

CEPI and SK Bioscience to develop next generation COVID-19 vaccine

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CEPI will contribute up to \$10 million towards the cost of a phase I/II study of a recombinant protein vaccine candidate (GBP510)



CEPI, the Coalition for Epidemic Preparedness Innovations, has announced a collaboration with South Korea-based SK Bioscience to advance the development of a vaccine against SARS-CoV-2, the virus that causes COVID-19.

CEPI will contribute up to \$10 million towards the cost of a phase I/II study of a recombinant protein vaccine candidate (GBP510)—manufactured using a nanoparticle platform—and manufacture of clinical trial materials needed for phase I/II and phase III trials.

This collaboration represents CEPI's first next-generation or 'Wave 2' vaccine investment, jointly funded by CEPI and the Bill & Melinda Gates Foundation. In November 2020, CEPI received a grant of up to [\\$20 million](#) from the Foundation to expand its portfolio of COVID-19 vaccines to include 'Wave 2' candidates that are differentiated from those already in advanced development. CEPI's COVID-19 work is supported by multiple governments, philanthropies, and private-sector [entities](#).

The GBP510 vaccine candidate

The vaccine candidate is a recombinant-protein vaccine based on a novel two-component self-assembling nanoparticle developed at the Institute for Protein Design (IPD) at the University of Washington.

The vaccine is made up of two components, A and B. Component A is a recombinant protein comprised of a portion of the SARS-CoV-2 Spike protein, known as the receptor binding domain (RBD). The RBD is the part of the Spike that enables the virus to bind to and infect human cells.

Component A proteins are then attached to the surface of component B, a "central core" nanoparticle. The combination of these two components results in the optimum exposure of the RBD antigen, which is then recognised by the immune system.

Potential advantages of this candidate include scalability, thermostability, and possible use as a platform to develop vaccines against future unknown pathogens, referred to as Disease X. Additionally, [preclinical studies](#) of this vaccine candidate have shown that it induces very high titres of neutralising antibodies. SK bioscience is planning to start a phase 1/2 study before the end of 2020.

SK bioscience and CEPI are committed to global equitable access of COVID-19 vaccines and have agreed that this vaccine candidate will be made available for procurement and allocation, if proven to be safe and effective, through the COVID-19 Vaccine Global Access ([COVAX](#)) Facility. The COVAX Facility aims to ensure equitable access to COVID-19 vaccines for all countries, at all levels of development, that wish to participate.