CureVac Doses First Patient in Phase 1 Study of Cancer Vaccine Candidate for Surgically Resected Glioblastoma

CureVac N.V., a global biopharmaceutical company developing a new class of transformative medicines based on messenger ribonucleic acid ("mRNA"), today announced that it has dosed the first patient with its investigational cancer vaccine CVGBM in a Phase 1 study. CVGBM is based on CureVac's proprietary second-generation mRNA backbone and features a single mRNA, encoding eight epitopes derived from known tumor-associated antigens with demonstrated relevance in glioblastoma. A first data readout is expected in the second half of 2024.

"We are excited to enter the execution phase of our cancer vaccine development strategy with a study that is designed to establish proof-of-principle for our advanced second-generation mRNA backbone in oncology," said Dr. Myriam Mendila, Chief Development Officer of CureVac. "We will use the study data to evaluate the ability of our second-generation mRNA backbone to raise strong tumor-directed immune responses and provide a firm foundation to further advance our oncology pipeline based on our potent vaccine platform and an unparalleled framework for antigen discovery."

The open-label study evaluates the safety and tolerability of CVGBM in patients with newly diagnosed and surgically resected MGMT-unmethylated glioblastoma or astrocytoma with a molecular signature of glioblastoma. CVGBM is administered as a monotherapy after surgical resection and completion of radiotherapy with or without chemotherapy. The study will consist of two parts, a dose-escalation part (Part A) and a dose-expansion part (Part B). In the initiated Part A, patients will receive a total of seven intramuscular administrations of CVGBM at escalating doses in the range of 12 to 100 µg on days 1, 8, 15, 29, 43, 57, and 71. In patients without disease progression, vaccinations can continue beyond day 71 every 6 weeks up until one year after the first CVGBM vaccination, disease progression or undue toxicity.

About CVGBM

CVGBM is CureVac's first investigational cancer vaccine based on its proprietary second-generation mRNA backbone designed for improved mRNA translation and increased as well as extended protein expression. It encodes a single fusion protein comprising eight epitopes derived from tumor-associated antigens (TAA) with relevance in glioblastoma, including HLA class I epitopes presented on HLA A0201 and class II epitopes. The applied epitopes have been previously shown to induce immune responses in glioblastoma patients when administered as peptide vaccines with adjuvants. 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.

Press release

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Further information

- CureVac SE