

THSTI files patent for SARS-COV2 spike domain immunogenic peptide-based vaccine candidates

At DBT's Translational Health Science and Technology Institute (THSTI), Faridabad, research team led by Dr. Sweety Samal and Dr. Shubbir Ahmed and supervised by Prof. Gagandeep Kang has identified and synthesized synthetic peptides that target neutralizing B-cell or T-cell epitopes for developing antibodies against SARS-CoV2.

This elicits a desirable immune response that could block viral invasion. The preliminary non-clinical studies in mice are promising. They have further developed a multiepitope-based vaccine candidate by stitching the desired peptides to produce the protein. This approach is unique as it generates potential neutralizing antibodies, while also reducing antibody-dependent enhancement or pulmonary immune pathology, a hallmark of SARS-CoV2 infection.



The COVID-19 pandemic caused by the new coronavirus has resulted in 11,739,167 cases and 540,660 deaths globally, causing panic and significant economic damage across the world. Researchers all around the world are racing to develop a vaccine and antiviral drugs. Currently, most SARS-CoV2 vaccines under development focus on inactivated SARS-CoV2 or its full-length spike (S) protein. However, based on the learning and experience of SARS, there are concerns about the induction of harmful immune responses or inflammatory reactions against non-neutralizing epitopes.

Link: <https://thsti.res.in/>