

## DBT's BIRAC recommended funding support for development of DNA Vaccine Candidate for COVID-19

The DBT's Biotechnology Industry Research Assistance Council (BIRAC), New Delhi has recommended funding support for development of DNA vaccine candidate for COVID-19 under the National Biopharma Mission as part of its COVID Research Consortium Initiative. The proposed DNA vaccine candidate of Zydus comprises of a DNA plasmid vector, carrying the gene, encoding the spike protein of the SARS-CoV-2 virus. The S protein of the virus includes the receptor binding domain (RBD), responsible for binding to the human angiotensin converting enzyme (ACE)-2 receptor which mediates the entry of the virus inside the cell.



The spike protein of SARS-CoV-2 virus would be designed and synthesized in a suitable plasmid and transformation in a prokaryotic system. The immunogenicity potential of the plasmid DNA would be evaluated in suitable animal model in a dose ranging studies using different formulations. Once the proof-of-concept is established, preclinical toxicology studies would be taken up. Simultaneously, production of plasmid DNA would be scaled up and subsequently manufactured under cGMP conditions for clinical trials.

The COVID-19 pandemic has been one of the major healthcare crises in recent times with over 3 million people being infected with the disease globally and 217,000 (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>) people succumbing to it. There is an urgent need to accelerate the development of vaccines, which will provide a long-term solution to the

infection. Zydus is developing an effective DNA vaccine against SARS-CoV-2 infection. It also has the necessary infrastructure and capabilities to manufacture large quantities of the vaccine. Recently, this candidate was recommended funding support under the DBT-BIRAC COVID Research Consortium via DBT's National Biopharma Mission.

Link:

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