

## THSTI files patent for SARS-CoV2 spike domain immunogenic peptide-based vaccine candidates

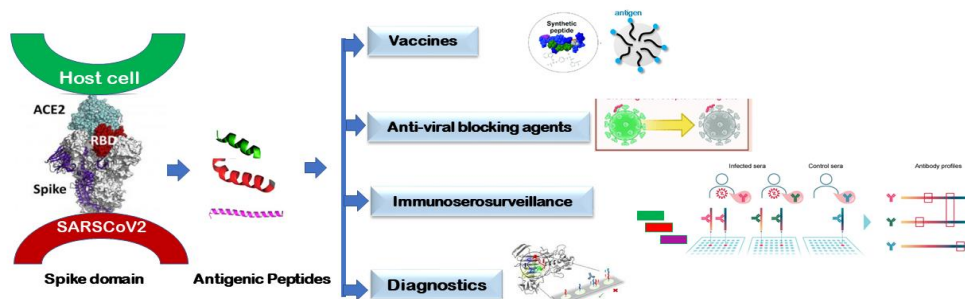
Team of researchers led by Dr. Sweety Samal and Dr. Shubbir Ahmed at Department of Biotechnology's Faridabad based Translational Health Science and Technology Institute (THSTI), identified and synthesized synthetic peptides against SARS-CoV2 infection. These peptides target neutralizing B-cell or T-cell 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 were found to be promising. Team has 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.



### DBT-THSTI develops SARS-CoV2 synthetic peptide vaccine candidates



Synthetic peptides provide novel, affordable strategy targeting SARS-CoV2 spike domain neutralizing B cell or T cell epitopes to elicit desirable immune response that could block viral invasion. These peptides can assemble to proteins to be used as immunogens or vaccine candidates, anti-viral blocking agents and in the development of antigen base affordable, low cost diagnostic kits or reagents.



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: [http://dbtindia.gov.in/sites/default/files/The%20Weekly%20Updates\\_20-26%20July\\_0.pdf](http://dbtindia.gov.in/sites/default/files/The%20Weekly%20Updates_20-26%20July_0.pdf)

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