

DBT-BIRAC helps set up mRNA-based vaccine manufacturing platform

New Delhi, Aug 17: The Department of Biotechnology's Biotechnology Industry Research Assistance Council (DBT-BIRAC) has facilitated the establishment of a 'first-of-its-kind' mRNA-based vaccine manufacturing platform in India. DBT has provided seed funding for the development of a novel self amplifying mRNA-based vaccine candidate for COVID19 by Gennova under its Ind-CEPI program.

Gennova has developed the vaccine candidate (HGCO19), in collaboration with HDT Biotech Corporation, Seattle, US, that has demonstrated safety, immunogenicity, neutralization antibody activity in rodent and non-human primate models. The company is working aggressively to ensure first human injection by the end of the year, subject to Indian regulatory approvals.



HGCO19 has all the necessary information to guide the host cells to make the antigen - spike protein of the virus. It is supported by 'lipid inorganic nanoparticle (LION)' as a delivery vehicle. The neutralizing antibody response of the vaccine in mice and non-human primates was comparable with the sera from the convalescent patients of COVID-19, above the recommended titre of 1:160 for neutralizing antibodies by US-FDA.

Further advantages of HGCO19 are its mRNA platform design and delivery vehicle. HGCO19 uses a 'self-replicating mRNA platform' that ensures low injectable dose (dose-sparing effect) and sustained antigen release for a longer duration. 'LION delivery system'

used for HGCO19 has adjuvanting property, enhanced storage stability, reduced adverse effect, improved permeability and better bioavailability.

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