit C

OCR	Title: [*****]
Field & Licensed Territory	**Field:** [*****] Terriroty: [*****]
Licensee	Curevac
Licensed Patents	Shall mean the United States or foreign patent application(s) and patents(s) of University listed in Appendix A of the Exclusive License Agreement, together with any continuations, divisionals, and continuations-in-part, to the extent the claims of any such patent or patent application are directed to subject matter specifically described in the patent applications listed on Appendix A; any reissues, re-examinations, or extensions thereof, or substitutes therefor; and the relevant international equivalents of any of the foregoing.
Valid Claim	Shall mean an issued or unexpired claim of a LICENSED PATENT so long as such claim shall not have been irrevocably abandoned or declared to be invalid in a non-appealable or non-appealed decision of a court or other authority or competent jurisdiction through no fault or cause of LICENSEE. The term "Valid Claim" shall also include a claim of a pending patent application which has not been pending for a period of more than [*****] from the priority date or the earliest filing date of that patent application, provided that if a claim in a patent application that has been pending for more that [*****] should subsequently issue, it shall become a Valid Claim on the date of allowance.
Licensed Products	Shall mean: (a) [*****] product (including any apparatus or kit) or component part thereof, if the manufacture, use, sale, import, export or practice thereaf is claimed by a VALID CLAIM of a LICENSED PATENT.; or (b) [*****] product for which the discovery development manufacture use, or sale utilized [*****] in whole or in part (as defined in the Collaboration Agreement)

Term	The term of the License shall commence on the EFFECTIVE DATE and shall remain in full force on a country-by-country and Licensed Product-by-Licensed Product basis, for the duration of the Royalty Term for such Licensed Product for such country, unless terminated earlier. Upon expiry, the License for such Licensed Product and country shall become fully paid up.
Royaity Term	Royalties are payable on a Licensed Product-by-Licensed Product and a country-by-country basis for the last to occur of: (a) The expiry of the last to expire Valid Claim that covers such Licensed Patent in such country; (b) Ten (10) years after the First Commercial Sale of such Licensed Product in such country.
License Grant	Exclusive with the right to sublicense (in multiple tiers) license, subject to the reservation of rights by YALE described below, under the LICENSED PATENTS, and the INVENTIONS and the RESULTS owned by University, to make, have made, research and/or develop, have researched and/or developed, use, have used, offer to sell, have offered to sell, sell, have sold, import and have imported, export, or practice LICENSED PRODUCTS within the FIELD in the LICENSED TERRITORY (the “LICENSE”). The LICENSE is expressly made subject to YALE’s reservation of the right, on behalf of itself and its sublicensed non-profit academic and/or research institutions, to make, use and practice the LICENSED PATENTS, INVENTIONS and RESULTS owned by University, for research, clinical, teaching or other noncommercial purposes, and not for purposes of commercial development, use, manufacture or distribution.
Consideration	In addition to the royalty payments set out below for the grant of the License, LICENSEE shall pay the following amounts to Yale:

Milestones LICENSEE shall pay the following milestone payments to YALE for the first LICENSED PRODUCT developed by LICENSEE, SUBLICENSEE, or AFFILIATES to achieve a milestone event:

a) [*****]
b) [*****]
c) [*****]
d) [*****]

The total amount that could be due by Licensee upon all such milestone events for any and all Licensed Products in any and all countries would not exceed $2,650,000.

License Maintenance Fee ("LMF")

Beginning on the first (1st) anniversary of the Effective Date of the Exclusive License and until the first commercial sale of any Licensed Product	LMF
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]
[*****]	[*****]

Royalties on Net Sales During the ROYALTY TERM, as further consideration for the LICENSE. LICENSEE shall pay to YALE an earned royalty of [*****] on worldwide cumulative NET SALES of LICENSED PRODUCTS covered by VALID CLAIM of a LICENSED PATENT by LICENSEE or its SUBLICENSEES or AFFILIATES ("EARNED ROYALTY"). For LICENSED PRODUCTS not covered by a Valid Claim but which utilized the University Results, the royalty rate shall be [*****], such royalty shall be payable for ten (10) years after the first commercial sale of such Licensed Product in such country.

Diligence	**I. Product Development Diligence:** LICENSEE shall use Commercial Reasonable Efforts within [*****] after the EFFECTIVE DATE of this Agreement, to begin to implement the PLAN at its sole expense and thereafter to fully implement the PLAN and to commercialize and develop markets for the LICENSED PRODUCTS.
Other Terms	As defined in full license agreement mutually agreed by duly authorized representatives of both parties, including, but not limited to, definitions, provisions addressing indemnification and insurance, representations, warranties, patent prosecution, patent challenges, sublicenses, equity , confidentiality, sublicense protection, termination and consequences, termination right without cause for Cure Vac.
Contact	[*****] Director of Business Development **[*****]**

Exhibit D

University Background Intellectual Property

[*****]

Agreement or any signature is delivered by an e-mail which contains a portable document format (.pdf) file of an executed signature page, such executed signature page shall create a valid and binding obligation of the party executing it (or on whose behalf such signature page is executed) with the same force and effect as if such executed signature page were an original thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly · authorized officers or representatives.

YALE UNIVERSITY		**CureVac AG**	
By	/s/ JENNIFER RAWLINGS	By	/s/ DimitrisVoliotis
	JENNIFER RAWLINGS	Title	**Dr.DimitrisVoliotis**
	CONTRACT MANAGER, SO/AOR		**Chief Development Officer**
Title	**YALE UNIVERSITY**		**CureVac**
	OFFICE OF SPONSORED PROJECTS		
Date	7/9/2019	Date	10-Jul-2019

Read and acknowledged:
Principal Investigator
/s/Geoffrey Chupp

/s/ CureVac AG
CEO CUREVAZ AG
7-10-2019

REDACTED

Certain identified information, indicated by [*****], has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

SPONSORED RESEARCH AGREEMENT

This Sponsored Research Agreement ("Agreement") is made as of the 15TH day of March 2019, ("Effective Date"), between Cure Vac AG, a German stock corporation, having a principal place of business at Paul-Ehrlich-Strasse 15, 72076 Tubingen, Germany ("Sponsor") and The Schepens Eye Research Institute, Inc., ("SERI") a not-for-profit Massachusetts corporation, having a principal place of business at 20 Staniford St., Boston, MA 02114 and the Massachusetts Eye and Ear Infirmary ("MEET') having a principal place of business at 243 Charles Street, Boston, MA 02114 (SERI and MEEI collectively "Institute"), each referred to herein individually as a "Party" and collectively as the "Parties."

RECITALS

Institute is a center for research and education which performs scientific research and training. Sponsor desires to support research in the field of retinal / ophthalmic diseases. The Sponsored Research contemplated herein is anticipated to be of mutual interest and benefit to Institute and Sponsor, and to further the research, patient care and educational goals of Institute.

For good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

I. Certain Definitions. As used in this Agreement, the following terms shall have the following meanings.

1.1 "Affiliate" with respect to either Party shall mean any corporation or other legal entity other than that Party in whatever country organized, controlling, controlled by or under common control with that Party. The term "control" shall mean the power, direct or indirect, to elect or appoint more than fifty percent (50%) of the directors or trustees, or to cause direction of management and policies, whether through the ownership of voting securities, by contract or otherwise. Regarding Sponsor, Affiliate shall not include Mr. Hopp and dievini Hopp BioTech holding GmbH & Co. KG and/or any other entity controlled by Mr. Hopp and/or dievini Hopp BioTech holding GmbH & Co. KG.

1.2 "Background Option" as defined in Section 10.1 below.

1.3 "Budget" shall mean the budget for the Sponsored Research attached hereto as Appendix B.

1.4 "Confidential Information" as defined in Section 7.1 of this Agreement.

1.5 "Discloser" as defined in Section 7 of this Agreement.

1.6 "Institute Indemnitee" as defined in Section 12(b) of this Agreement.

1.7 "Invention" shall mean any new and useful discovery conceived and/or reduced to practice, constructively or actually, in the performance of Sponsored Research during the Term in which Institute has rights by virtue of sole or joint inventorship by an Investigator and/or Sponsor has rights by virtue of sole or joint inventorship by a Sponsor Investigator.

1.8 "Investigator" shall mean the Principal Investigator, or any other staff member, employee, or student of Institute who shall participate in Sponsored Research under the direction of the Principal Investigator.

1.9 "Joint Inventions" as defined in Section 9.2. below.

1.10 "Option" as defined in Section 10.1. below.

1.11 "Optioned Invention" as defined in Section 9.3 below.

1.12 "Option Period" as defined in Section 10.1 below.

1.13 "Patent Costs" as defined in Section 9.3. below.

1.14 "Patent Right" shall mean any United States or foreign patent application that describes and claims an Invention, or the equivalent of such application, including any division or continuation (but not including any continuation-in-part), or any Letters Patent or the equivalent thereof issuing thereon, or reissue, reexamination or extension thereof.

1.15 "Principal Investigator" shall mean [*****], under whose direction the Sponsored Research shall be conducted, or any substitute mutually agreed upon by Institute and Sponsor in accordance with Section 3.2.

1.16 "Recipient" as defined in Section 7 of this Agreement.

1.17 "Research Information" shall mean any research results produced by the Investigators in the performance of the Sponsored Research.

1.18 "Background Technology License" as defined in Section 3.3.

1.19 "Research Plan" shall mean the plan of research attached hereto as Appendix A.. which shall be updated by the parties from time to time, provided that any changes or updates to the Research Plan shall be made through a mutually agreed signed amendment in accordance with Section 17.4

1.20 "Review Period" as defined in Section 8.1 below.

1.21 "Sponsor Material" as defined in Section 6 below.

1.22 "Sponsor Personnel" as defined in Section 9.1 below.

1.23 "Sponsored Research" shall mean research funded by Sponsor to be conducted by Principal Investigator and Sponsor Investigators in accordance with the Research Plan during the Term.

1.24 "Sponsor Investigators" shall mean the Sponsor Principal Investigator and any other employees, agents, or subcontractors of Sponsor who shall participate in Sponsored Research under the direction of the Sponsor Principal Investigator.

1.25 "Sponsor Principal Investigator" shall mean [*****] under whose direction the Sponsored Research at Sponsor site shall be conducted.

1.26 "Sponsor Research Information" shall mean any research results produced solely by the Sponsor Investigators in the performance of the Sponsored Research relating to [*****]

2. Term. The term of this Agreement shall be two (2) year(s) from the Effective Date (the 'Term"), unless earlier terminated by either Party as set forth in Section 11 or extended in a writing signed by authorized representatives of both Parties.

3. Sponsored Research.

3.1 Performance. Subject to the terms of this Agreement, Institute through Principal Investigator, agrees to perform the Sponsored Research in accordance with Institute activities as identified in the Research Plan. Subject to the terms of this Agreement, Sponsor through Sponsor Principal Investigator, agrees to perform the Sponsored Research in accordance with Sponsor activities as identified in the Research Plan. Any changes in the scope of the Sponsored Research shall be set forth in writing and approved by both Parties. The research activities performed under this Agreement constitutes a collaboration between the Parties and as such, this Agreement shall constitute a "joint research agreement" in compliance with the federal Cooperative Research and Technology Enhancement (CREATE) Act of 2004.

3.2 Principal Investigator. If the Principal Investigator ceases to serve in such role during the Term, Institute shall promptly notify Sponsor. Institute may name a substitute principal investigator (who shall thereafter be referred to as Principal Investigator for purposes of this Agreement), subject to the approval of Sponsor, which approval may be withheld in Sponsor's sole discretion. In the event the Parties are unable to agree upon an alternative Institute researcher who will be the Principal Investigator for the remainder of the Term, the Parties may mutually terminate this Agreement in accordance with Section 11.3.

3.3 Background Technology License. All rights and title in and to any and all pre-existing inventions, discoveries, data, chemical entities, materials developed or controlled by either Party prior to the Effective Date or during the Term, but not as a result of, in connection with or otherwise related to the Sponsored Research (collectively, the "Background Technology"), whether or not patentable, shall reside with the owner thereof and, except as otherwise set forth herein, such ownership and rights thereto shall not be affected by the Sponsored Research or a Party's performance of its obligations hereunder. To the extent that each Party's Background Technology is available for non-exclusive licensing, each Party grants the other Party a limited right to use any of its rights in such Background Technology and Inventions that is necessary or useful for such other Party to conduct the Sponsored Research solely for the direct performance of the Sponsored Research by such other Party during the Term.

4. Research Information: Reporting Requirements.

4.1 Use of Research Information. Sponsor shall have the right to use Research Information to the extent that such use (a) does not pre-empt Investigators' publication or public disclosure of Research Information and (b) is not covered by any Institute intellectual property rights, including but not limited to published patent applications, patents, copyrights, and/or Patent Rights which have not been expressly licensed to Sponsor. Sponsor Research Information shall be considered Confidential Information of Sponsor. Institute shall have the right to use Sponsor Research Information for internal research purposes only.

4.2 Reports. Subject to the confidentiality provisions of Section 7, (a) Institute shall provide to Sponsor disclosures of Inventions in accordance with Section 9, and Institute, through Principal Investigator, shall provide to Sponsor a final written report containing Research Information within [*****] after termination or expiration of this Agreement.

5. Payments. Sponsor shall pay Institute a total of one million dollars in United States dollars (U.S. $1,000,000.00) by check or wire transfer as set forth below in support of the Sponsored Research, as detailed in the Budget attached hereto as Appendix B.

5.1 Payments shall be due within [*****]. Payments to the Institute shall reference the Agreement Number set forth in the heading of this Agreement and shall be made as follows:

[*****]

5.2 SERI Payment by check to *The Schepens Eye Research Institute* shall be drawn on a United States bank and made payable to "The Schepens Eye Research Institute, Inc." and shall be sent to:

The Schepens Eye Research Institute, Inc.
20 Staniford Street
Boston, MA 02114
[*****]

Payment by wire transfer to *The Schepens Eye Research Institute* shall be made as follows:

[*****]

5.3 Institute invoices shall be sent via Email to Sponsor at the following email address: [*****]

Cure Vac AG
Paul-Ehrlich-Strasse 15
72076 Tubingen, Germany
Attention: [*****], Director Accounting
[*****]

Institute shall not be obligated to expend funds in excess of those provided under this Agreement to conduct the Sponsored Research.

6. Sponsor Materials/Equipment. It is understood by the parties that Sponsor will use commercially reasonable efforts to supply to Institute the following material: [*****] as further described or updated in Appendix A by a mutually agreed signed amendment in accordance with Section 17.4, which material includes any progeny, modifications or derivatives thereof, (the "Sponsor Material"). The Parties acknowledge that Institute does not intend to make modifications or derivatives of the Sponsor Material

Institute will: (i) use the Sponsor Materials only in accordance with the Research Plan as set forth in Appendix A and otherwise in accordance with the terms and conditions of this Agreement, and only at Institute laboratories located at the address given above; (ii) not use the Sponsor Materials in human subjects, in clinical trials, or for diagnostic purposes involving human subjects, or for any animal studies except as expressly provided for in Appendix A: and (iii) not reverse engineer or chemically analyze the Sponsor Materials except as expressly provided for (if at all) in Appendix A.

Except with the prior written consent of Sponsor, Institute will not distribute or otherwise allow the release of Sponsor Materials to any third party. The Sponsor Materials will remain the sole properly of Sponsor and will be used by Institute in compliance with all applicable laws and only to perform activities set forth in Appendix A. Institute will use the Sponsor Materials with prudence and appropriate caution in any experimental work because not all of their characteristics may be known.

Upon completion of the Research Plan, or termination or expiration of this Agreement if earlier, any and all remaining Sponsor Materials will, within [*****]; after such event, be returned to Sponsor (or destroyed, if Sponsor shall so specify, with such destruction confirmed in writing to Sponsor by Institute).

The provision of Sponsor Materials hereunder will not constitute any grant, option or license to or under such material, or any patents or know-how of Sponsor, except as expressly set forth herein.

7. Confidential Information. It is anticipated that in the performance of the Sponsored Research each Party (as applicable, each a "Discloser") is likely to disclose to the other Party (as applicable, each a "Recipient") certain information that me Discloser considers valuable, proprietary and confidential.

7.1 Definition of Confidential Information. "Confidential Information" as used in this Agreement shall mean any information, including but not limited to data, techniques, protocols or results, or business, financial, commercial or technical information, disclosed by Discloser to Recipient which is reasonably necessary for performance, under this Agreement and is identified as confidential at the time of disclosure. If such information is disclosed in non-tangible form (including without limitation orally or visually), it must be identified as confidential at the time of disclosure and summarized by Discloser with specificity in a writing marked "Confidential" and given to the Recipient within [*****] after such disclosure. The Parties acknowledge and agree that any information concerning any Invention disclosed by one Party to the other Party under Section 9 of this Agreement shall be the Discloser's Confidential Information, even if such Invention information is not specifically identified as confidential at the time of its disclosure.

7.2 Exclusions. "Confidential Information" under this Agreement shall not include any information to the extent (i) it is or becomes publicly available through no wrongful act of Recipient; (ii) it was known by Recipient prior to disclosure by Diseloser, as evidenced by tangible records; (iii) it becomes known to Recipient after disclosure from a third party having an apparent bona fide right to disclose it; (iv) it is independently developed or discovered by Recipient without use of Discloser's Confidential Information, as evidenced by tangible records; or (v) it is disclosed to another party by Discloser without restriction on further disclosure. The obligations of confidentiality and non-use set forth in this Section 7 shall not apply with respect to any information that Recipient is required to disclose by applicable law, court order or other valid legal process provided Recipient promptly notifies Discloser prior to such required disclosure, discloses such information only to the extent so required, and cooperates reasonably with Discloser's efforts to contest or limit the scope of such disclosure.

7.3 Permitted Use of Confidential Information. Except as may be otherwise specified in a separate definitive written agreement negotiated and executed by the Parties, each Recipient shall have the right to, and agrees that it will, use Discloser's Confidential Information solely for the purposes of (i) fulfilling its obligations under this Agreement, and (ii) evaluating Inventions and filing patent applications as described in Section 9 of this Agreement.

7.4 Restrictions on Confidential Information. Subject to Section 8, for a period of [*****] after receipt of Discloser's Confidential Information, each Recipient agrees that: (i) it will not use such Confidential Information for any purpose other than as specified herein, including without limitation for its own benefit or the benefit of any other person or entity; and (ii) it will use reasonable efforts (but no less than the efforts used to protect its own confidential and/or proprietary information of a similar nature) not to disclose such Confidential Information to any other person or entity except as expressly permitted hereunder. Recipient may, however, disclose Discloser's Confidential Information only on a need-to-know basis to its and its Affiliates' employees, staff members and agents ("Receiving Individuals") who are directly involved in the performance of the Sponsored Research and who are informed of the confidential nature of such information, provided Recipient shall be responsible for compliance by Receiving Individuals with the terms of this Agreement and any breach thereof. The Parties do not intend for any individually identifiable health information to be disclosed by Institute to Sponsor in the performance of the Sponsored Research, however, if any such individually identifiable health information is disclosed to Sponsor under the Research Plan Sponsor shall keep such information confidential indefinitely.

Notwithstanding anything to the contrary in mis Agreement, Cure Vac shall have the right to disclose the Research Information under obligations of confidentiality and non-use that are reasonably in conformity with those of this Agreement to third parties, but not to disclose any other Institute Confidential Information or the identity of Institute.

7.5 Ownership and Disposition. All Confidential Information disclosed pursuant to this Agreement shall be and remain the property of the Discloser. Upon expiration or termination of this Agreement, if requested by Discloser and subject to any rights expressly granted under this Agreement, Recipient shall return or destroy at Discloser's discretion all of Discloser's Confidential Information received in tangible form, provided that Recipient shall be entitled to keep one copy of such Confidential Information in a secure location solely for the purpose of determining Recipient's legal obligations hereunder.

7.6 Right to Disclose. Each Discloser represents that to the best of its knowledge it has the right to disclose to each Recipient all of Discloser's Confidential Information that will be disclosed hereunder. Each Party reserves the right to disclose its own Confidential Information to any party at any time.

8. Publication. Recognizing Institute's and Investigators' desire to publicly present and publish Research Information, the Parties agree that Institute and Investigators shall have the right to publicly disclose Research Information in accordance with this Section 8.

8.1 Review by Sponsor. Principal Investigator shall provide to Sponsor for prior review a draft of any manuscript, abstract or presentation which first publicly discloses Research Information ("Disclosure"). Within [*****] of receipt of such a manuscript, or [*****] of receipt of such an abstract or presentation ("Review Period"), Sponsor shall notify Principal Investigator of any Sponsor Confidential Information contained in such Disclosure. Principal Investigator shall delete any information in such Disclosure that Sponsor has identified within the Review Period as Sponsor's Confidential Information, except to the extent that such Confidential Information is required for meaningful, scientific publication. Subject to Section 8.2 below, at the end of such Review Period, as applicable, Principal Investigator shall have the right to submit such Disclosure without further delay.

8.2 Delay of Publication for Patent Filings. If Sponsor reasonably determines that such Disclosure reveals a potentially patentable Invention to which Sponsor has rights pursuant to Sections 9 and 10 of this Agreement, Sponsor shall so notify Institute in writing during the Review Period. In such case, Principal Investigator shall delay submission of such Disclosure until the earliest to occur of the following: (i) a patent application has been filed with respect to such Invention; (ii) Institute and Sponsor have agreed in writing that no patentable invention exists or that a patent application should not be filed even if a patentable invention exists; or (iii) in the case of such a manuscript, [*****], and in the case of such an abstract or presentation[*****], have passed from the date on which such Disclosure was provided to Sponsor for review.

