

UT Austin Professor Kevin Dalby Comments on a Recently Released Molecular Cell Paper on COVID-19

UT Austin professor Kevin Dalby discusses the recently released molecular cell paper dedicated to examining the SARS-CoV-2 spike protein further.

AUSTIN, TEXAS, UNITED STATES, January 3, 2022 /EINPresswire.com/ -- A recent study entitled "<u>Rapid characterization of spike variants via mammalian cell surface display</u>" was released in December 2021. The researchers, including Kamyab Javanmardi, Chia-Wei Chou, Cynthia I. Terrace, Kevin N. Dalby, Jimmy D. Gollihar, and Ilya J. Finkelstein, together made further contributions to the global goal of stopping the spread of COVID-19 variants. They studied the SARS-CoV-2 spike protein - a critical component of anti-coronavirus vaccines.

Kevin Dalby, UT Austin chemical biology and medicinal chemistry professor, remarked:

"This is a terrific effort led by first author Kamyab Javanmardi a graduate student in Ilya Finkelstein's lab. To pull this work off when the entire research infrastructure was affected by the pandemic is a testament to Kamyab's determination. My lab only played a supporting role in the research, but we are grateful for being part of it," said <u>Kevin Dalby</u>.

Dr. Kevin Dalby is very excited about the study. He shared that the study's release allows researchers to rapidly analyze how mutations in the SARS-CoV-2 spike protein can affect its ability to bind to receptors and antibodies. Moreover, he notes that the approach paves the way for rapidly analyzing similar proteins used by future viruses of concern.

The paper reveals how genotype-to-phenotype studies of SARS-CoV-2 spike protein are advanced by Spike Display. The work highlights a 'public epitope' for neutralizing antibodies formed by the spike protein's N-terminal domain loops N1, N3, and N5. The work also underlines how variants of concern escape most NTD-targeting neutralizing antibodies.

Researchers anticipate that Spike Display enables accelerated antibody epitope mapping for SARS-CoV-2, antigen design, and deep scanning mutagenesis. Moreover, it is expected to improve our preparedness for emerging viral threats.

"There is a lot we still don't know about COVID-19, but the paper ["Rapid characterization of spike variants via mammalian cell surface display"] gives all of us hope that over time we can get

closer to preventing the spread of infectious diseases. It was an honor to be a part of this research team," said Kevin Dalby.

About Kevin Dalby

Dr. Kevin Dalby specializes in researching cancer drug discovery. When he is not working on his cancer drug studies, he fulfills his role as chemical biology and medicinal chemistry professor at the College of Pharmacy at The University of Texas. As a UT Austin professor, Dalby teaches his students how to conduct research, examines the mechanisms of nature and cancer to develop new treatments, and motivates his pupils about the favorable future cancer treatments holds.

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