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Proteona, Twist Bioscience to develop neutralizing antibody therapy against COVID-19

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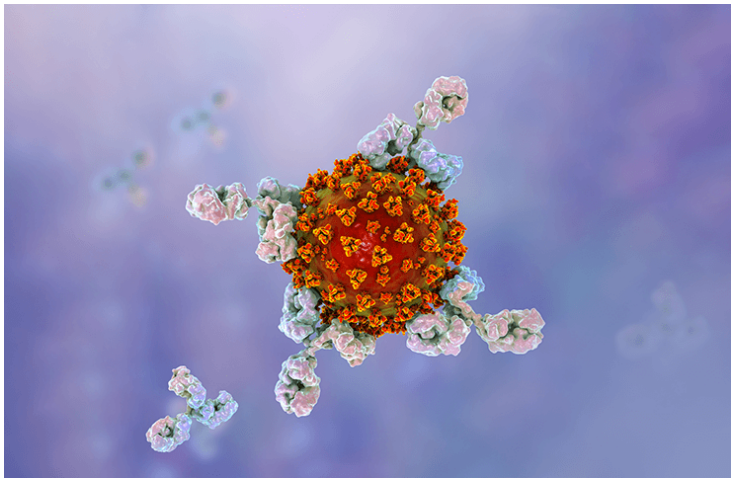
In partnership, companies aim to develop neutralizing antibody therapy against COVID-19 for vulnerable immunocompromised patients



Singapore based Proteona has announced that US headquartered Twist Bioscience will join the international alliance led by Proteona to develop neutralizing antibody therapy against COVID-19 for vulnerable immunocompromised patients.

Utilizing the highly parallel silicon-based DNA synthesis platform, Twist has the ability to manufacture millions of oligos of different lengths with industry leading accuracy. This core capability enables Twist Biopharma, a division of Twist Bioscience, to identify numerous neutralizing antibody sequences and use in house capability to generate and optimize IgG ready for analysis.

The international alliance was initiated by Proteona in response to the urgent need of patients most at risk facing the pandemic, such as those with blood cancers. Due to preexisting conditions, these patients have a higher risk of complications from infections. They may not respond well to vaccination once available because of their compromised immune system. The alliance aims to develop antibody therapies to provide a safe and targeted treatment for these vulnerable populations.

“Twist Bioscience is an instrumental addition to the alliance,” said Andreas Schmidt, CEO of Proteona. “Their expertise in biologics development is the perfect complement to our group. With Twist onboard, we complete the cycle of antibody development from sample to the clinics.”

Proteona, who is leading the alliance, continues to conduct screening for potential candidate antibodies. Using its single cell proteogenomics technology which enables the simultaneous screening of antibodies targeting multiple viral variants, Proteona is analyzing blood samples from recovered COVID-19 patients, and screening for B cells that produce neutralizing antibodies against the SARS-CoV-2 virus. 10x Genomics and NovogeneAIT are providing enabling technologies for single cell analysis and sequencing respectively. The clinical partners at the Heidelberg University Hospital, the German Cancer Research Center, and the Natural and Medical Sciences Institute (NMI) at the University of Tübingen are assisting in sample

collection and coordination, and provide first-hand clinical insight. Twist will synthesize and express the antibody sequences as functional antibodies, which can then be tested by collaborators in animal and cell studies for safety and efficacy.

“We are pleased to partner with biotechnology leaders in the field of COVID-19 research including Proteona, 10x Genomics, NovogeneAIT, as well as the exceptional clinical research centers,” said Emily M. Leproust, Ph.D., CEO and co-founder of Twist Bioscience. “Finding viable antibody therapeutics to effectively treat COVID-19 will require massive cross-border collaborations like this alliance, amplifying each group’s technology to be more than the sum of the individual organizations.”

“The pipeline resulting from this alliance has applications beyond infectious diseases,” said Schmidt. “Antibody therapy, thanks to its flexibility, scalability and low toxicity, are already helping patients with immune disorders and blood cancers. The need for improved antibody discovery platforms continues to increase. The same workflow can quickly be adapted and applied to other applications.”