9. Disclosure of Inventions; Patent Prosecution.

9.1 Initial Reporting of Inventions. Any Investigator who makes an Invention, solely or jointly with one or more employees, consultants or agents of Sponsor ("Sponsor's Personnel"), shall promptly report such Invention to Institute's Innovation office, and shall assign all of his or her rights, title and interest therein to Institute. Each of Sponsor's Personnel who makes an Invention jointly with an Investigator, shall report such Invention to Sponsor and shall assign all of his or her rights, title and interest in such Invention to Sponsor.

9.2 Ownership of Joint Inventions. Inventions made jointly by an Investigator and any of Sponsor's Personnel shall be jointly owned by Institute and Sponsor ("Joint Inventions"). Institute and Sponsor agree that for each Patent Right jointly owned by Institute and Sponsor, Sponsor and Institute shall each own a one-half undivided interest in such Patent Right in each country in which it is filed. The Parties agree that each Party can practice, sell, license or otherwise transfer its rights to such jointly-owned Patent Right worldwide without (i) the consent of the other Party and/or (ii) without having to account to or share proceeds with the other Party; however, Institute's rights in this respect are subject to the terms and conditions of this Agreement and Sponsor's licensing rights thereto.

9.3 Reporting Inventions to Other Party: Optioned Inventions. Each Party shall promptly disclose to the other Party in writing each Invention promptly upon receiving notice thereof pursuant to Section 9.1. All such disclosures by and to Institute shall he made through its Innovation office. Following receipt of any such disclosure, representatives of Institute and Sponsor shall promptly confer regarding whether any Patent Rights pertaining to such Invention should be filed. Inventorship of all Inventions will be determined in accordance with applicable national law and ownership of Inventions shall follow inventorship as determined in accordance with U.S. patent law. If Sponsor notifies Institute within [*****] after receipt of the earliest disclosure of a particular Invention that it agrees to pay all patent costs, including without limitation costs of preparation, filing, prosecution, issuance and maintenance, relating to such Invention ("Patent Costs"), such Invention will be considered an "Optioned Invention". Institute shall cause Patent Rights for such Optioned Invention to be filed and prosecuted at Sponsor's request and expense. If Sponsor does not notify Institute within such [*****] period that it agrees to pay for Patent Costs pertaining to a particular disclosed Invention, Institute shall be free to file at its own expense and license its rights in such Patent Rights to any other party and Sponsor shall have no further rights pursuant to Section 10.1

9.4 Filing Patent Rights: Copies of Correspondence. Institute shall be responsible for filing all Patent Rights pertaining to Inventions in its name if the Invention(s) is owned solely by Institute During the Option Period and Negotiation Period, as applicable, Institute and shall arrange for copies of patent applications for Optioned Inventions, and subsequent related office actions, responses to office actions, requests for terminal disclaimer, and requests for reissue or reexamination of any patent issuing from such applications, to be provided to Sponsor, in confidence and in accordance with Section 7, for review and comment by Sponsor.

Sponsor shall be responsible for filing all Patent Rights pertaining to jointly-owned Inventions, in joint names of the Institute and Sponsor. Sponsor shall use patent counsel acceptable to both Sponsor and Institute, and Sponsor shall pay for the preparation, filing, prosecution, and maintenance of patent applications and patents for such jointly-owned Inventions. Sponsor shall: (a) provide the Institute with an opportunity to review and comment on the text of a jointly-owned Invention patent application; (b) consult with the Institute regarding all decisions related to office actions, responses to office actions, requests for terminal disclaimer, and requests for reissue or reexamination of any patent issuing from such applications; (c) supply the Institute with a copy of the patent application as filed, together with notice of its filing date and serial number; (d) keep the Institute advised of the status of the actual and prospective patent application filings; and (e) ensure that the Institute receives copies of all patent prosecution related documents.

9.5 Patent Costs. Sponsor shall reimburse Institute within [*****] of the date of Institute's invoice to Sponsor for all Patent Costs incurred by Institute. If Sponsor fails to pay all Patent Costs as set forth in an invoice from Institute within such [*****] period, Institute may provide notice of such nonpayment to Sponsor and Sponsor shall have [*****] from receipt of such notice to pay all Patent Costs in such invoice. If Sponsor does not make payment in full within such [*****] cure period, Sponsor's exclusive Option rights under Section 10.1 with respect to the Patent Rights pertaining to such invoice shall terminate. If at any time Sponsor determines that it no longer desires to pay Patent Costs, Sponsor shall give [*****] advance written notice to Institute. Sponsor's exclusive Option rights under Section 10.1 with respect to such Patent Rights shall immediately terminate upon such notice and Sponsor shall no longer be obligated to pay for corresponding Patent Costs incurred after me end of such [*****] period (but shall remain responsible for all Patent Costs incurred prior to and during such [*****] period). Any Patent Costs not paid by Sponsor within [*****]: of invoice from Institute shall be subject to a late fee of [*****].

10. License Option

10.1 The Foreground Option. For the period commencing on the Effective Date and extending to the date that is [*****] (the "Option Period"), Sponsor shall have the exclusive right (an "Foreground Option") to initiate negotiations with Institute to an exclusive or non-exclusive (at the election of Sponsor), royalty-bearing license to Institute's rights in Patent Rights corresponding to the Optioned Invention for commercial purposes, subject to the provisions of Sections 10.2 and 10.3 below. If Sponsor elects not to exercise the Foreground Option, Sponsor shall promptly inform Institute of its decision to this effect during the Option Period. Upon such notice from Sponsor to Institute, or in the event that at the end of the Option Period Sponsor has not notified Institute of its decision with respect to the Foreground Option, the Foreground Option shall terminate.

The Background Option. Subject to the Institute's obligations to the U.S. Government (if any), Institute hereby grants to Sponsor the exclusive right a ("Background Option") to exclusively negotiate the terms of an exclusive license agreement (with the right to grant sublicenses) to Institute's rights in Background Intellectual Property as defined in Appendix C for commercial purposes, subject to the provisions of Sections 10.2 and 10.3 below, and reimbursement of Institute's patent costs relating to Institute's Background Intellectual Property, which are incurred during the Option Period, and which license agreement shall include the financial terms in the term sheet attached as Appendix D. The Background Option will extend for the Option Period as defined above. If Sponsor elects not to exercise this Background Option, Sponsor shall promptly inform Institute of its decision to this effect during the Option Period. Upon such notice from Sponsor to Institute, or in the event that at the end of the Option Period Sponsor has not notified Institute of its decision with respect to this Background Option, the Background Option to Background Intellectual Property shall terminate.

10.2 Exercise of Option. If Sponsor wishes to exercise an Foreground Option or Background Option, Sponsor shall give written notice to Institute within the Option Period, provided, however, that as a condition to (he exercise of any Foreground Option or Background Option, Sponsor must be current in all payments due to Institute under this Agreement, including Sponsored Research Payments under Section 5 and Patent Costs under Section 9.5. For the [*****] period immediately following any such notice of exercise received by Institute during the Option Period (the "Negotiation Period"), Sponsor and Institute shall engage in negotiating license terms typical of agreements between academic institutes and industry, including without limitation provisions for the payment of commercially reasonable royalties and other compensation to Institute; payment by Sponsor of on-going Patent Costs in all countries covered by an exclusive license; time-limited diligence obligations for the development and commercialization of a product embodying the Invention; product liability indemnification and insurance provisions acceptable to Institute's liability insurance carriers; and Institute's, Institute's Affiliates' and inventor's right to make and use the subject matter described and/or in Patent Rights and to permit others at academic and/or not-for-profit institutes to use the subject matter described and/or claimed in Patent Rights (or patent rights claiming Background Intellectual Property, as applicable) for research and educational purposes. During the Option Period and Negotiation Period, Institute will not negotiate or grant, or offer to negotiate or grant, any rights to its rights in Optioned Inventions or Background Intellectual Property as defined in Appendix *C.* to any third party which would prevent the grant of any such license to Sponsor.

10.3 Termination of Option. If Sponsor fails to exercise an Foreground Option for a particular Optioned Invention during the Option Period as provided in this Section 10, or if Institute and Sponsor fail to enter into a mutually acceptable license agreement within the Negotiation Period, such Invention shall no longer be considered an Optioned Invention and Institute shall have no further obligation to Sponsor with respect to such formerly Optioned Invention and shall have the right to grant a license (subject to the rights granted in Section 9.2) to such formerly Optioned Invention and its rights in Patent Rights corresponding thereto to any other party. If the Parties fail to execute a license agreement with respect to a particular Optioned Invention within the Negotiation Period, the Foreground Option with respect to the Optioned Invention shall expire, provided that, for a period of [*****] after the termination of the negotiations with Sponsor, Institute shall not enter into such license with a third party on terms that, when taken as a whole, are more favorable than the terms last offered to Sponsor, without first offering such terms to Sponsor. Sponsor shall have [*****] from the date of notice of the more favorable terms to accept such terms after which Institute shall have no further obligation to Sponsor with respect to that Optioned Invention.

If Sponsor fails to exercise the Background Option for Background Intellectual Property during the Option Period as provided in this Section 10, or if Institute and Sponsor fail to enter into a mutually acceptable license agreement within the Negotiation Period, such Background Intellectual Property shall no longer be considered subject an Background Option and Institute shall have no further obligation to Sponsor with respect to Background Intellectual Property and shall have the right to grant a license to such the Background Intellectual Property and its rights in patent rights corresponding thereto to any other party.

10.4 Government Rights: Guidelines. Each Foreground Option and any subsequent license shall, if applicable, also be subject to applicable rights, conditions and limitations imposed by U.S. law and regulations, including without limitation the royalty-free non-exclusive license granted to the U.S. government (see 35 U.S.C. §202 et seq. and regulations pertaining thereto), the N.I.H. Grants Policy Statement, and the N.I.H. Guidelines for Obtaining and Disseminating Biomedical Research Resources.

10.5 No Additional Rights. The Parties acknowledge and agree that nothing in this Agreement shall be construed to grant Sponsor any license or rights other than (i) the rights in any Optioned Invention and the Background Option expressly granted hereunder, (ii) the right to use Research Information in accordance with Section 4, and (iii) the right to use Background Technology in accordance with Section 3.3

11. Termination.

11.1 Termination for Breach.

(a) If Sponsor fails to meet any of its material obligations under this Agreement, and does not remedy such failure within [*****] after receipt of written notice thereof from Institute, Institute shall have the right to terminate this Agreement effective upon provision of written notice thereof to Sponsor. Further, in the event that Sponsor becomes insolvent, files a petition in bankruptcy, has such a petition filed against it, or receives notice of a third party's intention to file an involuntary petition in bankruptcy, Sponsor shall immediately notify Institute in writing, and Institute shall have the right to terminate this Agreement immediately upon receipt of such notice.

(b) If Institute fails to meet any of its material obligations under this Agreement and does not remedy such failure within [*****] following receipt of written notice thereof from Sponsor, Sponsor shall have the right to terminate this Agreement effective upon provision of written notice thereof to Institute. Sponsor acknowledges and agrees that failure to achieve any particular Research Information shall not be considered failure to meet a material obligation.

11.2 Termination by Sponsor. Sponsor shall have the right to unilaterally terminate this Agreement at any time in its sole discretion by giving [*****] advance written notice thereof to Institute.

11.3 Termination by Mutual Consent. Sponsor and Institute may terminate this Agreement at any time by mutual written consent.

11.4 Effect of Termination. If this Agreement is terminated by Institute pursuant to Section 11.1 (a), or by Sponsor pursuant to Section 11.2, (i) Sponsor shall reimburse Institute for all non-cancellable- commitments incurred by Institute in connection with the performance of its obligations under this Agreement prior to the date of such termination and (ii) Sponsor shall pay Institute [*****]. Institute's termination of this Agreement pursuant to Section 11.1(a) shall also terminate Sponsor's right to use Institute's Confidential Information provided pursuant to this Agreement. If this Agreement is terminated by Sponsor pursuant to Section 11.1(b), or by mutual consent of the Parties pursuant to Section 11 3, Sponsor shall reimburse Institute for all non-cancellable- commitments incurred by Institute in connection with the performance of its obligations under this Agreement prior to the date of such termination.

12. Indemnification.

(a) Institute and Sponsor shall each be responsible for and shall defend, indemnify and hold the other and its Affiliates and each of their respective trustees, directors, officers, medical and professional staff, employees and agents, and their respective successors, heirs and assigns ("Indemnitees"), harmless from any third party claim for bodily injury to persons or damage to tangible property to the extent that such injury or damage is caused by the negligence or the willful misconduct of any of its respective trustees, directors, officers, medical and professional staff, employees and agents solely in respect of the Sponsored Research and the materials and equipment related thereto.

(b) Sponsor shall further defend, indemnify and hold harmless Institute and its trustees, directors, officers, medical and professional staff, employees and agents ("Institute Indemnitees") against any and all third party actions, suits, claims, investigations, inquiries, demands, judgments and/or prosecutions that may be brought or instituted against Institute and/or any Institute Indemnitee based on or arising out of, any use by Sponsor, its Affiliates or licensees of any Invention, Research Information (and/or material or thing embodying such Invention or Research Information) or Institute material, including but not limited to any such use in the manufacture, use, sale, importation or other distribution of arty product or process by Sponsor, its Affiliates or licensees, excepting to the extent Sponsor can demonstrate by clear and convincing evidence that it is directly resulting from the gross negligence or intentional misconduct of Institute and/or the Institute Indemnitees in the use of any such product or process

(c) Any party entitled to indemnification under this Section 12 shall give the indemnifying party prompt notice of any covered claim, shall provide the indemnifying party with the opportunity to defend against the claim, and shall reasonably cooperate in such defense at the indemnifying party's expense; provided, however, failure of any Party to do so shall not relieve the other Party of its obligation(s) to indemnify, except to the extent that the indemnifying party can demonstrate it was actually prejudiced by such failure. Notwithstanding anything to the contrary in this Agreement, the indemnifying Party shall not enter into any settlement, consent judgment, or other voluntary final disposition of any claim that has a material adverse effect on the rights of the indemnified Party or its Indemnitees hereunder or admits any wrongdoing or fault by the indemnified Party or its Indemnitees or imposes on me indemnified Party or its Indemnitees any payment or other liability, without the prior written consent of the indemnified Party, as applicable.

13. DISCL AIMER OF WARRANTIES. NEITHER PARTY MAKES ANY REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE SPONSORED RESEARCH, PATENT RIGHTS, ANY OTHER INTELLECTUAL PROPERTY RIGHTS, INSTITUTE MATERIAL OR ANY RESEARCH INFORMATION, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, VALIDITY OF ANY PATENT RIGHTS CLAIMS OR OTHER INTELLECTUAL PROPERTY RIGHTS, WHETHER ISSUED OR PENDING, AND THE ABSENCE OF LATENT OR OTHER DEFECTS, WHETHER OR NOT DISCOVERABLE, AND EXPRESSLY DISCLAIMS THE SAME. Specifically, and not to limit the foregoing, Institute makes no warranty or representation (i) regarding the validity or scope of the Sponsored Research, any Patent Rights or any intellectual property rights optioned or granted hereunder, whether issued or pending; and (ii) that the exploitation of the Sponsored Research, the use of Institute material, Research Information, Patent Rights or any other intellectual property rights will not infringe any patents or other intellectual property rights of Institute or of a third party.

14. LIMITATION OF LIABILITY. NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT, IN NO EVENT SHALL EITHER PARTY, OR ANY OF ITS AFFILIATES, OR ANY OF THEIR RESPECTIVE TRUSTEES, DIRECTORS, OFFICERS, MEDICAL OR PROFESSIONAL STAFF, EMPLOYEES OR AGENTS BE LIABLE TO THE OTHER PARTY OR ANY OF ITS AFFILIATES FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND ARISING IN ANY WAY OUT OF THIS AGREEMENT OR THE RIGHTS GRANTED HEREUNDER, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, REGARDLESS OF WHETHER SUCH PARTY SHALL BE OR HAVE BEEN ADVISED, SHALL HAVE REASON TO KNOW OR IN FACT SHALL KNOW OF THE POSSIBILITY OF THE FOREGOING; *PROVIDED HOWEVER*, NOTHING IN THIS SECTION 14 SHALL BE CONSTRUED TO LIMIT EITHER PARTY'S OBLIGATIONS TO INDEMNIFY AND HOLD HARMLESS THE OTHER PARTY UNDER THIS AGREEMENT.

15. Use of Name. Each Party agrees mat it will not use the name or logo of the other Party or any of its Affiliates, or any of its respective trustees, directors, officers, staff members, employees, students or agents in any advertising, promotional or sales literature, publicity or in any document employed to obtain funds or financing without the prior written approval of the Party or individual whose name or logo is to be used, in the case of Institute such approval to be given by the Institute's Public Affairs Department.

16. Export Controls. Inventions, Institute materials, Research Information and Confidential Information may be subject to U.S. laws and regulations relating to export control and trade sanctions, including but not limited to the U.S. Export Administration Act and Export Administration regulations, International Traffic in Arms Regulations, and laws and regulations implemented by the Office of Foreign Assets Control at the U.S. Department of Treasury, and export and/or import laws and regulations of other countries. Sponsor agrees to comply strictly with all such laws and regulations and acknowledges and agrees that it shall be solely responsible for obtaining any necessary licenses to export, re-export, or import Inventions, Research Information and/or Confidential Information.

17. Miscellaneous.

17.1 Relationship of the Parties. Nothing contained in this Agreement shall be deemed to create a partnership or joint venture between the Parties, and each of the Parties shall in all matters connected herewith be an independent contractor. Neither of the Parties hereto shall hold itself out as the agent of the other, nor shall either of the Parties incur any indebtedness or obligation in the name of, or which shall be binding upon, the other without prior written consent nf such other Party No employees, agents or representatives of either Party shall be deemed employees, agents or representatives of the other. Institute and Investigators shall have the sole right, in accordance with the Research Plan and this Agreement, to conduct, direct and control the Sponsored Research.

17.2 Notices. All notices, reports, waivers, consents, correspondence or other communications hereunder shall be in writing and shall be effective upon delivery to the recipient, provided, however, that delivery shall be deemed to have occurred (i) when delivered by hand, (ii) three business days after being mailed by certified or registered U.S. mail, return receipt requested, (iii) one business day after being sent overnight express delivery by a recognized overnight courier service, or (iv) when transmitted by facsimile, email or other electronic means, provided that the sender receives confirmation of transmission, and sends a confirmation copy in one of the foregoing manners, addressed as follows:

If to SERI or MEEI:

Director, Intellectual Property & Commercial Ventures
The Schepens Eye Research Institute, Inc.
20 Staniford Street
Boston. MA 02114:
[*****]

If to Sponsor:

Cure Vac AG
Paul-Ehrlich-Strasse 15
72076 Tubingen, Germany
Attention: Vice President Legal
[*****]

Either Party may change its address by giving notice to the other Party in the manner set forth in this Section 17.2.

17.3 Entire Agreement. This Agreement constitutes the entire Agreement between the Parties with respect to the subject matter hereof and supersedes any prior or contemporaneous understanding or written or oral agreements with respect thereto, including, but not limited to, the Confidential Disclosure Agreement effective June 1, 2018 to the extent it relates to the subject matter hereof.

17.4 Amendment: Waivers. This Agreement may be amended and any of its terms or conditions may be waived only by a written instrument executed by an authorized signatory of the Parties or, in the case of a waiver, by the Party waiving compliance. The failure of either Party at any time or times to require performance of any provision hereof shall in no manner affect its rights at a later time to enforce the same. No waiver by either Party of any condition or term shall be deemed as a further or continuing waiver of such condition or term or of any other condition or term. Sponsor acknowledges that neither Principal Investigator nor any other Investigator is considered a duly authorized signatory of Institute and has no authority to bind Institute to any such amendment or waiver. All rights, remedies, undertakings, obligations and agreements contained in this Agreement shall be cumulative and none of them shall be a limitation of any other remedy, right, undertaking, obligation or agreement of either Party.

17.5 Severability. If any provision of this Agreement is or becomes invalid, is ruled illegal by any court of competent jurisdiction or is deemed unenforceable under then current applicable law from time to time in effect during the term hereof, it is the intention of the Parties that the remainder of this agreement shall not be effected thereby. It is further the intention of the Parties that in lieu of each such provision which is invalid, illegal or unenforceable, there be substituted or added as part of this Agreement a provision which shall be as similar as possible in economic and business objectives as intended by the Parties to such invalid, illegal or unenforceable provision, but shall be valid, legal and enforceable.

17.6 Assignment. Neither this Agreement nor any rights or obligations of either Party under this Agreement shall be assigned or otherwise transferred without the prior written consent of the other Party, which consent shall not unreasonably be withheld, conditioned or delayed, provided, that Sponsor can assign mis Agreement without the prior written consent of Institute (i) to an Affiliate or (ii) to a third party in connection with the sale or transfer of substantially all of its assets with respect to the subject matter of this Agreement Any permitted assignee shall assume all obligations of its assignor under this Agreement. This Agreement and the rights granted in this Agreement shall be binding upon and shall inure to the benefit of Sponsor, Institute and their respective successors and permitted assigns.

17.7 Binding Effect. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the Parties hereto and theri respective permitted successors and assigns.

17.8 Force Majeure. Neither Party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such Party, which causes such Party to be unable to perform its obligations under this Agreement, and which it has been unable to overcome by the exercise of its due diligence, provided that the Party unable to perform its obligations shall promptly notify the other Party, shall use reasonable efforts to avoid or remove such causes of nonperformance, shall suspend performance only for such period of time as is necessary as a result of such force majeure event and shall resume performance as quickly as possible.

