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

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 OF THE SECURITIES EXCHANGE ACT OF 1934

For the month of August, 2021

Commission File Number: 001-39446

CureVac N.V.

(*Exact Name of Registrant as Specified in Its Charter*)

Friedrich-Miescher-Strasse 15, 72076
Tübingen, Germany
+49 7071 9883 0
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes ☐ No ☒

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Yes ☐ No ☒

On August 16, 2021, CureVac N.V. (the "Company") issued a press release with the Company's collaboration partner, GlaxoSmithKline Biologicals SA, announcing the publication of preclinical data of the jointly developed second-generation vaccine candidate, CV2CoV, against SARS-CoV-2 and the Company's first-generation vaccince candidate, CVnCoV, against SARS-CoV-2 in non-human primates.

The information in this Form 6-K (including Exhibit 99.1) shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CUREVAC N.V.

By: /s/ Franz-Werner Haas, LLD, LLM
Chief Executive Officer

Date: August 16, 2021

EXHIBIT INDEX

EXHIBIT NO.	DESCRIPTION
99.1	CureVac N.V. Press Release dated August 16, 2021.

Exhibit 99.1

Second-Generation mRNA COVID-19 Vaccine Candidate, CV2CoV, Demonstrates Improved Immune Response and Protection in Preclinical Study

- *Preclinical study provides evidence for strongly improved immune responses with second-generation mRNA backbone jointly developed by CureVac and GSK compared to CureVac's first-generation mRNA backbone*
- *Data demonstrate high protective efficacy of second-generation lead candidate, CV2CoV, in animal model during SARS-CoV-2 challenge study*
- *Neutralizing capacity of induced antibodies tested against a range of variants, including the Beta, Delta and Lambda variant*

TÜBINGEN, Germany/ BOSTON, USA/ London, United Kingdom – August 16, 2021 – CureVac N.V. (Nasdaq: CVAC), a global biopharmaceutical company developing a new class of transformative medicines based on messenger ribonucleic acid ("mRNA"), and GSK today announced the publication of preclinical data investigating immune responses as well as the protective efficacy of CureVac's first-generation vaccine candidate, CVnCoV, and second-generation vaccine candidate, CV2CoV, against SARS-CoV-2 challenge in non-human primates. The study assessed cynomolgus macaques vaccinated with 12µg of either the first or second-generation vaccine candidate. Better activation of innate and adaptive immune responses was achieved with CV2CoV, resulting in faster response onset, higher titers of antibodies and stronger memory B and T cell activation as compared to the first-generation candidate, CVnCoV. Higher antibody neutralizing capacity was observed with CV2CoV across all selected variants, including the Beta, Delta and Lambda variants. During challenge with the original SARS-CoV-2 virus, animals vaccinated with CV2CoV were found to be better protected based on highly effective clearance of the virus in the lungs and nasal passages. The full manuscript of the preclinical data is available on the preprint server bioRxiv.

"In this animal model, CV2CoV is shown to induce broad antibody and cellular immune responses very similar to the breadth of the immune responses observed after infection with SARS-CoV-2," said Dr. Igor Splawski, Chief Scientific Officer of CureVac. "The current study shows that the immune responses and resulting protection produced by our second-generation candidate, based on our mRNA technology featuring targeted optimizations, are substantially improved in non-human primates against both the original SARS-CoV-2 virus as well as the Beta and Delta Variants of Concern and the Lambda Variant of Interest."

Dr. Rino Rappuoli, Chief Scientist and head of GSK Vaccines R&D said: "The mRNA technology is a key strategic priority for us, and we are investing significantly in a number of mRNA programs focused on the collaboration with CureVac. The strong immune response and protection in pre-clinical testing of this second-generation mRNA backbone are very encouraging and represent an important milestone for its further development."

Within the study, CVnCoV and CV2CoV were tested in cynomolgus macaques immunized with a 12µg dose of the respective candidate on day 0 and day 28. Induction of innate immunity was investigated via specific cytokine markers. Adaptive immune responses were assessed based on receptor binding domain specific antibodies and neutralizing antibodies as well as memory B and T cells. Impact of Variants of Concern and Variants of Interest on neutralizing antibody titers was tested against the Alpha, Beta, Delta, Kappa and the Lambda variant. Clearance of the virus in the lungs and nasal passages of the animals was tested following challenge infection with the original virus.

