

(181). CEPI has also funded Moderna to develop a vaccine for COVID-19 in partnership with the Vaccine Research Center (VRC) of the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH) (182). By employing mRNA vaccine platform technology, a vaccine candidate expressing SARS-CoV-2 spike protein is likely to go through clinical testing in the coming months (180). On 16 March 2020, Jennifer Haller became the first person outside China to receive an experimental vaccine, developed by Moderna, against this pandemic virus. Moderna, along with China's CanSino Biologics, became the first research group to launch small clinical trials of vaccines against COVID-19. Their study is evaluating the vaccine's safety and ability to trigger immune responses (296).

Scientists from all over the world are trying hard to develop working vaccines with robust protective immunity against COVID-19. Vaccine candidates, like mRNA-1273 SARS-CoV-2 vaccine, INO-4800 DNA coronavirus vaccine, and adenovirus type 5 vector vaccine candidate (Ad5-nCoV), are a few examples under phase I clinical trials, while self-amplifying RNA vaccine, oral recombinant COVID-19 vaccine, BNT162, plasmid-based COVID-19 vaccine, and Ii-Key peptide COVID-19 vaccine are