17.9 Governing, Law: Venue. This Agreement shall be governed by and construed and interpreted in accordance with the laws of the Commonwealth of Massachusetts, without regard to provisions concerning conflict of laws, In the event of any controversy or claim arising out of or relating to any provision of this Agreement, the Parties shall use reasonable efforts to first try to settle those conflicts amicably between themselves. Each Party hereby irrevocably consents that any legal action or proceeding under, arising out of or in any manner relating to this Agreement shall be brought in any state or federal court of competent jurisdiction located in the Commonwealth of Massachusetts

17.10 Institute Policies. Sponsor acknowledges that Institute's employees and medical and professional staff members and the employees and staff members of Institute's Affiliates are subject to the applicable policies of Institute and such Affiliates, including, without limitation, policies regarding conflicts of interest, intellectual property and other matters. Sponsor shall provide Institute with any agreement it proposes to enter into with any Investigator for Institute's prior review and shall not enter into any oral or written agreement with any such Investigator which conflicts with any such policy. Institute shall provide Sponsor, at Sponsor's request, with copies of any such policies applicable to any such Investigator.

17.11 Interpretation. The Parties hereto are sophisticated, have had the opportunity to consult legal counsel with respect to this transaction and hereby waive any presumptions of any statutory or common law rule relating to the interpretation of contracts against the drafter.

17.12 Survival. Expiration or termination of this Agreement shall not relieve the Parties of any obligation accruing prior to such expiration or termination, and in addition to any specific survival references in this Agreement, the provisions of Sections 1, 4, 5, 6, 7, 8, 9, 10, 11.4,12, 13, 14, 15, 16, and 17 (which Section numbers shall refer to the entire Section including all subsections unless otherwise specified) shall survive the termination or expiration of this Agreement indefinitely or as otherwise expressly set forth in such Section.

17.13 Counterparts: Facsimile. This Agreement may be executed in counterparts and delivered by facsimile with the same effect as an original. In the event a complete copy of this Agreement or any signature is delivered by an e-mail which contains a portable document format (.pdf) file of an executed signature page, such executed signature page shall create a valid and binding obligation of the Party executing it (or on whose behalf such signature page is executed) with the same force and effect as if such executed signature page were an original thereof.

17.14 Headings: " Include" and "Including". All headings are for convenience only and shall not affect the meaning of any provision of this Agreement. Wherever the word "including" or "include" shall appear in this Agreement, such term shall be construed to mean "including without limitation'' or "include without limitation," as the case may be.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, Institute and Sponsor have caused this Sponsored Research Agreement to be executed effective as of the Effective Date.

CureVae AG

BY: /S/ DIMTRIS VOLIOTIS
NAME: DR DIMTRIS VOLIOTIS
TITLE: CHIEF DEVELOPMENT OFFICER
DATE: APRIL 12,2019

/s/ Florian von der Mulbe

Florian von der Mulbe
Chief Production Officer
April 17, 2010

The Schepens Eye Research Institute, Inc.

BY: /s/ Ojas Mehta
NAME: Ojas Mehta
TITLE: Director, Innovation
DATE: March 29, 2019

Massachusetts Eye and Ear Infirmary

BY: /s/ Ojas Mehta
NAME: Ojas Mehta
TITLE: Director, Innovation
DATE: March 29, 2019

I have read Sections 3,4, 7, 8, 9,11,17.1 and 17.10 of the foregoing Agreement and agree with Institute (but without incurring any personal liability to Sponsor) to comply with the obligations of the Principal Investigator stated therein.

/s/ Leo A. Kim
(Signature of Principal Investigator)

NAME: Leo A. Kim

DATE: March 28,2019

/s/ Joseph F. Arboleda-Velasquez

(Signature of Principal Investigator)

NAME: Joseph F. Arboleda-Velasquez

DATE: March 28, 2019

APPENDIX A

RESEARCH PLAN

PROJECT SCOPE AND BUDGET JUSTIFICATION

[*****]

APPENDIX B

BUDGET

[*****]

APPENDIX C

INSTITUTE BACKGROUND INTELLECTUAL PROPERTY

[*****]

Appendix D

Term Sheet
(see attached)

CONFIDENTIAL

CUREVAC AND THE SCHEPENS EYE RESEARCH INSTITUE. INC.

Term Sheet for Exclusive License Agreement
3/29/2019

This Term Sheet, unless specifically slated otherwise herein, is for discussion and planning purposes only and does not constitute an offer, or create any other legal obligation upon any party, affiliate, or representative, thereof. The terms set forth below are not necessarily a complete list of material terms that may be negotiated as part of a definitive license agreement (the "License"). Moreover, unless specifically stated otherwise herein, the terms proposed: a) shall not be construed as a waiver of any rights of Hospital (as defined below), or its affiliate(s), with respect to any existing agreements between Hospital, or its affiliates, and Company (as defined below), or any other matter; b) shall not modify, amend or otherwise alter any existing agreement between Hospital and Company, and c) shall not be relied upon in any manner whatsoever by any party hereto.

LICENSOR:	The Schepens Eye Research Institute, Inc., ("Hospital")
LICENSEE:	CureVac AG, a German stock corporation, having a principal place of business at Paul-Ehrlich-Strasse 15, 72076 Tubingen, Germany ("Company")
DEFINITIONS:	"Claim" shall mean any pendinq or issued claim of any Patent Riaht that has not been permanently revoked, nor held unenforceable or invalid by a decision of a court or other governmental agency of competent jurisdiction that is unappealable, or unappealed in the time allowed for appeal. In the event a pending claim of any Patent Right does not issue as a valid and enforceable claim in an issued patent within [*****] after the earliest priority date, such a pending claim will not be a Claim. "Process" shall mean any process, method or service the use or performance of which, in whole or in part absent the license granted hereunder would infringe, or is covered by, one or more Claims of Patent Rights; or "Product" shall mean any article, device or composition, the manufacture, use. or sale of which, in whole or in part absent the license granted hereunder would infringe, or is covered by, one or more Claims of Patent Rights.
PATENT RIGHTS:	[*****].
LICENSE FIELD:	All use(s) of Products and Processes for [*****].

LICENSE TERRITORY	: [*****].
LICENSE GRANT:	An exclusive, royally-bearing license under Hospital's rights in Patent Rights to make, have made, use, have used, sell and have sold Products and Processes.
SUBLICENSING:	Company shall have the right to provide sub-licenses through multiple tiers.
RESERVED RIGHTS:	The licenses granted under the License are subject to the right of Hospital and Hospital's Affiliates and other academic, government and not-for-profit institutions to make, have made, and to use the subject matter described and/or claimed in the Patent Rights for research and educational purposes; and for Patent Rights supported by federal funding, the licenses granted under the License are subject to the rights, conditions and limitations imposed by U.S. law (see 35 U.S.C. § 202 et seq. and regulations pertaining thereto), including without limitation: the royalty-free non-exclusive license granted to the U.S. government; and the requirement that any Products used or sold in the United States shall be manufactured substantially in the United States.
UPFRONT LICENSE FEE:	Non-refundable up-front fee of $30,000 payable on the effective date of the License.
MILESTONES:	Milestones and Milestone Payments Amount [*****] The total amount that could be due by Company upon all such milestone events for any and all Products in any and all countries would not exceed $2,550,000.
ROYALTIES:	[*********] on Net Sales (including, without limitation, imputed fair market value of transfers) by Company, its affiliates and sublicensees of Products or Processes covered by Patent Rights. This royalty shall not be subject to any royalty offset if the Company is required to enter into additional licenses to commercialize a Product. The definitions of Net Sales and Valid Claim shall be negotiated in the License agreement.

ANNUAL MINIMUM PAYMENTS:	[*****]
SUBLICENSE INCOME:	Company shall pay Hospital, within [*****] of receipt thereof, the following percent of any and all non-royalty income attributable to the Product or Process, or Technological Information, including without limitation any payment for the sublicensing of any license granted hereunder, or distribution of any Product or Process, including but not limited to up-front license fees, license issue fees, maintenance fees, payments for distribution rights, milestone payments or the fair-market value of any non-cash consideration, but excluding any research funding: [*****]
PATENT EXPENSES:	Company shall reimburse Hospital for 100% of all patent related patent costs incurred by Hospital (as incurred) including, without limitation, prosecution, maintenance and defense (including interference, oppositions, revocations etc.) of the Patent Rights, and reimbursement of costs incurred prior to effective date of License [*****].
PATENT PROSECUTION:	Company controls prosecution and maintenance of the Patent Rights. Company will provide Hospital and its counsel with an opportunity to consult with Company regarding prosecution and maintenance of any such Patent Right, and Company will consider in good faith all reasonable comments timely made by or on behalf of Hospital. With respect to any Patent Right licensed hereunder, Company shall provide to Hospital (i) copies of patent prosecution documents that are received from or filed with the United States Patent and Trademark Office and foreign equivalent, as applicable; and (ii) if requested by Hospital, provide Hospital with copies of draft submissions to the USPTO prior to filing. Company may elect to surrender any patent or patent application in Patent Rights in any country upon [*****] advance written notice to Hospital. Such notice shall relieve Company from the obligation to pay for future Patent Costs but shall not relieve Company from responsibility to pay Patent Costs incurred prior to the expiration of the [*****] notice period. Such U.S. or foreign patent application or patent shall thereupon cease to be a Patent Right hereunder, Company shall have no further rights therein and Hospital shall be free to license its rights to that particular U.S. or foreign patent application or patent to any other party on any terms.
DILIGENCE:	The parties will negotiate in good faith diligence obligations, which shall include the submission of a research and development plan to the Hospital (the “Development Plan.)
TERMINATION:	Hospital has the right to terminate for an uncured breach, including failure to pay and failure to satisfy diligence requirements. Company has (he right to terminate without cause.
No WARRANTIES:	Hospital shall make no warranties regarding the Patent Rights and rights granted under the License, including warranties of title, merchantability, fitness for a particular purpose, non-infringement or validity of Patent Rights.
ADDITIONAL TERMS:	The License will include additional terms reasonably standard for agreements between universities and industry, including but not limited to: (a) product liability indemnification, and insurance provisions acceptable to Hospital’s liability insurance carriers); (b) reporting provisions; (c) limitations on right to assign; (d) limitations on Hospital’s liability for any incidental, indirect, consequential, punitive, exemplary and special damages; and (e) Massachusetts governing law, exclusive jurisdiction and venue; (f) confidentiality; (g) sublicense protection; (h) consequences of termination.

Exhibit 10.20

REDACTED

Certain identified information, indicated by [*****] has been excluded from the exhibit because it is both (i) not material and (ii) would likely cause competitive harm if publicly disclosed.

1st AMENDMENT TO THE

SPONSORED RESEARCH AGREEMENT

Between

CureVac AG, a German stock corporation, having a principal place of business at Paul-Ehrlich-Straße 15, 72076 Tübingen, Germany ("Sponsor")

and

The Schepens Eye Research Institute, Inc., a not-for-profit Massachusetts corporation, having a principal place of business at 20 Staniford St., Boston, MA 02114 (“SERI”) and the Massachusetts Eye and Ear Infirmary, having a principal place of business at 243 Charles Street, Boston, MA 02114 (“MEEI”)(SERI and MEEI collectively “Institute”)

WHEREAS, Sponsor and Institute entered into a *Sponsored Research Agreement*, effective as of March 15, 2019 (the “Agreement”).

WHEREAS, the Parties wish to extend the Term and include an updated Research Plan in the Agreement, the Parties intend to amend the Agreement; and

WHEREAS, the Parties acknowledge that as of the [*****], payments described in Section 5 of the Agreement and totaling US [*****] have been paid in full.

THEREFORE, in consideration of the promises made herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties consent and mutually agree to amend the Agreement as follows, whereby the capitalized terms used in this 1st Amendment shall have the same meaning as defined in the Agreement.

1. Therefore definition 1.25 of the Agreement is hereby replaced it its entirety by the following:

“1.25 “Sponsor Principal Investigator” shall mean [*****], under whose direction the Sponsored Research at Sponsor site shall be conducted.”

2. Therefore Section 2 of the Agreement is hereby replaced in its entirety by the following:

"2. Term. The term of this Agreement shall be from the Effective Date until July 31, 2021 (the "Term"), unless earlier terminated by either Party as set forth in Section 11 or extended in a writing signed by authorized representatives of both Parties."

3. Therefore Section 5.3 of the Agreement is hereby replaced in its entirety by the following:

"5.3 Institute invoices shall be sent via Email to Sponsor at the following email address: [*****]

CureVac AG
Paul-Ehrlich-Strasse 15
72076 Tübingen, Germany
Attention: Accounting Department
[*****]

Institute shall not be obligated to expend funds in excess of those provided under this Agreement to conduct the Sponsored Research."

4. Therefore Appendix A of the Agreement is hereby replaced in its entirety by the Appendix A attached hereto.

5. This 1st Amendment shall enter into force upon the last signature below ("1st Amendment Effective Date"). The remaining terms and conditions of the Agreement shall remain in full force and effect.

6. Except as herein provided, the Agreement and all of its terms, covenants and conditions are hereby ratified and confirmed in all respects and remain in full force and effect. The Agreement shall, together with this 1st Amendment, be read and construed as a single agreement.

7. In the event that any signature is delivered by facsimile transmission or by an e-mail which contains a portable document format (.pdf) file of an executed signature page, such executed signature page shall create a valid and binding obligation of the Party executing it (or on whose behalf such signature page is executed) with the same force and effect as if such executed signature page were an original thereof.

IN WITNESS WHEREOF, the Institute and Sponsor have caused this 1st Amendment to be executed by their duly authorized representatives as of the 1st Amendment Effective Date.

CureVac AG

BY: _____
NAME: _____
TITLE: _____
DATE: _____

BY: _____
NAME: _____
TITLE: _____
DATE: _____

_____

_____

_____

_____

_____

The Schepens Eye Research Institute, Inc.

BY: /s/ Daniel Castro
NAME: Daniel Castro
TITLE: Managing Director, Licensing
DATE: April 29, 2020

Massachusetts Eye and Ear Infirmary

BY: /s/ Daniel Castro
NAME: Daniel Castro
TITLE: Managing Director, Licensing
DATE: April 29, 2020

/s/ Leo Kim, M.D., Ph.D.
(Signature of Principal Investigator)
NAME: Leo Kim, M.D., Ph.D.

DATE: April 30, 2020

(Signature of Principal Investigator)
NAME:

DATE:

APPENDIX A

RESEARCH PLAN

PROJECT SCOPE AND BUDGET JUSTIFICATION

[*****]

Exhibit 10.21

This document is an English translation of a document prepared in German. In case of any ambiguity, the German text shall prevail.

Rental contract: TÜ-01/3-01_1

Rental contract for commercial premises

Between

Technologieparks Tübingen-Reutlingen GmbH
Gerhard-Kindler-Str. 13
72770 Reutlingen
VAT ID no.: DE813149601

- Landlord -

And

CureVac Real Estate GmbH
Paul-Ehrlich-Str. 15 - 17
72076 Tübingen
VAT ID no.: DE 307 312 113

- Tenant -

Both parties

Preamble

The rental contract now regulates the rental of the existing rental space in the Biotechnologiezentrum (Biotechnology Centre) (TÜ-01) in Tübingen. (The tenant has rented the same rental space until 01.31.2018 from TfRT GmbH as subtenant).

Section 1 Rental property
1.
The landlord rents out the premises in the Technologiepark Tübingen-Reutlingen (Technology Park Tübingen-Reutlingen) in building TÜ-01, located at Paul-Ehrlich-Str. 15 and 17, 72076 Tübingen according to the attached floor plan (Annex 1-6). The rented space is marked in pink.

2.
The shared use of the sanitary facilities located in the stairwell is also rented, whereby the other users of the floor are entitled to the proportional shared use of the sanitary rooms.

The areas and facilities specified in Section 1 (1) of this contract constitute the rental property within the meaning of this contract.

3.
The landlord is obliged to provide parking space appropriate to the total area rented. One parking space is to be rented per 81m^2 or part thereof. This means that 61 parking spaces are currently rented.

Further details are regulated in the parking space rental contract no.: TÜ_P19/01-3-01_1 of the parties.

Section 2 Equipment, development of the technology park

1.
The rental premises are rented out in the condition in which they are in when handed over.

2.
The size of the rented area is agreed at approx. 4850m^2 of rental space. The size of the rental space may change due to dimensional inaccuracies, walls and cladding, supports or similar, as well as the installation or removal of partition walls within the rental property at the request of the tenant. Such changes have no influence on the amount of the rent, unless the deviations are such that adherence to the rent would be unreasonable for one of the contracting parties. If the allocation within the rental space is changed at the request of the tenant, the rent will not be changed under any circumstances.

3.
The tenant knows that the building TÜ-01 is a part of the Technologieparks Tübingen-Reutlingen, which is to be expanded. Construction work in the vicinity of the rental premises is to be expected. The tenant accepts disruptions caused by such construction work, as long as the business operations are not significantly disrupted. The tenant is also aware that the concept of the Technologieparks Tübingen-Reutlingen is based on the fact that office and administrative facilities, research and development laboratories and technology-oriented businesses can be accommodated in the same building. The users should take mutual interests into account. However, the tenant accepts any disruptions caused by the special usage structure of the technology park, provided that these do not significantly disrupt business operations.

Section 3 Start of the rental period and handover, duration of contract

1.
The tenancy begins on February 1, 2018 and ends on January 31, 2028.
The rental property shall be handed over in the agreed condition on 01 February 2018.
An ordinary termination is excluded for both parties.

2.
If the handover date is delayed, the tenant is not entitled to any other claims against the landlord, unless the landlord is responsible for the delay at least due to gross negligence. Art. 1.2 of the General Terms and Conditions for the Contract (GTC) remains unaffected.

3.
For the purpose of the handover, the contracting parties shall inspect the premises together and shall make a record of all complaints.

4.
The contract ends at the end of the 10th rental year (expected on January 31, 2028). If the start of the rental period is moved, the end of the rental period is moved accordingly.

5.
The tenant has the right to extend the contract period twice by five years by unilateral declaration. They may only exercise this option up to 12 months before the end of the fixed rental period at the latest by written declaration to the landlord. The receipt of the declaration by the landlord is decisive for timeliness.

6.
The right to termination without notice for good cause and termination rights in accordance with the general terms and conditions of the contract remain unaffected.

Section 4 Fee

1.
The monthly fee to be paid by the tenant consists of

The monthly rent amounts to	From 02.01.2018	From 01.01.2019	From 01.01.2020
the rent according to Section 5 at present	81,000.00€	84,240.00€	87,610.00€
the advance payment of operating costs at present	46,000.00€	46,000.00€	46,000.00€
plus the currently valid VAT, currently 19%	24,130.00€	24,745.60€	24,385.90€
The fee is therefore currently	151,130.00€	154,985.60€	158,995.90€

2.
The tenant shall also bear the costs of commercial property management. These are paid to the landlord at a flat rate of 1.5% of the respective annual net rent in accordance with Section 5; this amount is added by the landlord in the invoice, so that an advance payment of the 1.5% flat rate is not made.

3. The landlord shall provide the tenant annually with a recurring entry document, from which the components of the amounts to be paid under this contract can be identified. The fee shall be paid monthly in advance, no later than the 3rd working day of each month. All payments are to be made free of charge to the landlord or an agency authorised by the landlord to receive them.

Until revoked, the tenant entitles the landlord to collect all payments when due from their account. Direct debit is regulated in a separate contract.

In the event of default, all payments made by the tenant are first credited against interest, then against operating costs, then against the basic rent, and in each case against the oldest debt.

Section 5 Rent, change of rent

1.

The monthly rent is	From 02.01.2018	From 01.01.2019	From 01.01.2020
For the office area	13,770.00€	14,320.00€	14,890.00€
For the laboratory area	67,230.00€	69,920.00€	72,720.00€
Total	81,000.00€	84,240.00€	87,610.00€

2.1
In the event that the "consumer price index for Germany, officially assessed monthly by the Federal Statistical Office in Wiesbaden for the Federal Republic of Germany, has changed by at least 5 points compared with its level on 01.01.2020, the rent shall change by the percentage by which the above-mentioned index has changed. (Base 2010=100)

2.2
The change/adjustment of the rent becomes effective from the time when the conditions for the rent change according to the above sentence 1 have occurred.
As long as the tenant has not received a written recalculation of the rent from the landlord, the tenant is not in default of payment.

2.3
If the rent is adjusted on the basis of the above indexation clause, the clause shall become applicable again in accordance with the provisions of the previous paragraph and the rent shall be adjusted accordingly as soon as the aforementioned cost of living index has changed again by 5 points.

2.4
In the event of an increase in the rent, the landlord must inform the other party of the contract of the change by submitting an invoice; in the event of a reduction, the tenant must inform the other party of the change by submitting an invoice. If this is not done immediately, this does not mean that the adjustment is waived.

2.5
When the contract was concluded, the base index series was agreed as 2010 = 100. If the official index series is converted to a new base, the new index series shall apply for the adjustment of the basic rent from the time at which the above formula can be applied to the new index series.

2.6
If the indexation clause is invalid, the parties are obliged to negotiate a change in the rent at the point in time at which the rent would be changed if the clause were valid. If the parties do not reach an agreement, an expert who is to be appointed by the competent Chamber of Industry and Commerce will act as arbitrator. The changes in the cost of living and the development of rents for commercially used space in the TTR area are decisive for the arbitrator's decision.

