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 September 2024

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 ☐

On September 13, 2024, CureVac N.V. (the "Company") issued a press release announcing the presentation of data from the dose-escalation Part A of its ongoing Phase 1 CVGBM cancer vaccine study in patients with glioblastoma at the European Society for Medical Oncology (ESMO) Congress.

The information included in this Form 6-K (including Exhibit 99.1, but excluding the statements of the Company's Chief Scientific Officer and the Department Chair of Neurology & Interdisciplinary Neuro-Oncology at University Hospital Tübingen and Hertie Institute for Clinical Brain Research contained in Exhibit 99.1 hereto) is hereby incorporated by reference into the Company's Registration Statement on Form F-3 (File No. 333-259613).

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/ Alexander Zehnder
Chief Executive Officer

Date: September 13, 2024

EXHIBIT INDEX

EXHIBIT NO.	DESCRIPTION
99.1	CureVac N.V. Press Release dated September 13, 2024

Exhibit 99.1

CureVac's CVGBM Cancer Vaccine Induces Promising Immune Responses in Phase 1 Study in Glioblastoma Presented at the ESMO 2024 Congress

- Preliminary immunogenicity results demonstrate induction of cancer antigen-specific T-cell responses in 77% of evaluable patients following CVGBM monotherapy
- 84% of immune responses were *de novo*, observed in patients without pre-existing T-cell activity against encoded cancer antigens
- CVGBM was generally well tolerated up to the highest tested dose level of 100 µg with no dose-limiting toxicities
- Most common adverse events were mild to moderate systemic reactions such as headache, fever and chills, which resolved within 1–2 days post injection
- 100 µg was selected as the recommended dose for the dose expansion phase, which recently started enrollment

TÜBINGEN, Germany/BOSTON, USA – September 13, 2024 – CureVac N.V. (Nasdaq: CVAC) ("CureVac"), a global biopharmaceutical company developing a new class of transformative medicines based on messenger ribonucleic acid ("mRNA"), today presented compelling data from the dose-escalation Part A of its ongoing Phase 1 CVGBM cancer vaccine study in patients with glioblastoma at the European Society for Medical Oncology (ESMO) Congress. The presented data include safety, tolerability and initial immunogenicity data provided for all evaluable patients treated within Part A of the trial with CVGBM dose levels of 12-100 µg. The presentation can be reviewed here.

In this highly aggressive and challenging cancer indication, preliminary immunogenicity results demonstrate that treatment with CVGBM-only following chemo-radiation therapy successfully induces cancer antigen-specific T-cell responses in 77% of evaluable patients. Most notably, within the group of responding patients, 84% of immune responses were generated *de novo* by the CVGBM vaccination, inducing T-cell activity in patients who had no pre-existing T-cell activity against the encoded antigens. While $CD8^+$ T-cells primarily attack and destroy cancer cells, $CD4^+$ T-cells play a critical role in coordinating the immune response and supporting the activity of $CD8^+$ T-cells over time. The majority of responding patients (69%) showed cancer antigen-specific $CD8^+$ responses, 31% of responding patients had $CD4^+$ responses and 23% had both a $CD8^+$ and a $CD4^+$ response.

"These early data are encouraging. Most importantly, the strong *de novo* T-cell responses seen in a significant number of patients reflect the vaccine's ability to break through immune tolerance to the tumor and generate a new immune response," said Prof. Dr. Dr. Ghazaleh Tabatabai, Chair, Department of Neurology & Interdisciplinary Neuro-Oncology, University Hospital Tübingen and Hertie Institute for Clinical Brain Research. "The CVGBM safety profile is acceptable, and we are eager to see these results further validated in the next phase of the study. This could mark an important moment in the fight against this devastating disease."

CureVac's Chief Scientific Officer, Dr. Myriam Mendila, added: "These first-in-human data highlight for the first time the broader potential of our second-generation mRNA backbone in cancer immunotherapy. The ability of CVGBM to elicit both $CD8^+$ and $CD4^+$ *de novo* T-cell responses suggests that the vaccine is enhancing the immune system's capacity for a coordinated defense against the cancer. As we conduct the next phase of the trial, we are building a strong foundation for future shared antigen as well as personalized cancer vaccines across different tumor types that could offer significant benefits to patients."

