Antibody Mimicking Molecule for SARS-CoV2

VTIP 21-027: “Designing antibody mimicking molecule therapeutics for SARS-CoV2”

THE CHALLENGE
More than 16 million people worldwide have been infected with SARS-CoV2, which has accounted for ~650,000 deaths over the course of 6 months. Vaccines are extremely difficult to develop, time consuming, and unpredictable. There is a crucial need for an alternative approach to mitigating the disease that can be rapidly deployed and reduce the mortality burden.

OUR SOLUTION
Researchers at Virginia Tech are proposing the development of an antibody mimicking molecule (AMM) that is likely to improve management of the Covid-19 pandemic. These molecules target the virus itself and attempt to neutralize it by binding the virus to the immune system cells. This leads to a more targeted defensive response to the virus. The information needed to produce this AMM is mostly known from SARS 1, unlike vaccines, which require gathering information from scratch.

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Transmission micrograph of SARS-CoV2 virions. (Obtained from WRVO)

New COVID-19 cases in the Unites States (January-September) (Obtained from WHO)