The rent is to be adjusted to any changes in the cost of living. The costs of the arbitrator shall be shared equally between the parties.

3.
In addition, the tenant shall bear the value added tax payable on the rent at the statutory rate applicable for the month in question, currently 19%.

Section 6 Operational costs

1.
Operational costs of the property and all its facilities, in particular the costs listed in Sectiond 2 and 3 of the Betriebskostenverordnung [Ordinance on Operational Costs] in its current version (current version dated 01.01.2004) shall be borne by the tenant. Unless otherwise agreed, operational costs shall be allocated primarily on the basis of consumption values determined by means of consumption recording, and in addition, particularly for common areas, communal facilities and waste disposal, on the basis of square metres. This also applies to future and further expenses, whereby expenses shall be understood as periodically recurring costs, e.g. for maintenance, tests required under public law and consumables, e.g:

a) Energy, maintenance, operational, cleaning and service costs for the heating system of the ventilation or air conditioning system, the refrigeration systems and other lab-specific installations, costs for central hot water supply, chimney cleaning, emission and air quality measurements

b) Property charges (refuse collection, street cleaning, irrigation and drainage, etc.);

c) The current public charges of the property, especially the property tax in the respective amount;

d) Insurance (all building insurance, water damage insurance, liability insurance, glass breakage insurance, building fire insurance, etc.);

e) Costs for domestic electricity and water;

f) maintenance, operational and service costs for lifts, escalators, electric doors, decentralised hot water systems, pumping systems and other equipment;

g) cleaning and lighting for all areas that are not assigned to a tenant, surveillance, blinds and facade cleaning;

h) Costs for caretakers (gross salary, ancillary salary costs, payments in kind, etc.) as well as the equipment and materials needed to operate and keep the house clean;

i) Costs of any pest control measures;

j) Costs of commercial waste disposal companies (e.g. refuse);

k) Costs for building locking and security services;

l) Costs for fire alarm, sprinkler and fire extinguishing systems;

m) the costs of operating jointly used areas and facilities (e.g. sanitary and technical facilities, operating rooms and equipment including servicing; repair and maintenance)

n) the cost of garden maintenance, including calculatory depreciation of tools and their operational costs;-

o) other costs that are suitable for the correct operation of the overall system according to the specifications of the landlord (e.g. the costs of renting or maintaining water meters and heat cost allocators or the costs of replacing intermediate meters for calibration)

p) Costs for cleaning the parking spaces

q) Costs of cleaning the building exterior (e.g. removal of graffiti)

3.
The costs of the heating and hot water supply shall be borne by the tenant. They are settled by the landlord in accordance with the Ordinance on Consumption-Based Settlement of Heating and Hot Water Costs (Heizkosten VO).

4.
The tenant shall pay a monthly advance payment on the operational costs together with the rent plus the applicable value added tax (VAT). The agreements on the rent due date and method of payment also apply to the advance payments of operational costs. In addition to the ancillary costs, the resulting VAT is to be paid at the rate applicable, currently 19%, at the time of the due date. If the landlord does not make use of the option under the German Value Added Tax Act, the VAT included in the ancillary costs is then also an operational cost and therefore not to be disclosed separately and is to be borne by the tenant as part of the ancillary costs.

5.
The invoices to be drawn up by the landlord cover a period up to the respective end of a calendar year. If the tenant moves out, the landlord is not obliged to draw up an interim invoice but can settle in the aforementioned cycle. However, the tenant is entitled to have consumption values recorded at the end of the rental period. The landlord shall grant the tenant access to all measurement data and provide appropriate support for the collection of the data.

6.
Within four weeks of receipt of the invoice, the tenant may request to inspect the invoicing documents at the registered office of the landlord or to be sent copies at a flat rate of 0.75€ per copy. If the tenant does not object to the invoice in writing within four weeks after having been granted full access to the files, the invoice shall be deemed to have been accepted, provided that the landlord has expressly referred to this period and the legal consequence in the invoice. If the tenant does not request the inspection of receipts within four weeks of receipt of the invoice, subsequent payments of the tenant or reimbursements of the landlord are due after these four weeks.

7.
Public charges, taxes, premiums, fees, etc., which arise from the tenant's operation or due to an increase in risk from their operation, shall be borne solely by the tenant. They will release the landlord in this respect from claims of third parties.

8.
In addition, Section 7 of the general terms and conditions of the contract shall apply.

Section 7 Use according to contract

1.
The tenant shall use the rental property in accordance with Section 1 No. 1 only as office / laboratory space. They may only use the premises in accordance with the laws and regulations, in particular the workplace guidelines. Changes to the purpose of use require the landlord's prior written consent. When using the areas in accordance with Section 1 No. 2, they shall take into account the interests of the other authorised users.

2.
The landlord ensures that the use of the premises covered by the contract is legally permissible for commercial laboratory and office purposes and, if necessary, approved by all responsible public and non-public bodies.

Section 8 Maintenance and cosmetic renovations

1.
The tenant takes over the rental property in the condition in which it is in when it is handed over.

2.
The landlord is obliged to maintain the building in which the rental property is located and the technical facilities of the building. The landlord shall maintain the building and its technical facilities in a condition corresponding to the contractual use during the entire rental period and shall carry out work in this respect in coordination with the tenant and with due regard to the tenant's business operations and business interests.

In particular, the following technical installations necessary for the general operation of the building are regularly maintained and kept in a condition corresponding to the approved status:

- Emergency standby power system
- Lightning protection
- Ventilation
- Entrance doors
- Fire alarm system
- Fire protection doors
- Fire extinguishers
- Lifts
- Smoke heat exhaust system
- Outdoor facilities
- Intercom system
- Ventilation and air conditioning technologies
- Building management system

If the landlord does not comply with this duty, the tenant is entitled to replacement at the landlord's own expense and to reduce the rent in accordance with Section 536 of the German Civil Code (BGB).

Minor repair work up to a maximum net amount of 1000,- € in individual cases, but a maximum net amount of 50.000,00 € per rental year shall be borne in full by the tenant.

3.
The landlord is not obliged to carry out continuous cosmetic renovations of the rental property

4.
The parties agree that repair, maintenance, upkeep and repair work on the rental property and on all items, installations and equipment brought into the rental property by the tenant are to be carried out entirely by the tenant.

The tenant shall be responsible for the care and maintenance of all technical systems, facilities and networks belonging to the rented property, which the tenant has installed themselves, e.g. automatic doors, roller sectional doors, heating, ventilation, ELT system, security lighting system (central or decentral), fire alarm system, burglar alarm system, sprinkler system, etc., insofar as this is technically and economically reasonable with regard to the respective overall system. Otherwise, the landlord is obliged to carry out this work, in which case the costs will be apportioned in accordance with Section 6 No. 1 of this contract.

5.
The tenant is responsible for all cosmetic repairs in the rental premises. No. 8.6. of the GTC shall apply.

6
When the contract ends, the following applies:

6.1. The tenant shall return the rented space to the landlord unrenovated/cleaned.

6.2. There is no obligation for the tenant to disassemble the property.

6.3.
For any damage resulting from a condition which does not correspond to normal wear and tear, the landlord may assert further rights under this contract, in particular claims for damages.

7.
Insofar as facilities for joint use are rented out in accordance with Section 1 No. 2, the following applies to these:

The costs of cosmetic repairs in the common areas in accordance with Section 1 No. 2 shall be borne by the tenant in proportion to the share of common areas they have rented. Contrary to No. 8.1.c. of the GTC, an amount of € 1,500 is agreed for the sum of the individual measures, whereby this share is not included in the upper limit specified in No. 8.1 GTC.

Section 9 Security deposit

4 weeks after the conclusion of the contract, the tenant shall, as security for all claims of the landlord arising from this contractual relationship, at their discretion, provide an unlimited, directly enforceable bank guarantee on first request, waiving the deposit of a German credit institution approved as a customs and tax guarantor, or a cash deposit in the amount of EURO 386,535.00 (in words: three hundred and eighty-six thousand five hundred and thirty-five). At the request of the landlord, the tenant shall ensure that the guarantee amount increases in the same proportion as the rent by providing a further guarantee or by increasing the cash deposit accordingly.

Section 10 Place of jurisdiction

If the tenant is a merchant within the meaning of the German Commercial Code (HGB), the parties agree that Tübingen shall be the place of jurisdiction for all disputes arising from this contract and its execution; the landlord may also assert claims against the tenant at their general place of jurisdiction. This does not apply if a different place of jurisdiction is determined by law.

Section 11 Other

11.1
If the landlord operates a canteen on the premises of TTR or arranges for it to be operated by third parties, the tenant's employees and subtenants are entitled to use the canteen facilities. The tenant will support an appropriate use of the central infrastructure.

11.2
Six months after notification of the commencement of operations, the tenant may not run its own catering or service operations (e.g. canteen, cafeteria). The tenant shall pass on this obligation to the subtenant.

Section 12 Components of the contract

The General Terms of Contract (Annex 7) to the Commercial Rental Contract (GTC) and the Building and Property Regulations (Annex 8) form an integral part of this rental contract. However, the provisions of this rental contract shall take precedence over the GTC and the Building and Property Regulations. In the event of contradictions, this contract shall apply.

Section 13 Remedial written form clause

The parties to the rental contract are aware of the written form requirements of Sections 550 in conjunction with 578 para. 1 German Civil Code (BGB). They agree that the rental contract should be in written form in accordance with the aforementioned regulations. The tenant hereby undertakes, at the landlord's request at any time, to take all actions and make all declarations necessary to satisfy the written form requirement. The tenant also declares that they will not terminate the rental contract prematurely on the grounds of failure to comply with the written form.

Date: 01.26.2018

Reutlingen, _____

/s/ Thomas Dephoff

Technologieparks Tübingen-Reutlingen GmbH
Thomas Dephoff

(General Manager)

/s/ Stefan Müller

Stefan Müller

(Authorised Signatory)

Date: 01.31.2018

Tübingen, _____

/s/ Dr Simone Dahlmanns

Cure Vac Real Estate GmbH
Dr Simone Dahlmanns
(General Manager)

/s/ Dr. Peter Škufca

Dr Peter Škufca
(Authorised Signatory)

Annex 1

UNIVERSITY CITY TÜBINGEN

Biotechnology Centre Tübingen

Paul-Ehrlich-Straße 15 + 17, 72076 Tübingen

Building contractor: Technologieparks Tübingen-Reutlingen GmbH

Gerhard-Kindler-Straße 13, 72770 Reutlingen

Effective area calculation in accordance with DIN 277

Level +4

Rent-less

Synovo

ITR

Altatec

Immatics

CureVac

TF R-T

Scale 1:100

Planner:

Engineering Office for Surveying
REINER HELLE
Consultant Engineer
72076 TÜNINGEN
Eduard-Spranger-Strasse 4.
[illegible]

[Illegible]

Key:	
	NGF (Net surface area)
	KF (Construction area)

Images are illegible

UNIVERSITY CITY TÜBINGEN

Biotechnology Centre Tübingen

Paul-Ehrlich-Straße 15 + 17, 72076 Tübingen

Building contractor: Technologieparks Tübingen-Reutlingen GmbH

Gerhard-Kindler-Straße 13, 72770 Reutlingen

Effective area calculation in accordance with DIN 277

Level +3

Rent-less

Synovo

ITR

Altatec

Immatics

CureVac

TF R-T

Scale 1:100

Planner:

Engineering Office for Surveying
REINER HELLE
Consultant Engineer
72076 TÜNINGEN
Eduard-Spranger-Strasse 4.
[illegible]

[Illegible]

Key:	
	NGF (Net surface area) KF (Construction area)

Images are illegible

UNIVERSITY CITY TÜBINGEN

Biotechnology Centre Tübingen

Paul-Ehrlich-Straße 15 + 17, 72076 Tübingen

Building contractor: Technologieparks Tübingen-Reutlingen GmbH

Gerhard-Kindler-Straße 13, 72770 Reutlingen

Effective area calculation in accordance with DIN 277

Level +2

Rent-less

Synovo

ITR

Altatec

Immatics

CureVac

TF R-T

Scale 1:100

Planner:

Engineering Office for Surveying
REINER HELLE
Consultant Engineer
72076 TÜNINGEN
Eduard-Spranger-Strasse 4.
[illegible]

[Illegible]

Key:	
	NGF (Net surface area) KF (Construction area)

Images are illegible

UNIVERSITY CITY TÜBINGEN

Biotechnology Centre Tübingen

Paul-Ehrlich-Straße 15 + 17, 72076 Tübingen

Building contractor: Technologieparks Tübingen-Reutlingen GmbH

Gerhard-Kindler-Straße 13, 72770 Reutlingen

Effective area calculation in accordance with DIN 277

Level +1

Rent-less

Synovo

ITR

Altatec

Immatics

CureVac

TF R-T

Scale 1:100

Planner:

Engineering Office for Surveying
REINER HELLE
Consultant Engineer
72076 TÜNINGEN
Eduard-Spranger-Strasse 4.
[illegible]

[Illegible]

Key:	
	NGF (Net surface area) KF (Construction area)

Images are illegible

UNIVERSITY CITY TÜBINGEN

Biotechnology Centre Tübingen

Paul-Ehrlich-Straße 15 + 17, 72076 Tübingen

Building contractor: Technologieparks Tübingen-Reutlingen GmbH

Gerhard-Kindler-Straße 13, 72770 Reutlingen

Effective area calculation in accordance with DIN 277

Level +0

Rent-less

Synovo

ITR

Altatec

Immatics

CureVac

TF R-T

Scale 1:100

Planner:

Engineering Office for Surveying
REINER HELLE
Consultant Engineer
72076 TÜNINGEN
Eduard-Spranger-Strasse 4.
[illegible]

[Illegible]

Key:	
	NGF (Net surface area) KF (Construction area)

Images are illegible

UNIVERSITY CITY TÜBINGEN

Biotechnology Centre Tübingen

Paul-Ehrlich-Straße 15 + 17, 72076 Tübingen

Building contractor: Technologieparks Tübingen-Reutlingen GmbH

Gerhard-Kindler-Straße 13, 72770 Reutlingen

Effective area calculation in accordance with DIN 277

Level -1

Rent-less

Synovo

ITR

Altatec

Immatics

CureVac

TF R-T

Scale 1:100

Planner:

Engineering Office for Surveying
REINER HELLE
Consultant Engineer
72076 TÜNINGEN
Eduard-Spranger-Strasse 4.
[illegible]

[Illegible]

Key:	
	NGF (Net surface area) KF (Construction area)

Images are illegible

General Terms and Conditions of Contract for Commercial Rental Contracts (GTC)

1. Rental property, handover, use

1.1. The description of the rented building is valid for the equipment, for existing areas the inspected and recorded condition according to the handover protocol, whereby defects and complaints recorded in the protocol are to be remedied by the landlord, unless something else arises from this contract or the protocol. Furthermore, the landlord shall not provide any equipment and facilities as well as room partitions and doors within the rental property, unless they can be seen in a separate annex or are handed over to the tenant by the landlord when the rental property is handed over.

In any case, the landlord reserves the right to make changes to the plans and the description of the rented building which are demanded or necessary by authorities, insurance companies or neighbourhood objections or which do not affect the legitimate interests of the tenant. If, as a result of changes to the plans and the description of the rented building, which are demanded or become necessary by authorities, insurance companies or neighbourhood objections, which serve environmental protection or technical progress, the legitimate interests of the tenant are not insignificantly impaired, the tenant is entitled to a unilateral special right of termination without notice within a period of 1 month after written notification of the change by the landlord. Further claims are excluded.

Moreover, the landlord is not liable for the late granting or refusal of any necessary official approvals and the tenant is not entitled to any claims for damages or rights of reduction or retention if a purchase is not possible or is delayed due to official measures or orders, unless the late granting or refusal of any necessary official approvals or orders or refusal of official measures is due to the condition or location of the rental property. Compensation claims against public authorities are hereby assigned to the tenant who accepts this, insofar as the landlord is not liable.

1.2.

1.2.1 For existing premises:

In the event that the previous tenant of the rental property does not vacate the premises in good time, the start and end of the rental period shall be postponed accordingly. The landlord shall notify the tenant of the start of the rental period in writing. In the event of a claim for damages due to the previous tenant's failure to vacate the premises on time, the tenant shall assert such claims solely against the previous tenant. For this purpose, the landlord assigns their possible claims against the previous tenant to the accepting tenant. The landlord is not liable for the existence and enforceability of the assigned claims for damages.

1.2.2 For premises to be newly constructed:

The handover shall take place as soon as the rental property is ready for occupancy, even if completion work is still being carried out in the stairwell, cellar, on the facade and outside facilities and other parts of the rental property which are not in the area of the rental space, unless the use of the rental premises is unreasonable. The handover need not take place before the expected handover period stated in the rental contract. If the handover is delayed by more than 6 months beyond the above-mentioned handover period, the tenant may terminate the contract after expiry of this expected handover period by giving 3 months' notice to the end of the month; this termination shall be deemed not to have been declared if the landlord offers to hand over the premises ready for acceptance within the notice period. All other claims of the tenant are excluded. If the landlord has notified the exact date of handover in good time in accordance with Section 3.1 of the rental contract, taking into account the above provisions, this date shall be deemed to be the start of the rental period, even if the tenant is not obliged to accept the rental property due to its condition. The tenant's claims arising from delay from this day remain unaffected.

1.2.3 For the handover, the contracting parties will inspect the premises together and take a record of all complaints. The tenant is only entitled to the right to remedy the complaints; for this purpose, appropriate deadlines are to be agreed upon. Subject to the requirements of Section 3.1 of the rental contract (commencement of rental), the tenant undertakes to accept the rental. Insignificant defects or remaining work shall not entitle the tenant to refuse acceptance of the rental property. The tenant is not entitled to any claims due to obvious defects that are not expressly recorded in the handover record. The contracting parties will note in the record the beginning and the end of the rental period according to Section 3. 3 of the rental contract, the record will be signed by both parties.

1.3. If the main rental space can be heated, the rental space is heated during the heating period within the local business and office hours, whereby a room temperature of 20º C must be achieved. The landlord reserves the right to change the times and scope of heating if this does not affect the legitimate interests of the tenant. Insofar as statutory or official regulations or orders impose other requirements, these must be observed. The tenant shall appropriately heat and ventilate the rental property.

1.4. The tenant treats the rental property with care and attention. Statutory and technical regulations in connection with its operation shall be observed by the tenant at their own expense, including in relation to the landlord. The tenant will obtain the approvals required for their operation themselves. Claims against the landlord are excluded in this respect.

When using the premises, the tenant must observe all official regulations. This also includes keeping emergency escape routes in the rented areas free of obstruction. For example, emergency escape routes must not be obstructed by equipment, materials or electrical devices that constitute a fire load or an obstruction. Doors to emergency exit doors and windows shall not be locked or obstructed. Fire bulkheads to other fire areas must not be opened unless it is ensured that they are immediately and professionally closed again by a specialist company. No cooking units may be operated in open room areas adjacent to emergency escape routes/corridors.

1.5. Before the tenant sets up items which can have a recognisably disadvantageous effect on the rental property (machines, safes, etc.), they shall enquire with the landlord about the load limits of the floor and ceilings and obtain the landlord's written consent, unless the contractual purpose of the rental is to set up and operate such machines. Consent may only be refused on objective grounds. If this is likely to have adverse effects on the building, the rental property or other tenants, the landlord may revoke the permission granted. In any case, the ceiling load is designed for 500 KN/sqm.

The tenant shall observe noise protection and environmental protection regulations. Machines and equipment that cause vibrations or other effects that could disturb other users of the building may only be installed and operated if disturbance to other users of the building is impossible.

1.6. The tenant has to dispose of waste from their commercial activities at their own expense in accordance with public regulations; the waste bins provided for general use are not available for this purpose. However, if such waste containers are generally available, the tenant must use them. Otherwise, the tenant may not store waste outside the premises they have rented, even if only temporarily, unless the landlord has expressly assigned such storage facilities to them in writing. In any case, the tenant must observe the statutory and official waste disposal regulations.

1.7. The tenant shall keep the rental property free of vermin at their own expense. The tenant may only object to the fact that the rental property was already infested with vermin at the time of handover if this is recorded in the handover record, if the tenant notifies the landlord of the infestation promptly after handover or, in the event of later notification, proves that the infestation was already present when moving in or that the tenant or the users of the rental property authorised or tolerated by them were not responsible for the infestation.

1.8. Outside any rented parking spaces, employees of the tenant may not park on the property, not even in places expressly allocated for visitors. They must ensure that these provisions are also observed by their employees and suppliers or contractors.

1.9. The landlord must be notified immediately in writing of any damage that has occurred or is likely to occur, as well as any faults in the rental property and the rest of the building. In case of imminent danger, the tenant will take necessary measures themselves.

1.10. The tenant acknowledges the building and property regulations as part of their obligations under this agreement. The landlord reserves the right to amend or supplement these building and property regulations, insofar as the amendments and supplements are reasonable with regard to the interests of the landlord. Further obligations of the tenant may only be taken up with the consent of the tenant.

1.11. The tenant must observe statutory and technical regulations. On parking spaces, they will in particular urge their employees not to park vehicles that could pose an increased risk of fire or explosion. All vehicles parked on the parking spaces must be registered and insured and comply with the technical regulations.

Parking spaces must be cleaned regularly by the tenant at their own expense. If he does not comply with this obligation, the landlord can carry out this cleaning at the expense of the tenant after a single warning.

2. Supply and service lines

2.1 The tenant may only use the supply networks for electricity, water and - if available - gas to an extent that ensures that they cannot be overloaded. The tenant may, at their own expense and with the prior written consent of the landlord, adapt the supply lines to their requirements. Insofar as necessary, the landlord is obliged to cooperate immediately and to tolerate necessary interventions in their property or to grant the necessary rights - including rights in rem.

