

Second-Generation COVID-19 Vaccine Candidate, CV2CoV, Demonstrates High Immunogenicity Against Virus Variants in Preclinical Study

- *Second-generation lead COVID-19 vaccine candidate, CV2CoV, developed in collaboration by CureVac and GSK*
- *CV2CoV mRNA shows high levels of antigen production in rat model*
- *Fast onset of strong neutralizing antibody titers after first vaccination*
- *High cross-neutralizing capacity of induced antibodies against selected Variants of Concern*

TÜBINGEN, Germany/ BOSTON, USA – May 13, 2021 – CureVac N.V. (Nasdaq: CVAC), a global biopharmaceutical company developing a new class of transformative medicines based on messenger ribonucleic acid (mRNA), today announced together with its collaboration partner GSK, first preclinical data in a rat model, showing that its second-generation COVID-19 vaccine candidate, CV2CoV, induces high levels of antigen production as well as strong and dose-dependent immune responses in vaccinated animals. CV2CoV is a co-development between CureVac and GSK and is based on a new mRNA backbone, which differs from CureVac’s first-generation vaccine candidate, CVnCoV, currently in late-stage clinical testing. Preclinical data in rats immunized with CV2CoV in the dose range of 0.5-40µg demonstrated fast onset of strong immune responses already after the first dose. In addition, the serum of vaccinated animals showed significant cross-neutralization against variants first discovered in Denmark (B.1.1.298), the UK (B.1.1.7) and South Africa (B.1.351). The full manuscript of the preclinical data is available on the pre-print server [bioRxiv](https://www.biorxiv.org/).

“mRNA technology has made tremendous progress since the clinical development of first-generation mRNA COVID-19 vaccine candidates started in early 2020, “ said Dr. Igor Splawski, Chief Scientific Officer of CureVac. “Spurred by the emergence of virus variants that have the potential to affect the efficacy of currently approved first-generation mRNA COVID-19 vaccines, CureVac and GSK aim to jointly develop second-generation vaccine candidates that offer improved immune responses and target emerging variants. Combined with lower doses, these second-generation vaccines could enable also broad protection against selected strains in a multivalent vaccine format.”

Roger Connor, president R&D GSK vaccines said “to successfully fight the COVID-19 pandemic in the long term, we will need different vaccines and we need to be able to respond effectively to emerging variants. We are pleased with these pre-clinical results as they show the potential of the next generation mRNA technology we are developing together with CureVac.”

CV2CoV is based on a new mRNA backbone that features targeted optimizations designed to improve intracellular mRNA stability and translation for increased and extended protein expression. These optimizations potentially allow for strong immune responses at low doses, which will support the development of multivalent vaccines to target rapidly spreading COVID-19 variants. First clinical trials for CV2CoV are expected to start in the third quarter of 2021.

Development of CV2CoV is carried out in collaboration with GSK. The CureVac-GSK COVID-19 collaboration announced in February 2021 extends the existing strategic mRNA technology partnership both companies entered in July 2020. The partnership targets second-generation vaccines and those with the potential for a multivalent or combination approach to address multiple emerging variants in one vaccine.

About CVnCoV

CureVac began development of its mRNA-based COVID-19 vaccine candidates in January 2020. The vaccine candidate chosen first for clinical development, CVnCoV, is an optimized, non-chemically modified mRNA, encoding the prefusion stabilized full-length spike protein of the SARS-CoV-2 virus, and formulated within Lipid Nanoparticles (LNPs). Phase 1 and 2a clinical trials of CVnCoV began in June and September 2020, respectively. Phase 1 interim data reported in November 2020 showed that CVnCoV was generally well tolerated across all tested doses and induced strong antibody responses in addition to first indication of T cell activation. The quality of immune response was comparable to recovered COVID-19 patients, closely mimicking the immune response after natural COVID-19 infection. In December 2020, CureVac initiated a pivotal Phase 2b/3, the HERALD study, with a 12µg dose of CVnCoV. In February 2021, CureVac initiated a rolling submission with the European Medicines Agency (EMA) for CVnCoV.

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, the Company 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 600 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/en-gb/about-us/.

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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.