The CureVac-GSK COVID-19 collaboration announced in February 2021 extends the existing strategic mRNA technology partnership both companies started in July 2020, which focuses on the development of new products based on CureVac's second-generation mRNA-technology for different targets in the field of infectious diseases. The optimized mRNA backbone that is being used in this collaboration also has the potential for a multivalent or combination approach to address multiple emerging variants in one vaccine. Following the current preclinical development of CV2CoV, a Phase 1 clinical trial is expected to start in Q4 2021.

About CV2CoV

CV2CoV is CureVac's first candidate based on the advanced second-generation mRNA backbone currently developed in collaboration with GSK. The vaccine candidate, presently at a preclinical development stage, is a non-chemically modified mRNA, encoding the prefusion stabilized full-length spike protein of the SARS-CoV-2 virus, and formulated within Lipid Nanoparticles (LNPs). CV2CoV was engineered with specifically optimized non-coding regions to exhibit improved mRNA translation for increased and extended protein expression compared the first-generation mRNA backbone. Preclinical studies in different animal models demonstrate CV2CoV's ability to induce earlier and stronger immune responses. The first clinical trial of CV2CoV is expected to start in Q4 2021.

About CureVac

CureVac is a global biopharmaceutical company in the field of messenger RNA (mRNA) technology, with more than 20 years of expertise in developing and optimizing the versatile biological molecule for medical purposes. The principle of CureVac's proprietary technology is the use of non-chemically modified mRNA as a data carrier to instruct the human body to produce its own proteins capable of fighting a broad range of diseases. Based on its proprietary technology, CureVac has built a deep clinical pipeline across the areas of prophylactic vaccines, cancer therapies, antibody therapies, and the treatment of rare diseases. CureVac had its initial public offering on the New York Nasdaq in August 2020. It is headquartered in Tübingen, Germany, and employs more than 700 people at its sites in Tübingen, Frankfurt, and Boston, USA. Further information can be found at www.curevac.com.

About GSK

GSK is a science-led global healthcare company with a special purpose: to help people do more, feel better, live longer. For further information please visit www.gsk.com/about-us.

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Forward-Looking Statements CureVac

This press release contains statements that constitute “forward looking statements” as that term is defined in the United States Private Securities Litigation Reform Act of 1995, including statements that express the opinions, expectations, beliefs, plans, objectives, assumptions or projections of CureVac N.V. and/or its wholly owned subsidiaries CureVac AG, CureVac Real Estate GmbH, CureVac Inc., CureVac Swiss AG and CureVac Corporate Services GmbH (the “company”) regarding future events or future results, in contrast with statements that reflect historical facts. Examples include discussion of the potential efficacy of the company’s vaccine and treatment candidates and the company’s strategies, financing plans, growth opportunities and market growth. In some cases, you can identify such forward-looking statements by terminology such as “anticipate,” “intend,” “believe,” “estimate,” “plan,” “seek,” “project,” or “expect,” “may,” “will,” “would,” “could,” “potential,” “intend,” or “should,” the negative of these terms or similar expressions. Forward-looking statements are based on management’s current beliefs and assumptions and on information currently available to the company. However, these forward-looking statements are not a guarantee of the company’s performance, and you should not place undue reliance on such statements. Forward-looking statements are subject to many risks, uncertainties and other variable circumstances, including negative worldwide economic conditions and ongoing instability and volatility in the worldwide financial markets, ability to obtain funding, ability to conduct current and future preclinical studies and clinical trials, the timing, expense and uncertainty of regulatory approval, reliance on third parties and collaboration partners, ability to commercialize products, ability to manufacture any products, possible changes in current and proposed legislation, regulations and governmental policies, pressures from increasing competition and consolidation in the company’s industry, the effects of the COVID-19 pandemic on the company’s business and results of operations, ability to manage growth, reliance on key personnel, reliance on intellectual property protection, ability to provide for patient safety, and fluctuations of operating results due to the effect of exchange rates or other factors. Such risks and uncertainties may cause the statements to be inaccurate and readers are cautioned not to place undue reliance on such statements. Many of these risks are outside of the company’s control and could cause its actual results to differ materially from those it thought would occur. The forward-looking statements included in this press release are made only as of the date hereof. The company does not undertake, and specifically declines, any obligation to update any such statements or to publicly announce the results of any revisions to any such statements to reflect future events or developments, except as required by law.

For further information, please reference the company’s reports and documents filed with the U.S. Securities and Exchange Commission (SEC). You may get these documents by visiting EDGAR on the SEC website at www.sec.gov.