2.2 In the event of an interruption in the supply of electricity, gas or water for which the landlord is not responsible, the tenant has no rights against the landlord. Any claims on account of unjust enrichment are excluded from this.

2.3. In the case of water consumption for commercial purposes, the tenant shall install an intermediate meter at their own expense and bear the irrigation and drainage costs after invoicing of the landlord.

3. Advertising activities

3.1. The tenant may use the collective signposting system to a reasonable extent and attach suitable signs to rented parking spaces. This is at the expense of the tenant. The signs must be removed at the end of the rental period.

The landlord has installed a uniform doorbell nameplate system. The tenant shall bear the costs attributable to their sign. The sign is to be removed at the end of the rental period.

3.2. The tenant may not attach other fixtures (company signs, logos, advertising texts, display cases, letterboxes, vending machines, posters, illuminated pictures and steps, flags, window paintings, etc.) to the outside surfaces of the building, the rental premises or to the window panes, even if they are used for advertising or sales purposes.

4. Transfer to third parties

Any transfer of use to third parties and any transfer of rights from this rental contract, in whole or in part, requires the prior written consent of the landlord. The landlord may refuse consent for good cause, in particular if there are serious reasons concerning the identity of the subtenant against its use, if the nature of the intended use is significantly different to the previous purpose of the contract or the other use of the building, or if there are similar reasons that make the subtenancy unacceptable to the landlord. In all other cases, the landlord will give their consent to subletting. The subtenant will presumably be the company CureVac AG, in which case consent is deemed to have been given. A refusal of consent or the revocation of a consent that has been given, which is for good cause, does not give the tenant the right to terminate. In all other cases, the right to terminate the contract for good cause exists with one month's notice to the end of the month.

In the event that the landlord has a bad debt arising from the rental contract, the tenant hereby assigns to the landlord as security all claims to which they are entitled against the subtenant. In the event of bad debt, the landlord is entitled to collect the assigned claims. If the collected amounts exceed the claims of the landlord, the landlord is obliged to pay out the excess amount.

The tenant assumes liability for all damages and disadvantages incurred by the landlord as a result of the transfer of use to third parties; the tenant shall indemnify the landlord from any claims of such third parties.

If the tenant transfers the rental property in whole or in part to a third party without the consent of the landlord, the landlord may demand that the tenant terminates the transfer immediately, but at the latest within one month. Otherwise, the landlord may terminate the rental contract without notice.

5. Rent

The receipt of the money in the account to which the payments are to be made is decisive for the punctuality of all payments. In the event of default, the landlord is entitled to charge interest on arrears at a rate of 5% points above the applicable base rate. The assertion of a further claim for damages is not affected by this. The landlord is entitled to charge a flat rate of Euro 8.00 for each payment request, unless the expense or damage of the landlord is demonstrably less. In the event of default, all payments made by the tenant are first credited against interest, then against operating costs, then against the basic rent, in each case against the oldest debt.

6. Value added tax

6.1. If payment of the rent plus VAT is agreed in the rental contract, the tenant may only carry out actions in the rental property which entitle them to deduct input tax and, if necessary, opts for VAT. Other uses, in particular commercial or professional activities, which do not entitle the tenant to deduct input tax, require the prior written consent of the landlord. The landlord can give their consent subject to an adjustment of the rent to compensate for their possible economic disadvantage.

Before the landlord agrees to such other uses, the parties undertake to specify the premises affected by these other uses in a written addendum to the rental contract and to specify the changed rental payment obligation (part with, part without VAT). The same obligation exists if such other use is added or removed in a spatially defined area.

6.2. The tenant shall impose the same obligations on third parties who use or co-use the rental property. The tenant obliges them to also opt for value added tax. The tenant is aware that violations of their obligations under Section 6 of the GTC can lead to severe pecuniary losses for the landlord. They shall be obliged to compensate for the pecuniary losses resulting from such violation of obligations.

6.3. At the request of the landlord, the tenant shall provide the landlord or the competent tax office in writing with the information allowing an assessment of the extent to which the rental income of the landlord is subject to VAT. The tenant declares that they use the rented premises solely for the performances which entitle them to deduct input tax. The tenant is obliged to inform the landlord in writing without delay.

6.4. These restrictions of use only apply insofar as the landlord's VAT option would otherwise be affected.

7. Operational costs

7.1. Notwithstanding Section 6 of the rental contract, the landlord shall determine and amend the apportionment scale and the settlement period at reasonable discretion if the justified interests of the tenant are not adversely affected thereby, taking into account a fair settlement of the operating costs with respect to several tenants of the building. The landlord is not bound to a selected apportionment scale or settlement period for later settlement periods. In particular, it is possible to distribute the costs according to the ratio of the rented areas to each other or a distribution according to the degree of utilisation or a combination of these two types of distribution.

The landlord must observe legal requirements, in particular the BetrKV (German Regulation on Operating Costs).

The tenant is obliged to pay the incurred, consumption-independent operating costs even if they do not make use of all or part of the services thus satisfied.

7.2. Notwithstanding Section 6 of the rental contract, the landlord may adjust the advance payments to be made by the tenant to the actual change in costs. The landlord settles the advance payments at the end of each calendar year. Any outstanding receivable resulting from the settlement must be paid within one month after receipt of the settlement. If the rental relationship ends during a settlement period, the exact distribution of the operating costs shall be made in the next settlement in the ratio of the rental period to the settlement period, unless the landlord settles at the end of the rental relationship. The tenant is not entitled to an early settlement.

7.3. As far as possible, the tenant will conclude separately billable contracts with the utility companies (e.g. electricity, water).

8. Maintenance

Notwithstanding Section 8 of the rental contract, the following provisions shall apply:

8.1. The tenant shall continuously maintain the rental property in a condition that corresponds to orderly management. The tenant shall carry out the maintenance (inspection, maintenance and repair) of the following items at their own expense:

a) inspection of the electrical equipment installed by the tenant or by the landlord at the request of the tenant in accordance with the relevant German Association of Electrical Engineers (VDE) regulations every 4 years in the case of fixed installations and every 2 years in the case of portable electrical devices.

b) items that the landlord has installed at the request of the tenant or the tenants themselves;

c) glass panels, mirrors and light sources;

d) all systems belonging to the rental property (in particular windows, sun protection systems; doors, locks and locking systems; bell, door intercom and door opening systems; power and lighting systems; supply and disposal lines; washing and toilet facilities; heating and cooking facilities, boilers, intermediate meters, shut-off valves and hands wheels on the radiators and other facilities), whereby the tenant shall bear the costs of inspection and maintenance work in full. In the case of maintenance and repair work, the tenant shall bear the costs insofar as the individual measure does not exceed € 1000.00 net and the total individual measures does not exceed € 50,000.00 net, but not more than 9% of the annual net rent per calendar year.

The tenant shall contribute to major repairs of the aforementioned installations, which are the responsibility of the landlord, in the amount specified in Section 7 (1) of the rental contract. These amounts shall increase to the same extent as the rent.

8.2. In the case of faults whose remedy is the responsibility of the tenant, they shall additionally bear the costs of finding the fault; otherwise the landlord shall reimburse the tenant for these costs.

8.3. The tenant shall carry out their maintenance measures immediately. If they fail to comply with this obligation within a reasonable period despite a written reminder, the landlord may have the necessary work carried out at the expense of the tenant. No reminder or deadline is required to eliminate existing risks.

8.4. Insofar as the tenant is responsible for the repair, the landlord shall assign to the tenant claims against third parties in connection with the repair services.

8.5. If necessary, the tenant shall carry out cosmetic repairs at regular intervals. The work must meet the quality standard of the relevant specialist trade.
Cosmetic repairs include in particular the painting or wallpapering and painting of ceilings and walls, the interior painting of windows and the painting of doors/frames, radiators, surface-mounted water pipes and, if necessary, any built-in furniture. Depending on the pre-treatment, natural wood may only be waxed, oiled or painted with transparent varnish or glaze.

8.6. The landlord shall carry out the cosmetic repairs in the sanitary facilities that may be made available for joint use as required, generally every three years. The tenant has to bear the costs proportionately with the other users entitled to joint use. Paragraphs 1 and 7 shall apply mutatis mutandis to the maintenance in these premises with the provision that the work shall be carried out by the landlord, whereby the tenant shall bear the costs proportionately.

8.7. The tenant shall have the water heaters in the premises which they have rented serviced, cleaned and descaled annually by a specialist company. The tenant must provide evidence of this on request of the landlord.

8.8. If damage or unusual contamination is caused by the tenant, their relatives, employees, suppliers, customers or agents in the building, courtyard, thoroughfare, corridors, stairways, elevators, service areas or similar, the tenant must carry out the necessary cleaning or repair without being asked or is obliged to pay the costs if the landlord carries out the work.

9. Modernisation measures

9.1. Measures to improve the rented areas or other parts of the building or to save energy must be tolerated by the tenant. This also includes conversion work carried out in connection with the new letting of individual premises or the redesign of the entire property. The tenant must keep the premises and areas of the rental property affected by these measures accessible.

Exempt from the landlord's right to demand the tolerance of the tenants is the operation of the laboratories, especially for GMP II, III and GMP III and animal housing. An interruption of operations requires the type, scope and duration of the previous agreement in detail and a cost-benefit analysis. Moreover, the tenant has the right to object to a measure mentioned under 9.1 if this would impair the contractually agreed purpose of use.

9.2. The landlord shall inform the tenant of the expected time, place and type of performance of the measure in accordance with 9.1 within a reasonable period of time before the start of the work; the landlord shall carry out the work in such a way that the tenant's business operations are affected as little as possible.

9.3. Only if a measure according to 9.1 (1) significantly impairs the tenant's business operations for a period exceeding four weeks, the tenant is entitled to counter rights. In all other respects, the tenant's claims and the special right of termination are excluded.

10. Change in the rental property by the tenant

10.1. Installations and alterations of the rented items, installations, lattice on windows, etc. require the prior written consent of the landlord. The landlord may give their permission subject to the condition that the tenant agrees to restore the original condition in whole or in part at the request of the landlord if the tenant no longer uses the change in the rental property themselves or if the tenancy ends. At the request of the landlord, the tenant shall submit suitable plans, the necessary permits under public law and, in the event of an increase in risk, proof of appropriate insurance.

10.2. The tenant bears all costs associated with a measure according to 10.1. The tenant is responsible for compliance with the police regulations; the tenant is liable, even if not at fault, for all damage arising in connection with the execution and operation of a measure according to 10.1. The tenant exempts the landlord from claims of third parties of any kind, which arise in connection with a measure according to 10.1.

10.3. If a measure according to 10.1 poses a danger or if the tenant does not fulfil their obligations which arise from such a measure despite a warning, the landlord can demand a change of the measure according to 10.1 or revoke their consent. Any costs arising from this shall be borne by the tenant. 10.4. The parties undertake to adequately mark and document technical installations and alterations and to provide each other with relevant information.

11. Rent security deposit

11.1. The landlord is entitled, but not obliged, to satisfy any claims from the rental security deposit if the tenant is in default with their obligations and the landlord has given written notice of this with a period of 2 weeks. If the landlord makes use of the rental security deposit during the term of the rental contract, the tenant is obliged to replenish the security deposit accordingly.

11.2. The claim from the security deposit ends two months after settlement of all claims raised from the rental relationship. This does not mean a waiver of other claims.

12. Offsetting and rights to withhold performance, reduction

12.1. Only if and insofar as a demand of the tenant originates from the same contractual relationship and is undisputed or legally binding, may the tenant offset.

12.2. The tenant may only claim rent reductions if they are actually and not only insignificantly prevented from using the rental property for reasons for which the landlord is responsible. The tenant must immediately notify the landlord in writing of the intended reduction. It is not permitted for an earlier month than that in which the notification is declared. The tenant has to calculate the reduction amount. If the landlord does not acknowledge the reduction of rent with regard to reason and amount in writing within one month, the tenant can immediately bring about a judicial assessment.

12.3. The above provision applies accordingly to rights to withhold performance.

12.4. The right to reduce the rent shall not apply in the event of disturbances in connection with energy and water supply, drainage, flooding and other natural disasters for which the landlord is not at least grossly negligent.

13. Tenant insurance

The tenant has the obligation to insure themselves to a reasonable extent against the following cases of damage:

- Burglary and theft;
- Business liability insurance for personal injury and property damage;
- Business interruption insurance;
- Damage that can be caused by the installation, storage or operation of machines, technical equipment or other hazardous installations and items;
- Damage to the equipment, fixtures and items that they have installed.

Insofar as legally and factually possible, the insurance companies must exclude any recourse against the landlord.

14. Liability of the landlord

14.1 The liability without fault of the landlord is excluded. Except in the case of gross fault (intent and gross negligence), the landlord shall only be liable for themselves and their agents in the event of a breach of an essential or typical contractual obligation, i.e. core or cardinal obligations which enable the execution of the contract and on the fulfilment of which the tenant may rely).

This also applies to damage caused by the effects of moisture or water – regardless of the type, origin, duration and extent - or caused by fire, smoke, snow, dry rot, mould or vermin, as well as by technical equipment of the building.

14.2. In case of minor negligence, the landlord is not liable for damages, against those the tenant should insure themselves in accordance with point 13.

The liability of the landlord for damages from loss of life, personal injury or damage to health, which are based on at least a negligent breach of duty by the landlord, or a legal representative or an agent of the landlord, remains unaffected.

14.3. In case of disruptions of the rental use caused by third parties including other tenants of the rental property, the tenant is only entitled to rights to the extent that the landlord is entitled to their own claims against those who caused the disruption. The landlord may assign to them against the disruptive party claims to performance instead of the tenant or leave them to the exercise. Notwithstanding, No. 1, sentence 1 shall apply accordingly to a claim for damages by the tenant if the previous tenant does not return the rental property to the landlord in accordance with the contract. In any case, the landlord must endeavour to work towards the elimination of faults of which they become aware.

14.4. The landlord does not guarantee that the utilities will not change or adjust their performance, especially in terms of type, quality, pressure and voltage. The utilities are not agents of the landlord. In the event of technical disruptions, force majeure, official orders or other complete or partial impossibility, the landlord can completely or partially stop the heating of the property and the operation of the other technical installations (e.g. lifts, ventilation systems, energy and water supply systems). Due to such temporary disruptions, the tenant is not entitled to any rights against the landlord, unless the landlord is at least grossly negligent.

14.5. The liability of the landlord for damages from loss of life, personal injury or damage to health, which are based on at least a negligent breach of duty by the landlord, or a legal representative or agent of the landlord, remains unaffected.
The same applies to the liability if the landlord has guaranteed a certain feature of the property or has fraudulently concealed a defect or if an insurance policy taken out by the landlord covers damage.

15. Liability of the tenant

15.1. The tenant is liable according to the legal regulations.

15.2. Unless otherwise agreed between the parties, the tenant shall immediately, at the latest upon moving out, remedy any damage that falls within their area of responsibility and whose remedy is reasonable with regard to the further use of the rented property. If they fail to comply with this obligation within a reasonable period despite a warning, the landlord may have the necessary work carried out at the tenant's own expense. No reminder or deadline is required to eliminate existing risks.

16. Road safety

From the time of taking over the rental property, the tenant shall be responsible for the safety of the area left solely to them. Excluded from this are the parking spaces. Fulfilment of the obligation to ensure safety on public areas was handed over to a third party. The costs for the proper performance of the necessary actions resulting from the obligation to maintain safety on the roads shall be charged to the tenant in the ancillary costs, measured on the basis of the tenant's rental space share. The tenant shall release the landlord from all claims of third parties arising from a breach of the obligation mentioned in paragraph 1.

17. Protection against competition

The tenant is not entitled to protection against competition.

18. Entering the rental premises

The landlord or a person authorised by the landlord may enter the rental property to inspect its condition at reasonable intervals during normal business hours after giving due notice. The premises may only be entered in urgent and emergency cases for the prevention or elimination of damage; the laboratories, in particular GMP l, ll and lll and the animal housing only in an emergency, even outside normal business hours; the landlord will attempt to notify the tenant in advance. The tenant shall always keep the rental property ready for access.

The landlord, accompanied by interested parties, is also entitled to the rights of paragraph 1 if the landlord wishes to sell or re-let the rental property. The landlord will try to disrupt the business operations of the tenant as little as possible.

19. Body of persons as tenant and change of legal form

19.1. Several tenants are jointly and severally liable.

Legally binding declarations concerning the tenancy must be made by and to all tenants. However, the tenants authorise each other to accept or make such declarations, subject to written revocation until further notice. The authorisation also extends to accepting requests for an increase in rent and the consent thereto. The power of attorney also applies to accepting a termination, but not to the submission of a declaration of termination and the conclusion of a rental termination agreement. A revocation of the power of attorney only becomes effective for declarations which are made after its receipt by the landlord.

19.2. If the landlord has to make payments to the tenant, the landlord can make them to one of them with exempting effect for all of them.

19.3 If the legal form of the tenant changes or if other changes occur in the commercial register or in other contexts important for the tenancy, the tenant must inform the landlord immediately in writing. The landlord will handle this information confidentially.

20. Termination

20.1. The timeliness of the termination is not determined by the sending, but by the receipt of the termination letter.

20.2. The right to extraordinary termination without notice for good cause remains unaffected. If the good cause consists of a breach of an obligation under the rental contract, termination is only permissible after the unsuccessful expiry of a reasonable period of time set for remedy or after an unsuccessful warning. This does not apply if the deadline or the warning obviously has no chance of success, if immediate termination is justified for special reasons, considering the interests of both parties, or if the tenant is in arrears with the payment of the rent in the sense of the following provision a).

In particular, the landlord may terminate the contract without notice if one of the following requirements is met, without the list being exhaustive:

a) the tenant is more than one month in arrears with the payment of the rent or with other payment obligations amounting to one month's rent;

b) the tenant continues the use of the rental property contrary to the terms of the contract or its unauthorised transfer to third parties despite a warning from the landlord;

c) the tenant does not fulfil their other contractual obligations within a reasonable time despite a warning from the landlord;

d) arrangement, insolvency or bankruptcy proceedings or similar proceedings or similar proceedings are not initiated for the assets of the tenant or are not initiated for lack of assets or proceedings are initiated in accordance with Section 807 of the German Code of Civil Procedure (ZPO) or the tenant suspends payments.

e) the tenant has not provided the contractually agreed security in accordance with the contract even after two warnings.

20.3. In the event of a justified extraordinary termination by the landlord, the tenant shall be liable for the rent still to be paid for the rental space which they have rented to the extent that it is not possible for the landlord to let this rental space to another party. This payment obligation also includes the operating costs actually incurred and necessary for the respective remaining part of the rental space, but shall continue to exist at the latest until the end of the policy period or the date of the expiry of the next possible ordinary notice of termination by one of the parties, whichever is earlier.

20.4. The tenant is not entitled to an extraordinary right of termination if, due to a change in their commercial activities after conclusion of the contract, an official permit is refused or withdrawn, or other official orders are issued.
The same applies to impediments affecting the commercial use of the rental property due to external circumstances such as traffic diversions, excavations, roadblocks or emissions.

20.5. In the event that the major part of the rental property is destroyed by an event for which the landlord is not responsible (e.g. fire), the landlord is not obliged to restore the rental property. The landlord can terminate the rental relationship with effect from the time of destruction of the rental property, irrespective of whether the rental premises are rebuilt at a later date or not. Should the rental premises be rebuilt, the tenant has no priority over other applicants for a new rental contract.

20.6. Any termination must be in writing to be effective. Section 545 of the German Civil Code (BGB) does not apply.

21. Return of the rental property

21.1.

21.2. The tenant shall hand over the premises to the landlord unrenovated and cleaned. Within the scope of their liability, the tenant must remedy all damage caused by use and carry out any necessary cosmetic repairs.
The return of the rental property is only deemed to have taken place when the tenant has completely vacated the premises, when the tenant has handed over all keys to the landlord and when the handover has been assessed in a joint inspection report. If the return of the rental property in accordance with the contract is delayed, the tenant is in any case obliged to pay the rent until the rental property is returned in accordance with the contract. If the rental property is returned late, the landlord also reserves the right to further claims for rent and damages against the tenant for not having returned the rental property on time for the landlord to subsequently use.

21.3. In order to check the condition of the rental property in advance and to clarify which fixtures the landlord wants to keep and which changes the tenant has to remove, the tenant will carry out an inspection with the landlord in good time before the end of the rental period.

21.4. As soon as the end of the rental period has been determined, the landlord shall be entitled to provide information about the premises to be rented in an appropriate form at suitable locations in the rental premises. The tenant shall refer prospective tenants to the landlord.

22. Assignment of rights

The landlord is entitled to transfer rights and obligations from this contract in whole or in part to third parties. With regard to the obligations, however, this only applies without the tenant's consent if, at the time of the transfer, the landlord can assume that the third party can fulfil the obligations.

23. Final provisions

23.1. Oral supplementary agreements have not been concluded and are only valid if they are laid down in the rental contract.

23.2. Changes and additions to this contract must be made in writing in order to take effect. This shall also apply to any agreement waiving the requirement of the written form.

23.3. The landlord will store the tenant's data in the admissible manner according to the Data Protection Act for the proper administration of the rental relationship.

23.4. Should individual provisions of this contract be void in whole or in part, this shall not affect the validity of the rest of the contract. The ineffective provision shall be deemed replaced by a provision which comes closest to the purpose of the ineffective provision in a legally effective manner. The same applies to contractual loopholes.