Immune activation was accompanied by a favorable safety and tolerability profile, with no dose-limiting toxicities observed up to and including the highest tested dose of 100 µg, as confirmed by an independent Data and Safety Monitoring Board. The majority of treatment-related adverse events (TRAEs) were reported as grade 1 (mild) and grade 2 (moderate) systemic reactions characteristic to mRNA-based therapeutics. These included headache, chills, fever and fatigue, which resolved within 1-2 days following the injection. Seven patients reported a total of nine grade 3 (severe) TRAEs, of which four were classified as serious adverse events (SAEs). No grade 4 or 5 adverse events occurred. Correspondingly, a 100 µg dose was selected as the recommended dose for the already initiated dose-confirmation Part B of the study.

The open-label study is evaluating the safety and tolerability of CVGBM in HLA-*02:01-positive patients with newly diagnosed and surgically resected MGMT-unmethylated glioblastoma or astrocytoma with a molecular signature of glioblastoma. CVGBM replaces the temozolomide maintenance phase. It is administered as a monotherapy after surgical resection and completion of radiotherapy with or without chemotherapy. The study consists of two parts, a dose-escalation part (Part A) and a dose-expansion part (Part B). In the fully enrolled Part A, patients received seven intramuscular vaccinations at escalating doses in the range of 12 to 100 µg on days 1, 8, 15, 29, 43, 57 and 71 and optional maintenance vaccinations in case of non-progression or potential benefit. 16 patients were enrolled, of which 13 were evaluable for immune responses. All patients completed surgery, 44% with complete tumor resection and 56% with only partial resection followed by chemo-radiation with temozolomide. Antigen-specific $CD4^+$ and $CD8^+$ T-cell responses were assessed at relevant pre-determined timepoints until day 99. Part B of the study is currently ongoing at the recommended dose of 100 µg.

More information can be found at clinicaltrials.gov (NCT05938387).

About CVGBM

Based on CureVac's proprietary second-generation mRNA backbone, designed for improved mRNA translation, increased protein expression and optimized induction of T-cell responses, CVGBM encodes a single fusion protein comprising eight epitopes derived from four tumor-associated antigens (TAA) with relevance in glioblastoma, including five HLA class I (HLA-*02:01) epitopes and three class II epitopes. CVGBM applies unmodified mRNA and is formulated within lipid nanoparticles (LNPs). The Phase 1 proof-of-principle study of CVGBM is currently being conducted in Germany, Belgium and the Netherlands.

About CureVac

CureVac (Nasdaq: CVAC) is a pioneering multinational biotech company founded in 2000 to advance the field of messenger RNA (mRNA) technology for application in human medicine. In more than two decades of developing, optimizing, and manufacturing this versatile biological molecule for medical purposes, CureVac has introduced and refined key underlying technologies that were essential to the production of mRNA vaccines against COVID-19, and is currently laying the groundwork for application of mRNA in new therapeutic areas of major unmet need. CureVac is leveraging mRNA technology, combined with advanced omics and computational tools, to design and develop off-the-shelf and personalized cancer vaccine product candidates. It also develops programs in prophylactic vaccines and in treatments that enable the human body to produce its own therapeutic proteins. Headquartered in Tübingen, Germany, CureVac also operates sites in the Netherlands, Belgium, Switzerland, and the U.S. Further information can be found at www.curevac.com.

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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 SE, CureVac Manufacturing GmbH, CureVac Inc., CureVac Swiss AG, CureVac Corporate Services GmbH, CureVac RNA Printer GmbH, CureVac Belgium SA and CureVac Netherlands B.V. (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, cash runway expectations, 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, fluctuations of operating results due to the effect of exchange rates, delays in litigation proceedings, different judicial outcomes 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.