Technologiepark Tübingen-Reutlingen – TTR (Technology Park Tübingen-Reutlingen)

Building and property regulations for the commercial rental contract

These building and property regulations are part of the rental contract. They serve the protection and security of the building and its users. Please comply with these regulations so that all those involved can live together in an orderly and problem-free manner. In the interest of all tenants, the landlord must regard violations of these building and property regulations as a breach of contract.

1. **Mutual consideration**
   The joint use of a building by tenants from different types of companies requires not only good neighbourly relations but also mutual consideration. Noise and odour disturbances must be avoided in the interest of all tenants. For this reason, all devices, machines, etc. whose operation causes noise should be installed in such a sound-absorbing manner that no disturbing transmission of the noise to another rental area can occur. Odour-causing machines, appliances, etc., may only be set up if they are connected to the exhaust air system and prior approval has been obtained from the landlord, who will be happy to provide advice. Smoking is also prohibited in the stairwell and the common areas. Smoking is prohibited in the areas with fire alarm systems. The tenants are not permitted to walk on the unsecured roof areas.

2. **Duty of care of the building's tenants:**
   For the security of the building, it is necessary that the non-automated front doors are closed between 18:00 - 07:00. Any tenant entering or leaving the building during this period is responsible for ensuring that the door is closed.
   Staircases and all other corridors, cellar corridors, balconies etc. which are jointly available for use are intended for the safety of all tenants to be used as emergency escape routes in the event of a fire. These areas may under no circumstances be used for storing - even temporarily - furniture, packaged goods, products and the like. Building and courtyard entrances, gate passages, garage forecourts and access routes to the car parks only fulfil their purpose if they are kept free. Therefore, please do not place any items there.
   The rented areas must be adequately ventilated all year round and heated during the heating period according to the weather. Windows must be kept closed in case of danger of frost, wetness or storm. Open windows must be assessed. Blinds are used solely for sun protection. They may only be extended in good weather conditions. They must always be retracted in bad weather.

3. **Passenger lifts:**
   They are primarily used for passenger transport. Tenants wishing to transport furniture or other loads into their rented premises may, unless a special freight lift is available, use the passenger lift in agreement with the building management, provided it is ensured that the permissible transport weight is not exceeded. The building management provides a special device for the protection of the lift cage free of charge. However, passenger traffic always has priority.

4. **Cleaning and cleanliness obligation:**
   No rubbish, ash, harmful liquids and the like may be poured or thrown into the planting areas, floor drains, hand basins, sinks, toilets and urinals. For reasons of hygiene, please collect waste only in suitable, closed containers. If the landlord provides communal waste bins, the waste may only be disposed of separately according to the type of waste in the appropriate containers. Constant or occasionally disproportionately large quantities of waste may not be disposed of in communal waste bins. The same applies to hazardous waste. Further details to the topic, "refuse" can be taken from the tenant manual.

5. **Frost and moisture protection:**
   Central heating elements must not be completely shut off. Protection against frost damage must be ensured even during the absence of tenants. Frozen water pipes may only be defrosted by a specialist.

6. **Obligations in the interest of general public safety and order:**
   These building regulations already consider a part of the official regulations. However, they cannot fully cover the different regulations. Please observe official regulations (especially building and fire police) even if they are not explicitly regulated in these building regulations.

Tübingen, Jan 2018

Building regulations BTZ

Exhibit 10.22

This document is an English translation of a document prepared in German. In case of any ambiguity, the German text shall prevail.

RENTAL CONTRACT – NO. 1/CureVac/2018

between

	Fränkel Immobilien-Service GmbH (Register Court Ulm – HRB 722439)
Represented by the managing director	Mr Peter Buck
Based in	88045 Friedrichshafen Allmandstraße 6
	(hereinafter referred to as "**landlord**")

And

	CureVac Real Estate GmbH (Register Court Stuttgart – HRB 754041)
Jointly represented by the managing directors	Ms Dr Simone Dahlmanns and Mr Dr Florian von der Mülbe
All based in	72076 Tübingen Paul-Ehrlich-Straße 15
	(hereinafter referred to as "**tenant**")

the following rental contract is concluded:

Preamble

The landlord intends to acquire the land in the district of Tübingen Real Estate no. 6923/14 Friedrich Miescher-Straße, buildings and open space, building site, 4260m^2, from the University City of Tübingen (hereinafter "building land") and to sell it after completion of the buildings described below, which the tenant is aware of and agrees to. In the event of sale of the rental properties, all rights and obligations under this contract shall pass to the future buyer and the rental relationship shall continue between the buyer of the rental properties and the tenant on the basis of this contract.

The landlord shall construct logistics, office and laboratory buildings on the building site in two construction phases - construction phase 1 for building 1 and construction phase 2 for building 2- (hereinafter also referred to as rental property 1 or rental property 2) for use by the tenant. During planning and construction, special emphasis is placed on both an energy-efficient design of the building and a high degree of suitability for the purpose intended by the tenant.

With this proviso, the parties agree the following:

Section 1 Rental property, rental purpose

(1) The landlord becomes the owner of the land at Friedrich-Miescher-Strasse 15 in Tübingen, Real Estate No. 6923/14 of the district of Tübingen, entered in the land register of Tübingen, plot 19, sheet 3644 and sheet 4261. On the land, the landlord will construct logistics, office and laboratory buildings in two construction phases in compliance with the generally recognised rules of technology and architecture, the contractual agreements and using only approved building materials with a total area of approx. 6,973.35 m^2 (construction phase 1) and a total area of approx. 4,516.08 m^2 (construction phase 2). The location of the buildings is shown in the site plan, Annex 1.

The areas indicated for the buildings are approximate dimensions. The area calculation attached to the landlord's building application of 04.17.2018, submitted to the City of Tübingen on 04.19.2018, is authoritative.

For the new build in construction phase 1, this is shown in the site plan attached as **Annex 1** to this contract. The rental areas for construction phase 1 are shown in the floor plans, sections and views attached as **Annex 2** to this contract (collectively "planning documents"). The design and equipment of the individual areas are set out in the building specifications as **Annex 3** to this contract ('rental property 1').

For construction phase 2, the corresponding annexes Site plan **Annex 1a**, planning documents **Annex 2a** and building description **Annex 3** ("rental property 2") apply.

The tenant shall procure all furnishings and fixtures at their own expense and install them in the rental property. The landlord and tenant have drawn up a list of interfaces for this purpose and to define their reciprocal obligations. This list of interfaces is attached to this contract as **Annex 4** and takes precedence over the contents of the building specifications insofar as interface issues are dealt with in the building specifications.

All annexes to this contract are initialled by the parties and form the basis of the rental contract. Insofar as individual installations are designated "CureVac AG", this refers to the tenant.

The parties agree that, with the exception of the parking spaces in the underground car park, other required parking spaces are not part of this rental contract.

In the event of contradictions between planning documents and building specifications, the contracting parties shall endeavour to reach mutual decisions on the type and quality of execution of construction and/or equipment. If no agreement can be reached, the contents of the building specifications take priority over those of the planning documents.

In the event of incomplete or overlapping provisions in the building specifications, work or equipment is owed which a tenant can normally expect in such a contractual property. The landlord decides on this at reasonable discretion in accordance with Section 315 of the German Civil Code. The same applies if the tenant does not exercise a right of choice granted to them between different equipment variants within a reasonable period of time set by the landlord in writing. The design of the outdoor facilities shall be in accordance with the outdoor facilities plan, **Annex 5**. A representation of the external design resulting from the **Annexes 1-4** is therefore not binding. The furnishings and equipment shown in the plans are only intended to illustrate the room conditions and floor space and are not owed by the landlord within the scope of this rental contract, as is the case with the entire IT installation.

Overall, the landlord must ensure that the implementation planning is coordinated with the tenant.

The landlord has the right to make changes to the rental property in comparison with the information contained in **Annexes 1 to 5** or the Annexes marked with "a", if the changes are either necessary to obtain the building permit or if the changes do not significantly affect the interests of the tenant. Such a significant impairment of the tenant's interests exists if the intended size of the area of the rental property would change by more than +/-3.00% or if the contractual use of the rental property would become more expensive or impede the tenant due to the change.

The parties undertake to contractually fix all deviations from the agreed building specifications / planning documents in a written supplement to this rental contract.

(2)

The rental properties are leased for the commercial purpose of office and administrative use as well as the storage and logistics of materials and substances in connection with the development, production and marketing of pharmaceuticals.

A change of use requires the consent of the landlord. This must be granted if the intended change of use is permitted under building law. The landlord may refuse consent to the change of use for good cause.

(3)

The Landlord guarantees the legally approved use of the respective rental property in accordance with Section 1 No. (2) Sentence 1 of this contract at the time of handover. All official approvals which become necessary in the course of the rental period and which are connected with the use and operation of the respective rental property within the meaning of No. (2) shall be obtained by the tenant at their own expense, insofar as these are not due to the location or specific structural condition of the rental property (e.g. fire protection) or to a change in official or technical requirements for the respective rental property which comes into force after the signing of the rental contract.

(4)

The parties agree for the sake of clarity that the landlord owes the building permit for both rental properties without the total number of parking spaces required under building law. To this end, the tenant and the University City of Tübingen shall jointly draw up a parking space concept, on the basis of which the parking space verification in accordance with the building regulations shall be carried out, if necessary in conjunction with the relevant motor vehicle parking space statutes of the University City of Tübingen. All costs incurred in connection with the conceptual planning, the application procedure, the approval and the production of the vehicle parking spaces required by building law or requested by the tenant shall be borne in full by the tenant in relation to the landlord, including any parking space redemption fees.

Section 2 Duration of contract, handover

(1)

The rental relationship begins with the date of the mutual signing of this rental contract. The agreed fixed rental period shall commence upon handover of the rental property 1.

The Landlord shall prepare the respective rental property in accordance with the attached plans and the description of services and hand it over in accordance with the implementation schedule (**Annex 6**).

The landlord undertakes to hand over the respective rental property immediately after completion of the respective rental property as described in Section 1 para. 1 of this contract, presumably on 10.15.2019, but no later than as of 01.15.2020 for rental property 1 and 04.15.2020, but no later than 09.15.2020 for rental property 2. The date of handover of the respective rental property shall be approximately stated by the landlord, if possible two months in advance, and shall be binding for both landlord and tenant at least 14 days in advance. On the day of the respective handover, a handover protocol to be signed by both contracting parties shall be drawn up on a form to be provided by the landlord on the basis of **Annex 7**. Any defects detected in the handover protocol must be remedied by the landlord without delay, at the latest within one month. Minor defects or residual work present at the handover of the respective rental property, which do not significantly impair the use by the tenant and which can be remedied or carried out without significantly impairing the use by the tenant, do not delay the handover or do not entitle the tenant to refuse the handover. Should the tenant accept the rental property despite considerable defects, this does not imply recognition of the respective rental property as free of defects.

The parties agree that after handover of the rental property 1, the final start of the rental period in accordance with number (2) below will be specified in a supplement to this rental contract, which is to be signed by both parties and which is to become an integral part of the present rental contract in compliance with the legal requirements for the written form (Section 578 para. 2,550, 126 of the German Civil Code (BGB)).

The above-mentioned probable handover date(s) can only be met by the landlord if the building permit and building permission for the planned building project has been issued by the lower building authority by 07.16.2018 at the latest. If the granting of the building permit and the building clearance is delayed without the landlord being responsible for this, both the above-mentioned probable and the latest handover date shall be postponed by the corresponding length of time. Notwithstanding the rights of withdrawal in Section 14 resulting from a postponement of the handover of the rental property due to a delay in the issue of the building permit and building permission, the parties to the contract may not make any claims against the other party.

(2)

The rental period for both rental properties is agreed for a fixed period. The rental period shall be 15 (in words "fifteen") years from the first full calendar month after handover of rental property 1 ("rental period"). During this period, even before the start of the rental period, the proper notice of termination is excluded.

(3)

The tenant has the right to request the extension of the rental relationship (option) twice for five years each time (hereinafter referred to as "option period"). The first option must be asserted in writing by the tenant to the landlord at least 15 months before the end of the rental period. This applies accordingly to the second option with the proviso that the option must be exercised 15 months before the end of the first option period. If the tenant does not exercise an option, the rental relationship ends at the end of the rental or option period.

(4)

After expiry of the option periods, the rental relationship is extended by one year in each case unless it is terminated by one of the two parties with 12 months' notice to the respective expiry date.

The parties agree that the receipt of the notice of termination by the other contracting party shall be decisive for the timely receipt of the notice of termination.

(5)

A tacit extension of the rental relationship according to Section 545 of the German Civil Code is excluded.

Section 3 Rent

(1) The monthly rent for rental property is 1 net cold:

€/month 87,520.00

plus advance payment of operational costs on the operational costs currently apportionable under clause (5)	€/month	9,000.00
Subtotal rent incl. AP OC net	€/month	96,520.00
plus statutory VAT (currently 19 %)	€/month	18,338.80
monthly rent incl. AP OC gross	€/month	114,858.50

The total monthly rent for rental property 2 is:

€/month 87,520.00

plus advance payment of operational costs on the operational costs currently apportionable under clause (5)	€/month	9,000.00
Subtotal rent incl. AP OC net	€/month	96,520.00
plus statutory VAT (currently 19 %)	€/month	18,338.80
monthly rent incl. AP OC gross	€/month	114,858.50

each including the rented parking spaces in the underground car park

The total monthly rent for both rental properties ("total rent") is

€ 229,717.60

(2)

The monthly rent is owed from the time the respective rental property is handed over. If the handover takes place during a month, the rent for this month is owed pro rata temporis. From handover of rental property 2 the total rent is to be paid.

(3)

The rent is to be paid on the 1st calendar day of each month, monthly in advance, to an account to be named by the landlord. For determining punctuality of payment, it is not the dispatch but the receipt of the money that is decisive. The landlord will request the first rent from the tenant in writing, stating the account details.

(4)

The tenant may not set off any counterclaims or exercise a right of retention against the due rent or other demands of the landlord, unless these counterclaims have been recognised or legally assessed. The right according to Section 536 (1,2 and 3) of the German Civil Code to reduce the rent due to defects of the rental property remains unaffected.

(5)

In addition to the rent, the operational costs are allocated to the tenant in accordance with the current version of the Operating Costs Ordinance and the management costs. Unless otherwise provided for in this contract, the currently apportionable operational costs as well as the anticipated management costs are listed in the list as **Annex 8** to this contract.

(6)

The tenant undertakes, as far as possible, to invoice operational costs directly to the supply and disposal companies and to make the necessary declarations.

(7)

The landlord is entitled to demand an appropriate monthly advance payment for the remaining operational costs under consideration of Section 3 Nos. (5) and (6). Until further notice, invoices for operational costs will be issued at the end of the following calendar year. Any difference resulting from the invoice (subsequent payment/refund) shall be settled by the respective debtor in favour of the respective creditor within four weeks after receipt of the respective invoice. The landlord is entitled to adjust the monthly advance payment of operational costs according to the change in operational costs of the previous accounting period.

(8)

Both the monthly rent specified under § 3 number (1) of this contract and the monthly advance payment of operational costs are to be paid in each case plus the respectively valid statutory VAT (currently 19%). In this regard, the landlord, with reference to 514 para. 4 sentence 1 of the German Value Added Tax Act (UStG), states that they are registered with the Friedrichshafen tax authority.

Section 4 Indexation clause

(1)

If the consumer price index officially determined and published by the Federal Statistical Office in Wiesbaden for the Federal Republic of Germany (current basis 2010=100) as compared to the level at the time of conclusion of this contract) increases or decreases by 10% or more, the currently applicable rent shall be changed to reflect the percentage change in the index. The request for adjustment must be asserted in writing by the respective entitled party and comes into force on the first day of the month following the entitled assertion.

(2)

In each case where the index is changed again by 10% or more compared to the level on which the previous adjustment was based, the procedure shall be repeated in accordance with Section 4 No. (1) of this contract.

(3)

The contractually agreed indexation clause is subject to the Price Clause Act (PrKIG). The contracting parties assume that the agreed index is not subject to the price clause prohibition. Should this assumption not apply, the index legally permitted under PrKIG which comes closest to the invalid index shall be deemed agreed.

(4)

If an index recalculation is published during the term of the contract, the latest calculation must be used. The date of transition is the month from which the Euro amount was last adjusted to the index development. Past payment obligations are to be regarded as closed; due to an index recalculation, the monetary amounts paid are not recalculated again retroactively.

(5)

Should the Federal Statistical Office rebase the index agreed in Section 4 item (1) of this contract or discontinue its continuation in whole or in part, the new calculation basis or the respective successor index shall apply or an index which reflects the value protection intended by the contracting parties in a comparable manner to the index last applicable.

Section 5 Subletting

(1)

A complete or partial subletting requires the written consent of the landlord. Consent may only be denied for good cause, in particular if the purpose of use is to be changed. Consent shall be deemed to have been given if the tenant has transferred the rental property in whole or in part to third parties who are associated with it within the meaning of Section 15 et seq. German Stock Corporation Act (AktG) for use.

(2)

The liability of the tenant for all claims of the landlord from this contract remains unaffected by the subletting.

Section 6 Maintenance, repair and upkeep of the rental property

(1)

The maintenance and repair of the rental property is the responsibility of the landlord at their own expense, unless otherwise stipulated below. The landlord shall maintain the respective rental property during the entire rental period and, if applicable, option period (together "rental duration") in a condition corresponding to the contractual use, taking into account all official regulations, in particular with regard to workplace guidelines and fire protection devices and carry out work in this respect in coordination with the tenant and with appropriate consideration of the business operations and business interests of the tenant. Necessary changes in condition, in particular also compliance with official regulations, which are attributable to the use of the tenant, are to be arranged by the tenant at their own expense.

(2)

The parties agree for clarification that repair, maintenance, upkeep and repair work on all items, annexes and equipment brought into the respective rental property by the tenant are to be carried out entirely by the tenant.

(3)

Minor repairs up to a maximum net amount of € 350.00 in each individual case, but not exceeding € 10,000.00 net per rental year, shall be borne in full by the tenant. The above values are increased in accordance with the agreements in Section 4 of this contract.

(4)

The tenant is responsible for all cosmetic repairs in the rental premises. These include in particular painting the walls and ceilings. They must be carried out as soon as this becomes necessary due to wear and tear.

(5)

Care and maintenance of all technical equipment, facilities and pipe networks belonging to the respective rental property, such as automatic doors, roller-/ sectional gates, heating, ventilation, RT system, security lighting system (central or remote), fire alarm system, burglar alarm system, sprinkler system, etc., shall be assumed by the tenant, insofar as they are not required to carry out the work according to Section 6 No. (2) of this contract in any case at their own expense. The tenant shall provide the landlord with corresponding proof of maintenance.

(6)

The tenant shall be liable to the landlord for damage to the respective rental property caused by the culpable conduct of his employees, suppliers, customers, craftsmen, visitors, subtenants or similar, without this being the fault of the tenant. The tenant is responsible for proving that there was no culpable conduct. This liability does not apply insofar as the above-mentioned damages are due to a grossly negligent breach of duty by the landlord or to an intentional or grossly negligent breach of duty by one of their legal representatives or their agents.

Section 7 Structural changes, advertising facilities

(1)

Structural changes to the respective rental property, especially in the case of an intervention in the static construction of the building, are only permitted with the consent of the landlord. Any structural changes carried out by the tenant must be carried out professionally and at least correspond to the structural standard of the respective rental property. Notwithstanding No. (4), permissible structural changes made by the tenant at the end of the contract do not have to be dismantled; they may, at the tenant's discretion, remain in the respective rental property without compensation. If the tenant dismantles structural changes, they must restore the original condition of the respective rental property at their own expense.

(2)

The landlord may carry out repairs and structural changes which become necessary to maintain the respective rental property or to remedy damage, after prior consent of the tenant, the consent may only be denied for good cause. The tenant must keep the premises under consideration accessible and must not obstruct the execution of the work. In the case of repairs and structural changes in laboratory rooms, the landlord shall coordinate the type, scope and duration of the work with the tenant and then carry out the work on the basis of the agreements made. The rooms may be entered in a urgency and in cases of emergency to prevent or remedy damage, the laboratories may only be entered in an emergency, even outside normal business hours; the landlord will attempt to notify the tenant in advance.

(3)

Insofar as work is permitted under Section 7 Nos. (1) and (2), the tenant may only demand replacement or reduction if they can prove that the work completely or partially precludes or significantly impairs the use of the respective rental property for the agreed purpose.

(4)

If the tenant brings items into a rental property, there is no transfer of ownership to the landlord, except in the cases of Section 946 et seq. German Civil Code. Upon transfer of ownership in these cases, the financial compensation provided for by law in accordance with Section 951 of the German Civil Code shall be applied.

(5)

In agreement with the landlord, the tenant is entitled to install appropriate advertising facilities on the buildings at their own expense. Upon termination of the rental relationship, the tenant shall restore the previous condition.

Section 8 Traffic safety obligation

The tenant shall assume and fulfil all traffic safety obligations in the respective rental property from the time of handover. This also includes the obligation to clear and grit the access to and outside areas of the rental property in winter.

Section 9 Extraordinary termination

The landlord may terminate the rental relationship without notice if the tenant is in arrears with an amount equivalent to two months' rent despite a warning with a grace period set by registered letter. The legal rights of the tenant to extraordinary termination remain unaffected.

Section 10 Insurance

(1)

The tenant undertakes to insure at their own expense all items in their ownership in the respective rental property, e.g. technical systems, equipment and, if applicable, pipe networks, all of their technical facilities and, if applicable, equipment, the risk of glass breakage and public liability insurance.

(2)

Should the tenant wish the landlord to include technical equipment, facilities, pipe networks or operational facilities which are owned by the tenant and which are fixed to the building in the building's property insurance, the tenant must inform the landlord in writing. The additional premiums charged by the property insurer for this purpose shall be borne in full by the tenant.

(3)

To cover damage caused by fire, storm, hail, damage caused by other natural hazards as well as damage caused by mains water, the landlord shall take out adequate building insurance as well as property and land owner's liability insurance for the rental property.

Section 11 Rent security deposit

(1)

a) Two weeks before handing over the rental property, the tenant shall provide a rent deposit of € 2,756,611.20 (gross rent in accordance with Section 3 No. (1) of the contract for rental property 1 including VAT for 24 months). The landlord may use the deposit to satisfy any claims they may have against the tenant during or after termination of the rental duration in connection with the contract. The landlord is obliged to inform the tenant in advance of any claim from the deposit. If the tenant makes use of the deposit during the rental duration, the tenant is obliged to immediately replenish it to the agreed amount.

b) Two weeks before handing over rental property 2, the tenant shall pay a deposit of €2,756,611.20 (gross rent in accordance with Section 3 No. (1) of the contract for rental property 2 including VAT for 24 months). The landlord may use the deposit to satisfy any claims they may have against the tenant during or after termination of the rental duration in connection with the contract. The landlord is obliged to inform the tenant in advance of any claim from the deposit. If the tenant makes use of the deposit during the rental duration, the tenant is obliged to immediately replenish it to the agreed amount.

(2)

The deposit is to be made in the form of a transfer to a deposit account to be named by the landlord. The deposit is to be invested with interest. An interest payment increases the security and is due to the tenant after termination of the contract.

The tenant may also provide security in the form of an irrevocable, unconditional and directly enforceable bank guarantee, in which the right of deposit, the defence of contestability and set-off and the right of advance action are excluded; however, the waiver of the defence of set-off shall only apply to the extent that the counterclaim has not been recognised or legally assessed. Only a German commercial bank can be a suitable guarantor. The bank guarantee must provide for the exclusive jurisdiction of the Regional Court of Tübingen and the exclusive application of German law.

(3)

The landlord is entitled to refuse to hand over the respective rental property if the tenant has not provided the deposit according to Nos. (1) and (2). Irrespective of the refused handover of the rental property, the tenant shall be obliged to pay the rent from the point in time at which the handover could have taken place if the deposit had been made in time. The extraordinary right of termination of the landlord remains unaffected.

(4)

The landlord must return the deposit six months after the rental property has been returned in accordance with the contract and any claims have been settled in full, but not before two months have elapsed after the landlord has submitted a final invoice for operating and ancillary costs. If necessary, a partial return must be made

Section 12 End of the rental duration

At the end of the rental duration, the rental property is to be handed over cleaned with all keys in the condition that can be expected after careful handling during the rental duration and after execution of the contractually agreed maintenance and repair work. With regard to structural changes, Section 7 of this contract shall apply.

All keys, including those procured by the tenant themselves, must be returned.

Section 13 Deadlines

The landlord has submitted an application for a building permit for the planned entire construction project, which is capable of being approved, on the basis of the documents mentioned in Section 1 No. (1) of this contract to the competent lower building authority, the City of Tübingen, on 04.19.2018. Reference is made to Section 1 No. (4).

Section 14 Rights of withdrawal

The parties have agreed on the following rights of withdrawal, which shall apply to the contract as a whole. If a right of withdrawal is exercised, the rental relationship does not come into existence or ends when the withdrawal takes effect.

(1)

The tenant expressly reserves the right of withdrawal from this contract. This right may be exercised by the tenant if

a) no enforceable building permit for the rental property in favour of the landlord has been obtained by 10.20.2018; or
b) construction has not commenced by 11.15.2018 at the latest for construction phase 1 or by 04.15.2019 at the latest for construction phase 2; Section 2 No. (1) Paragraph 2 of this contract shall apply accordingly; construction in this sense shall be deemed to have commenced when the construction site has been set up on the building site and the excavation of the building pit has begun; or
c) one of the rental properties has not been completed and handed over by the latest time of handover as provided for in Section 2 No. (1) - irrespective of an extension of the deadline in accordance with Section 2 No. (1), last paragraph - and cannot be completed and handed over within a further 6 months due to significant actual or legal circumstances. The latter is accepted if the rental property is not completed and handed over within the aforementioned additional period of 6 months. If rental property 1 has already been handed over, the parties will negotiate an adjustment of the rental contract with regard to the rental property, rental period and rent as well as an alternative planning for rental property 2, irrespective of the forfeiture of a contractual penalty by the landlord.

(2)

The contracting parties agree that the withdrawal from the contract is to be exercised by the tenant in writing as follows:

- to the above No. (1) a: taking into account the possible postponement Section 2 No. (1) Paragraph 2 until 11.15.2018 at the latest.
- to the above No. (1) b: taking into account the possible postponement of Section 2 No. (1) Paragraph 2 until 07.15.2019 at the latest with regard to rental property 1 and until 12.15.2019 at the latest with regard to rental property 2
- to the above No. (1) c: no later than three months after the unsuccessful expiry of the above-mentioned 6-month period.
- The receipt of the notice of withdrawal to the landlord is decisive for the timeliness of the withdrawal.

(3)

The landlord expressly reserves the right of withdrawal. This can be exercised if:

a) The landlord expressly reserves the right of withdrawal. This right may be exercised if: a legally binding purchase contract between the landlord and the University City of Tübingen in the form of Section 311b of the German Civil Code has not been concluded for the building plot by 06.30.2018 at the latest.

or

b) The landlord expressly reserves the right of withdrawal. This right may be exercised if: the building permit for the planned construction project on the rental property has not been issued in an enforceable manner by 10.20.2018.

(4)

The contracting parties agree that the withdrawal from the landlord is to be exercised in writing as follows:

- to the above No. (3) a: 07.31.2018 at the latest
- to the above No. (3) b: 11.20.2018 at the latest

The receipt of the declaration of withdrawal to the tenant is decisive for the timeliness of the withdrawal.

(5)

In the event that one of the contracting parties makes use of a right of withdrawal in accordance with Section 14 of this contract, the parties mutually waive all claims for damages against the other party, except to the extent that these arise due to death, personal injury or damage to health, or for damages based on a grossly negligent breach of duty by the other contracting party or on an intentional or grossly negligent breach of duty by one of their legal representatives or their vicarious agents. This shall not apply if the landlord has not submitted a complete and approvable building application which meets the requirements of the development plan and the state building regulations of Baden-Württemberg and the implementation regulations issued for this purpose (LBO AVO, LBO WO) or if the latest handover date in accordance with Section 2 No. (1) is exceeded.

Section 15 Contractual penalty for late handover

If the landlord has not handed over rental property 1 in accordance with Section 1 No. (1) to the tenant by 01.15.2020 at the latest or rental property 2 has not been built in accordance with the contract by 09.15.2020 at the latest, the landlord is obliged to pay a contractual penalty of €5,000.00 for each day or part thereof which the tenant is unable to use the respective rental property due to the delayed handover, but not more than one month's rent for the rental property concerned. Section 2 No. 1 paragraph 2 of this contract shall apply accordingly. This does not exclude the tenant's assertion of further damages.

Section 16 Temporary storage use rental property 1/construction costs

(1)

The building application for rental property 1 and 2 was prepared and submitted by the landlord on the basis of the documents (site plan / floor plans / building specifications) attached to this contract as **Annexes**. Reference is made to Section 1 No. (1) of this contract.

(2)

If and insofar as the tenant intends to have the storage and/or logistics space on the ground floor and 1st floor of rental property 1 converted into office space, the tenant shall notify the landlord in writing. Landlord and tenant agree that the conversion into office space is only possible in relation to whole floors on the ground floor and first floor and must comply with the equipment standards in **Annex 3** to this contract. Landlord and tenant shall agree on the start and duration of the dismantling, conversion and extension work. Landlord and tenant agree for clarification that for the period of interruption of use due to the dismantling, conversion and extension work on the ground floor and 1st floor, the rent shall remain unchanged and the tenant shall not be entitled to withhold or reduce the rent during this period, in particular with reference to the dismantling, conversion and extension work on the ground floor and 1st floor, irrespective of the legal grounds.

(3)

It is agreed between the landlord and tenant that in the event of the dismantling of the storage/logistics space on the ground floor and first floor and a conversion/fitting of office space, the tenant shall bear the costs arising from this in full.

If a change in the purpose of use is to be applied for at the competent authority, the landlord is obliged to submit a corresponding building application to the competent authority without delay at their own expense and in consultation with the tenant.

(4)

The landlord and the tenant agree that the tenant does not acquire ownership of dismantling and installation work carried out by the landlord on rental property 1, nor of the equipment brought in by the landlord, nor of the rental property as a whole by assuming the costs. The rent for rental property 1 remains unchanged.

(5)

In the event of a change of use and/or a corresponding conversion, the parties shall immediately prepare a written supplement to the rental contract together with plans for this and link it to this contract.

Section 17 Rental property 2 parking spaces

The landlord allows the tenant, after handing over the rental property 2 in accordance with Section 1 in conjunction with Section 15 of this contract, to create vehicle parking spaces on the partial areas of the property designated for rental property 2, as shown on the site plan for the building permit, for the exclusive use of the tenant's employees, visitors and customers. All services in connection with planning, approval, construction, maintenance, repair, replacement renewal, use and dismantling of the parking spaces and their access roads shall be carried out by the tenant at their own risk and entirely at their own expense. The tenant is also responsible for the traffic safety obligation for all parking spaces and access roads; this expressly includes the removal of snow and ice in winter. At the request of the tenant, the landlord shall, unless the landlord has good cause to refuse to do so, make all relevant declarations. In connection with the creation of the parking spaces on the part of the tenant is expressly referred to in Section 1 No. (3) para. 2 of this contract.

Section 18 Assumption of debt

CureVac AG (Registration Court Stuttgart - HRB 754041), represented by the members of the Management Board, Dr Franz-Werner Haas and Dr Mariola Fotin-Mleczek, residing at Paul-Ehrlich-Straße 15, 72076 Tübingen, Germany, irrevocably and jointly and severally assumes the obligations of the tenant under this rental contract after completion of their studies and in full knowledge of the contents of the present rental contract.

Section 19 Loss of the rental properties

In the event of the loss of the rental property, the landlord is not obliged to rebuild the rental property. The rights of the tenant remain unaffected. The landlord hereby undertakes to pass on to the tenant the proportional compensation of the building insurer for the parts of the building constructed by the tenant and the equipment installed by the tenant.

Section 20 Final provisions

(1)

The parties agree on a six-week binding period for the application to conclude this contract, starting on the day of the first signing of the contract. Acceptance of the application must take place within the aforementioned period, but not the receipt of the acceptance by the applicant. In this respect, the timeliness according to Section 151 of the German Civil Code is waived. Should the last signature be made outside the application commitment period, this is to be regarded as a new application, for which a six-week commitment period applies.

(2)

The rental parties are aware of the special statutory written form requirements of Sections 550, 578, 126 of the German Civil Code. They hereby mutually undertake to perform all actions and make all statements at the request of either party at any time which are necessary to comply with the statutory written form requirement and not to terminate the rental contract prematurely with reference to non-compliance with the statutory written form. This applies not only to the conclusion of the original contract/main contract, but also to supplementary, amendment and expansion contracts. This provision does not apply to any buyer of the rental property who, as a result of the acquisition by act of law in accordance with Section 566 of the German Civil Code, enters into the rental relationship in place of the landlord.

(3)

Should a condition of this contract be or become legally ineffective in whole or in part, this shall not affect the validity of the remaining conditions and the contract as a whole. The contracting parties undertake to replace an ineffective condition or an ineffective part of a condition with a legally effective condition that corresponds to the intended economic purpose of the ineffective condition.

(4)

There are no verbal ancillary agreements to this contract. Subsequent supplements and changes are only effective if they are set down in writing. This also expressly applies to the amendment of the written form requirement.

(5)

The place of performance and jurisdiction for all disputes arising from this contract is Tübingen.

(6)

The tenant confirms that they have received the contract from the landlord prior to its conclusion and signing. They also confirm that they have had sufficient opportunity to review and discuss the individual contractual conditions with the landlord and that they have understood the contents of the contract.

(7)

Each party shall receive a copy of this contract.

Section 21 Annexes

Subsequent annexes are integral parts of the contract:

Annex 1	Site plan BA1
Annex 1a	Site plan BA2
Annex 2	Floor Plans, Sections and Views BA1
Annex 2a	Floor Plans, Sections and Views BA2
Annex 3	Building description BA1, BA2
Annex 4	Interface list
Annex 5	Plan of outdoor facilities
Annex 6	Schedule for completion
Annex 7	Form for handover protocol
Annex 8	Statement of operating costs

Tübingen, [06. June 2018]

/s/ Peter Buck
For Fränkel Immobilien-Service GmbH
Managing Director Peter Buck

- Landlord -

Tübingen, [06. June 2018]

/s/ Dr Florian von der Mülbe
For CureVac Real Estate GmbH
Managing Director Dr Florian von der Mülbe

- Tenant -

/s/ Dr Simone Dahlmanns
For CureVac Real Estate GmbH
Managing Director Dr Simone Dahlmanns

- Tenant -

Tübingen, [06. June 2018]

/s/ Dr Franz-Werner Haas
For CureVac AG
Dr Franz-Werner Haas

Exhibit 10.23

This document is an English translation of a document prepared in German. In case of any ambiguity, the German text shall prevail.

Supplement to the rental contract

Between

Fränkel Immobilien-Service GmbH, Allmandstraße 6, 88045 Friedrichshafen

(hereinafter, “landlord”)

And

CureVac Real Estate GmbH, Paul-Ehrlich-Straße 15, 72076 Tübingen

(hereinafter, “tenant”)

(together hereinafter, “parties”)

Preamble

On 6 June 2018, the parties concluded a rental contract for logistics, office and laboratory buildings on the land at Friedrich-Miescher-Strasse in the Tübingen district.

The landlord acquires this plot of land from the University City of Tübingen and then develops the rented property.

In Section 14 (3) of the rental contract, the landlord reserves the right to withdraw from the rental contract if a legally binding purchase contract for the building plot has not been concluded between the landlord and the University City of Tübingen in the form of Section 311 b German Civil Code (BGB) by 30 June 2018 at the latest. In accordance with Section 14 (4) of the rental contract, the landlord can exercise the right of withdrawal in writing by 31 July 2018 at the latest.

There were delays in the conclusion of the intended property purchase contract between the University City of Tübingen and the landlord; this means that the purchase contract between the University City of Tübingen and the landlord cannot be notarised as planned.

Against this background, the contracting parties agree to the following new provision to Section 14 (3) and (4) of the rental contract as a supplement to the rental contract dated 6 June 2018:

1. Section 14 (3) (a) of the rental contract is amended as follows:

   "The landlord expressly reserves the right to withdraw from the contract. This can be exercised if:

   a) a legally binding purchase contract between the landlord and the University City of Tübingen in the form of Section 311 b of the German Civil Code (BGB) has not been concluded for the building plot by 31 August 2018 at the latest."

2. Section 14 (4) of the rental contract is amended as follows:

   "The contracting parties agree that the landlord's withdrawal from the contract must be exercised in writing as follows:

   - to the above point number (3) a) by 31 August 2018 at the latest"

3. The remaining provisions of the rental contract dated 6 June 2018 remain unaffected.

Friedrichshafen, [16 July 2018]

/s/ Fränkel Immobilien-Service GmbH
Fränkel Immobilien-Service GmbH

Tübingen, [23 July 2018]

/s/ CureVac Real Estate GmbH
CureVac Real Estate GmbH

Tübingen,

/s/ Pierre Kemula
Pierre Kemula
Chief Financial Officer

/s/ Dr. Franz-Werner Haas
CureVac AG
Dr. Franz-Werner Haas
Chief Corporate Officer

This document is an English translation of a document prepared in German. In case of any ambiguity, the German text shall prevail.

2. Supplement to the rental contract
dated June 6, 2018
and 1st supplement dated July 16/23, 2018

between

Fränkel Immobilien-Service GmbH, Allmandstraße 6, 88045 Friedrichshafen

and

CureVac Real Estate GmbH, Paul-Ehrlich-Straße 15, 72076 Tübingen

and

HSB Vermietungs- und Verpachtungs- GmbH & Co. KG, Kaiserstraße 58,
88348 Bad Saulgau

(Hereinafter also referred to as "**parties**")

Preamble

Fränkel Immobilien-Service GmbH concluded a rental contract with CureVac Real Estate GmbH on June 6, 2018 for two buildings still to be constructed on the land at Friedrich-Miescher-Strasse 15 in Tübingen (hereinafter referred to as the "**land**"). Fränkel Immobilien-Service GmbH was not yet the owner of the land at the time the rental contract was concluded.

Fränkel Immobilien-Service GmbH has in the meantime refrained from executing the overall project and is entitled to withdraw from the rental contract until August 31, 2018 in accordance with Section 14 of the rental contract dated June 6, 2018 in conjunction with the 1st supplement to the rental contract dated July 16/23, 2018.

In order to ensure that the project can be realised in a timely manner, HSB Vermietungs- und Verpachtungs- GmbH & Co. KG intends to acquire the land itself in the first week of September 2018 and enter into the rental contract from June 6, 2018 and the first supplement to the rental contract from July 16/23, 2018.

In order not to risk any further delays to the project, which is expected to start construction on September 17, 2018, HSB Vermietungs- und Verpachtungs- GmbH & Co. KG also does not await the conclusion of a purchase contract for the project with a buyer. Instead, after conclusion of a purchase contract for the project between HSB Vermietungs- und Verpachtungs- GmbH & Co. KG and a buyer, the parties intend to transfer the lease to the buyer by way of a further supplement (see No. 9).

Against this background, the parties agree to the following provisions as the 2nd supplement to the rental contract dated June 6, 2018 together with the 1st supplement dated July 16/23, 2018:

1. Fränkel Immobilien-Service GmbH withdraws as landlord from the rental contract with CureVac Real Estate GmbH with effect from the signing of this 2nd supplement to the rental contract dated June 6, 2018 together with the 1st supplement dated July 16/23, 2018.

2. HSB Vermietungs- und Verpachtungs- GmbH & Co. KG will replace Fränkel Immobilien-Service GmbH as landlord in the existing rental contract dated June 6, 2018 together with the 1st supplement dated July 16/23, 2018 with CureVac Real Estate GmbH taking effect with the signing of this second supplement to the rental contract on the part of the landlord.

3. Section 2, No. 1, third subparagraph, sentence 1 of the rental contract of June 6, 2018 is amended as follows:

   "The Landlord undertakes to hand over the relevant rental property immediately after completion of the relevant rental property as described in Section 1 No. (1) of this contract, probably on 11.15.2019, at the latest on 02.15.2020 for rental property 1 and 04.15.2020, at the latest on 09.15.2020 for rental property 2."

4. Section 11, No. 1, letter a), sentence 1 of the rental contract dated June 6, 2018 is amended as follows:

   "The tenant shall provide a deposit of € 344,576.40 (gross rent in accordance with Section 3 No. 1 of the contract for rental property 1 including VAT for 3 months) two weeks before the handover of rental property 1".

5. Section 11, No. 1, letter b), sentence 1 of the rental contract dated June 6, 2018 is amended as follows:

   "The tenant shall provide a deposit of € 344,576.40 (gross rent in accordance with Section 3 No. 1 of the contract for rental property 1 including VAT for 3 months) two weeks before the handover of rental property 2".

6. In addition, the parties agree to the regulation on the payment of a construction cost subsidy by the tenant, which is in the **annex** to this supplement to the rental contract, as a new Section 11 a of the rental contract.

7. Section 14, para. 1, letter a) of the rental contract from June 6, 2018 in the version of the first supplement to the rental contract of July 16/23, 2018 is amended as follows:

   "The landlord expressly reserves the right to withdraw from the contract. This can be exercised if

   a) a legally binding purchase contract between the landlord and the University City of Tübingen in the form of Section 311 b of the German Civil Code (BGB) has not been concluded for the building plot by 30 September 2018 at the latest".

8. Section 14, para. 4 of the rental contract dated June 6, 2018 in the version of the first supplement to the rental contract dated July 16/23, 2018 is amended as follows:

   "The contracting parties agree that the withdrawal from the landlord is to be exercised in writing as follows:

   - to the above number (3) a) by 30 September 2018 at the latest."

9. Section 15, sentence 1 of the rental contract dated June 6, 2018 in the version of the first supplement to the rental contract dated July 16/23, 2018 is amended as follows:

   "If the landlord has not handed over to the tenant rental property 1 in accordance with Section 1 (1) by 02.15.2020 at the latest or rental property 2 by 09.15.2020 at the latest, as specified in the contract, the landlord is obliged, due to the delayed handover, to pay the tenant a contractual penalty of € 5,000 for each day that the tenant is unable to use the respective rental property but up to a maximum of one month's rent for the rental property concerned."

10. HSB Vermietungs- und Verpachtungs- GmbH & Co. KG undertakes to provide a guarantee from its general contractor for the construction project, Georg Reisch GmbH & Co. KG, with a total amount of up to € 2,000,000.00, in order to secure any possible claim for damages by CureVac Real Estate GmbH against HSB Vermietungs- und Verpachtungs- GmbH & Co. KG resulting from the fact that HSB Vermietungs- und Verpachtungs- GmbH & Co. KG does not hand over the rental property 1 and the rental property 2 to CureVac Real Estate GmbH at the latest handover times specified in No. 3 of this second supplement.

    The guarantee shall expire upon handover of rental property 1 and rental property 2 or if HSB Vermietungs- und Verpachtungs- GmbH & Co. KG has offered to hand over rental property 1 and rental property 2 to CureVac Real Estate GmbH in a manner that causes default of acceptance.

11. HSB Vermietungs- und Verpachtungs- GmbH & Co. KG is entitled to transfer its rights and obligations under this contract to a third party at any time without the consent of CureVac Real Estate GmbH. With the announcement of this legal succession to CureVac Real Estate GmbH, HSB Vermietungs- und Verpachtungs- GmbH & Co. KG shall terminate all rights and obligations arising from the contractual relationship with CureVac Real Estate GmbH. The provisions of Sections 566(2), 578(1) of the German Construction Contract Procedures (BOB) are excluded. The HSB Vermietungs- und Verpachtungs- GmbH & Co. KG is not liable to CureVac Real Estate GmbH as guarantor for the fulfilment of the rental contract by the buyer in the event of the sale of the rental property. The contracting parties must record such a change of landlord in a written supplement to the rental contract.

12. The remaining contractual provisions of the rental contract dated June 6, 2018 apply unchanged between HSB Vermietungs- und Verpachtungs- GmbH & Co. KG as the new landlord and CureVac Real Estate GmbH as tenant.

Friedrichshafen, 08.17.2018

Fränkel
Immobilien-Service GmbH
Allemandstraße 6
88045 Friedrichshafen

/s/ Fränkel Immobilien-Service GmbH
Fränkel Immobilien-Service GmbH
(former Landlord)

Tübingen, 08.20.2018

/s/CureVac Real Estate GmbH
CureVac Real Estate GmbH
(Tenant)

Bad Saulgau, 08.17.2018

HSB Vermietungs- und Verpachtungs-GmbH & Co. KG
Kaiserstraße 58 | 88348 Bad Saulgau
Tel. 07581 480399-0 | Fax 07581 480399-99

HSB Vermietungs- und Verpachtungs- GmbH & Co. KG
(new Landlord)

Tübingen, 08.22.18

/s/ Pierre Kemula
Pierre Kemula
Chief Financial Officer

/s/ Dr. Franz-Werner Haas
Dr. Franz-Werner Haas
Chief Corporate Officer

CureVac AG
(Joint and several debtor together with CureVac Real Estate GmbH)

Annex to the 2nd supplement to the rental contract dated June 6, 2018 and the 1st supplement dated July 16/23, 2018

Section 11a Construction cost subsidy/rent security deposit

1. The parties agree that the rental property will be erected by the landlord according to the tenant's individual needs of use.

   In order to be able to construct the new rental property, the tenant pays a construction cost subsidy to the landlord, which also serves as a rent security deposit.

   The construction cost subsidy is paid by the tenant for both construction phases.

   The construction cost subsidy for the 1st construction phase amounts to € 2,756,611.20 (gross rent according to Section 3 (1) of the rental contract for rental property 1 including VAT for 24 months). It is due for payment to the landlord from the start of construction of the 1st construction phase, whereby construction commences upon presentation of the notice of commencement of construction in accordance with Section 59 (2) of the Regional Building Regulations (LBO). Payment shall be made concurrently against delivery of the guarantee of Georg Reisch GmbH & Co. KG, which is described in more detail in Section 10 of the 2nd supplement to the rental contract (to which this regulation is attached as an annex).

   The construction cost subsidy for the 2nd construction phase amounts to € 2,756,611.20 (gross rent according to Section 3 (1) of the rental contract for rental property 2 including VAT for 24 months). This construction cost subsidy is due for payment to the landlord at the start of construction work on the 2nd construction phase, whereby construction commences at the start of the excavation work. Payment shall be made concurrently against delivery of the guarantee of Georg Reisch GmbH & Co. KG, which is described in more detail in Section 10 of the 2nd supplement to the rental contract (to which this regulation is attached as an annex).

   The contracting parties shall make the following arrangements for handling the construction cost subsidy by mutual agreement in accordance with Section 547 of the German Civil Code (BGB).

2. The construction cost advances paid by the tenant in accordance with No. 1 of this agreement shall bear interest at a rate of 1.5% p.a., payable by the landlord at the end of each year. The amount of interest is added to the advance on construction costs.

3. The advances on construction costs paid by the tenant are offset in equal parts against the current monthly rent owed under the contract for the last 5 years of the rental period. By offsetting, the rent for the last 5 years of the rental period is partially satisfied monthly. The construction cost subsidies will only be offset against the rent; the tenant is obliged to bear the operational costs until the end of the rental period in accordance with Section 3 No. 5 of the rental contract and to make the advance payment of operational costs in accordance with Section 3 Paragraphs 1 and 7 of the rental contract to the landlord in due time in accordance with Section 3 Paragraph 3 of the rental contract.

4. If the rental relationship ends before expiry of the contractually agreed rental period for an important reason attributable to the tenant, the construction cost subsidy not yet offset against the rent up to this point in time in accordance with the above section 3.), which then serves as a rent security deposit, shall be offset as follows:

   - The remaining construction cost subsidy is initially offset against the loss of rent that the landlord suffers in the period between the termination of the tenancy and the establishment of a new subsequent tenancy.

   - The construction cost subsidy is offset against the expenses incurred by the landlord to convert the rental property in order to enable the rental property to be re-let through a subsequent tenancy.

   - The construction cost subsidy is offset against the landlord's loss of rental income which the landlord suffers until the expiry of the contractually agreed fixed rental period because the rent of the subsequent tenancy is lower than the last contractual rent of this contract.

     The remaining construction cost subsidy or rent security deposit shall be returned by the landlord to the tenant in accordance with the principles of restitution of unjust enrichment (Sections 812 et seq. of the German Civil Code (BGB)). In this case, however, the existence of unjust enrichment is only finally determined at the end of the fixed rental period by balancing the construction cost subsidy against the above-mentioned deductions (indents 1 to 3). The objection of financial loss is excluded.

   - An important reason for termination of the tenancy attributable to the tenant is also a termination of the tenancy in accordance with Section 109 of the German Insolvency Code (lnsO) by the temporary or permanent insolvency administrator in the event of an application and/or opening of insolvency proceedings on the assets of the tenant.

5. If the rental relationship ends before expiry of the agreed rental period for an important reason for which the landlord is responsible, the tenant is in principle entitled to claim repayment of the construction cost subsidy from the landlord. The landlord is entitled to offset all claims against the tenant to which the landlord is entitled from the tenancy against the tenant's claim for repayment, in particular arrears from rent payments and advance payments of operational costs, as well as claims of the landlord from completed operational costs settlements. This offsetting must take place before the rent security deposit is used in accordance with Section 11.

6. Any claims of the tenant for repayment of the construction cost subsidies after the settlements in accordance with the above paragraphs shall bear interest at the earliest from the effective date of termination or other termination of the tenancy.

Exhibit 10.25

This document is an English translation of a document prepared in German. In case of any ambiguity, the German text shall prevail.

3rd Supplement to the rental contract dated 6 June 2018
together with 1st supplement dated 16/23 July 2018
and 2nd supplement dated 17/20/22 August 2018

between

CureVac Real Estate GmbH, Paul-Ehrlich-Straße 15, 72076 Tübingen

- hereinafter referred to as "**CureVac**" -

and

HSB Vermietungs- und Verpachtungs- GmbH & Co. KG, Kaiserstraße 58,
88348 Bad Saulgau

- hereinafter referred to as "**HSB**" -

- CureVac and HSB are hereinafter referred to as "**parties**" -

Preamble

There is a rental contract between CureVac and HSB dated 6 June 2018, together with a first supplement to the rental contract dated 16/23 July 2018 and a second supplement to the rental contract dated 17/20/22 August 2018 (hereinafter referred to collectively as the "**rental contract**") for two buildings still to be constructed on the land at Friedrich-Miescher-Strasse 15 in Tübingen (hereinafter referred to as the "**land**"). HSB acquired the land from the City of Tübingen by notarial deed dated September 18, 2018 (deed no. 67 46/2018 issued by notary Werner Dieterle with official residence in Ludwigsburg). On 17 September 2018, HSB began construction of the buildings rented to CureVac.

HSB intends to conclude a notarised purchase contract for the land, in which HSB undertakes to construct the buildings to be erected under the rental contract, with a buyer. The purchase contract should be designed in such a way that the transfer of ownership to the buyer takes place after the buildings to be constructed are handed over to CureVac as per the rental contract.

In the interim, planning discussions have taken place between CureVac and HSB to revise the existing planning for rental property 1 and rental property 2. The floor plans were revised and updated on the basis of the agreed changes in the design of rental property 1 and rental property 2. The amended plans are attached to this supplement as an **annex**. HSB's obligation to erect rental property 1 and rental property 2 is now based on these amended plans, which are attached as an **annex**.

The increased/reduced costs associated with the plan changes are recorded in an increased/reduced cost list. If this cost calculation results in an increase in costs compared to the original planning, these increased costs will be borne by CureVac as special requests by the tenant and paid to HSB. Any reduction in costs will be reimbursed by HSB to CureVac. The invoice for increased/reduced costs will be made in a separate invoice from the rental contract.

The construction cost subsidy agreed in Section 11a of the rental contract (which became part of the contract by way of the 2nd supplement to the rental contract) will be paid by CureVac to HSB after the conclusion of this 3rd supplement and will be evenly offset against the monthly rents of the last 5 years of the rental period.

The parties assume that the provision of Section 566c of the German Civil Code (BGB) does not apply to the construction cost subsidy in the specific case, since the requirements developed in jurisdiction for an exception to Section 566c of the German Civil Code are met, so that the construction cost subsidy is also effective vis-à-vis a buyer, i.e. in accordance with the provisions of Section 11a of the rental contract it can be evenly offset against the monthly rents of the last 5 years of the rental period and any reimbursement liability after the transfer of the rental relationship to a buyer is borne solely by the buyer as the new landlord.

As a purely precautionary measure, the parties nevertheless conclude this 3rd supplement to the rental contract, in which, among other things, Section 566c of the German Civil Code is to be waived:

1. The parties agree that the rental contract is transferred to the new buyer as the new landlord at the time of registration of a buyer as the new owner of the land in the land register. HSB withdraws from the rental contract upon registration of the buyer as the new owner of the land in the land register.

   HSB declares that according to the current conception, the purchase contract with the buyer provides for a transfer of ownership to the buyer at a point in time after the transfer of rental property 1 and rental property 2 to CureVac.

In the event that the purchase contract to be concluded with a buyer provides for transfer of ownership before rental property 1 and rental property 2 are handed over to CureVac, HSB undertakes to provide an extended guarantee by Georg Reisch GmbH & Co. KG, which secures the obligation of the respective landlord to hand over rental properties 1 and 2 in due time according to Section 1 of the rental contract at the times specified in No. 3 of the second supplement to the rental contract as well as for all claims for damages of CureVac, which result from the fact that the respective landlord does not hand over rental property 1 and rental property 2 to CureVac at the times specified in No. 3 of the second supplement to the rental contract. The guarantee of Georg Reisch GmbH & Co. KG dated 13 September 2018 is to be returned by CureVac as and when the extended guarantee is handed over.

2. The parties assume that Section 566c of the German Civil Code does not apply to the construction cost subsidy to be paid by CureVac, since the following points are cumulative according to the parties' consistent assessment and thus the requirements developed by jurisdiction for an exemption from the application scope of Section 566c of the German Civil Code are met:

   - The construction cost subsidy was agreed in the 2nd supplement to the rental contract and is not based on any other agreement.

   - The construction cost subsidy is offset against the expected rent due in the last five rental years.

   - The construction cost subsidy was paid from CureVac's own resources.

   - The construction cost subsidy is intended for the construction of rental property 1 and rental property 2 in accordance with the rental contract and is used by HSB for this purpose.

   - The material value of the land, which HSB acquired from the City of Tübingen undeveloped, is increased by the construction of rental property 1 and rental property 2.

   - The increase in material value actually also benefits a buyer. In this respect, the parties hereby clarify that the development of the land with rental property 1 and rental property 2, and thus also the rental of the contractual property to CureVac, could not take place without the construction cost subsidy.

In this respect, HSB undertakes to use the construction cost subsidy exclusively for the construction of rental property 1 and rental property 2 in accordance with the rental contract.

3. As a precautionary measure, CureVac and HSB hereby agree that Section 566c of the German Civil Code shall not apply with regard to the construction cost subsidy to be paid by CureVac, since even a buyer without the restriction of Section 566c of the German Civil Code shall be bound by the agreement between the HSB and CureVac in Section 11a of the rental contract concerning the construction cost subsidy and its offsetting against the monthly rent in the last five rental years. As a consequence, any reimbursement liability shall also be borne in full by one buyer alone as soon as the rental relationship has been transferred to a buyer as the new landlord or the buyer has entered by law (Section 566 (1) BGB in conjunction with 567a BGB) into the rental contract in place of HSB.

   HSB undertakes to oblige a buyer of the land to participate in a three-page formal supplement to the rental contract in which the provision of Section 566c of the German Civil Code (BGB) is waived and assessed, that the buyer is bound by the agreement between HSB and CureVac in Section 11a of the rental contract concerning the construction cost subsidy and its offsetting against the monthly rent for the last five rental years and that the buyer alone is responsible for any reimbursement liability after taking over the rental relationship as the new landlord.

   HSB and CureVac undertake to cooperate on such a three-page formal supplement with a buyer.

4. HSB or – after transfer of the rental relationship according to item 1 – a buyer are entitled to repay CureVac the construction cost subsidy paid at any time. In this case also the rent in the last five tenants of CureVac is to be paid in full according to the contract, i.e. an offsetting does not take place. The contracting parties must record such a repayment of the construction cost subsidy and the offsetting against the rent in the last five rental years, which is no longer applicable, in a written supplement to the rental contract.

5. The provisions of Section 566 (2) of the German Civil Code (BGB) are waived by mutual agreement.

6. CureVac agrees to the transfer of a rent security deposit paid in accordance with Section 11 of the rental contract to a buyer. After transfer of the rental relationship to a buyer as new landlord and transfer of the rent security deposit to a buyer, HSB is no longer liable for the repayment of the rent security deposit to CureVac.

7. HSB's obligation to construct rental property 1 and rental property 2 is now based on the floor plans in the **annex** to this supplement.

   The increased/reduced costs associated with the plan changes are recorded in an increased/reduced cost list. If this cost calculation results in increased costs compared to the original plans, these increased costs will be borne by CureVac as special requests by the tenant and paid to HSB. HSB will reimburse any reduced costs to CureVac. The invoicing of increased/reduced costs takes place in a separate invoice from the rental contract.

8. The remaining contractual provisions of the rental contract dated 6 June 2018, the 1st supplement to the rental contract dated 16/23 July 2018 and the 2nd supplement to the rental contract dated 17/20/22 August 2018 continue to apply unchanged.

Bad Saulgau, 11.5.2018

/s/ HSB Vermietungs- und Verpachtungs- GmbH & Co. KG
HSB Vermietungs- und Verpachtungs- GmbH & Co. KG
(landlord)

Tübingen, 10.22.18

/s/ Dr Florian von der Mülbe
CureVac Real Estate GmbH — Dr Florian von der Mülbe
(tenant) — Management

Tübingen, 10.22.18

/s/ Dr. Franz-Werner Haas — /s/ Dr Mariola Fotin mieczek
Dr. Franz-Werner Haas — Dr Mariola Fotin-mieczek
Chief Corporate Officer — Chief Scientific Officer
(Joint and several debtor together with CureVac Real Estate GmbH)

The remainder of the document is illegible.

Exhibit 10.26

This document is an English translation of a document prepared in German. In case of any ambiguity, the German text shall prevail.

4th Supplement to the rental contract dated 6 June 2018
together with 1st supplement dated 16/23 July 2018,
2nd supplement dated 17/20/22 August 2018
and 3rd Supplement dated 22 October/5 November 2018

between

CureVac Real Estate GmbH, Paul-Ehrlich-Straße 15, 72076 Tübingen

- hereinafter referred to as "**CureVac**" -

and

HSB Vermietungs- und Verpachtungs- GmbH & Co. KG, Kaiserstraße 58, 88348 Bad Saulgau

- hereinafter referred to as "**HSB**" -

- CureVac and HSB are hereinafter referred to as "**parties**" -

Preamble

There is a rental contract between CureVac and HSB dated 6 June 2018, together with a first supplement to the rental contract dated 16/23 July 2018, a second supplement to the rental contract dated 17/20/22 August 2018 and a third supplement to the rental contract dated 22.10./5.11.2018 (hereinafter referred to collectively as the "**rental contract**") for two buildings still to be constructed on the land at Friedrich-Miescher-Strasse 15 in Tübingen (hereinafter referred to as the "**land**").

Georg Reisch GmbH & Co. KG, as general contractor on behalf of HSB, has begun construction of the buildings that have been rented to CureVac.

In accordance with the notarial purchase contract signed by the notaries Dr Schwab, Dr Weiler, Munich on 19 December 2018, the land will be taken over by Tübingen 1 Property GmbH & Co. KG. Tübingen 1 Property GmbH & Co. KG will enter into the rental contract existing between the parties.

With this proviso, the parties agree as follows:

1.

Further planning discussions have taken place between CureVac and HSB to revise the existing plans for rental property 1 and rental property 2.

The plans which are annexed to supplement 3 and which define HSB's obligation to construct rental property 1 and rental property 2 shall be replaced by the parties by agreement with revised and amended planning documents agreed between the parties. HSB's obligation to build rental property 1 and rental property 2 is now based exclusively on the amended plans attached as **Annex 1 to this 4th supplement.**

The increased/reduced costs associated with the plan changes are recorded in an increased/reduced cost list. Insofar as this cost calculation results in increased costs compared to the original plans on which the original rental contract dated 6 June 2019 was based, these additional costs will be borne by CureVac as special requests by the tenant and paid to HSB. Any reduced costs will be reimbursed by HSB to CureVac. The invoice for the increased/reduced costs will be made in an invoice separate from the rental contract. The list of increased/reduced costs is dated 20.09.2019 and is available to the parties. As far as further changes to the plans, which lead to further increased/reduced costs, are agreed between the parties, this is done by a corresponding project change request, which must be approved by CureVac before the further change to the plans is carried out.

2.

The above-mentioned changes to the plans make it necessary to obtain a building permit from the city of Tübingen on 23 August 2018. The flat-rate fee charged by the planners to HSB for this will be reimbursed to HSB by CureVac on the basis of the offer made by Bodamer Faber Architekten on 25 February 2019, **Annex 2 to this 4th supplement**.

3.

The caretaker provided for under Section 6 of the rental contract in conjunction with Annex 8 No. 14 is not required, with the result that HSB does not have to provide a caretaker and CureVac does not have to bear any costs for a caretaker within the scope of operational costs.

Bad Saulgau, 10.23.2019

/s/ HSB Vermietungs- und Verpachtungs- GmbH & Co. KG
[Stamp of HSB Vermietungs- und Verpachtungs- GmbH & Co. KG]

HSB Vermietungs- und Verpachtungs- GmbH & Co. KG
(landlord)

Tübingen, [10.10.19]

/s/ Dr Florian von der Mülbe]
CureVac Real Estate GmbH (tenant) Dr Florian von der Mülbe Management

Tübingen, [10.10.19]

(Joint and several debtor together with CureVac Real Estate GmbH)

Anlage 1 zu NA 4	Annex 1 to NA 4
Architekt	Architect
Außenanlagen lt. Außenanlagenplan	Outdoor facilities as per outdoor facilities plan

The remainder of annex 1 is illegible.

Annex 2

Bodamer Faber Architekten BDA

PartGmbB
Dip. Eng. Hansjörg Bodamer
Dip. Eng. Achim Bodamer
Dip. Eng. (FH) Alexander Faber

Schlosserstrasse 2
70180 Stuttgart
Tel. 0711-6647-512-0
Fax 0711-6647-512-99
architekten@bodamer-faben.net
www.bodamer-faben.net

Bodamer Faber Architekten BDA PartGmbB Schlosserstrasse 2, 70180 Stuttgart

HSB Vermietungs- & Verpachtungs-GmbH
Kaiserstraße 58
88348 Bad Saulgau

Stuttgart, 25th February 2019

New build of offices, logistic and laboratories CureVac in Tübingen
Fee offer NA 03
NA 03.01 Additional expenditure for revision of building application

Dear Mr Kraus,

With reference to our offer from 22.06.18 (Pos. NA 01.01) and 26.11.18 (NA02.01), we take the liberty of extending our previous offer on the basis of the supplementary items.

The reason: The time originally calculated for changing and compiling the building application documents is not sufficient at the current processing stage.

NA 03.01 "Coordination, changing of all building application documents" by tenant "CureVac"

Additional expenditure to NA 01.01 and NA 02.01	
Adaptation of all planning and construction documents, despatched to Reisch (company)	
Additional expenditure for building application	35h
Total additional expenditure	35h
Hourly rate:	85 €/h
Total, net:	2,975.00 €
Plus ancillary costs 5%:	148.75 €
Total, net:	3,123.75 €

Yours sincerely,
/s/ Alexander Faber Freier Architekt
…….
Dip. Eng. (FH) Alexander Faber Freier Architekt
Bodamer Faber Architekten BDA PartGmbB

Exhibit 21.1

Subsidiaries of the Registrant

Entity name	**Jurisdiction of organization**
CureVac AG	Germany
CureVac Real Estate GmbH	Germany
CureVac Inc.	United States