



TScan Therapeutics Announces Publication of Study in Immunity Highlighting the Discovery of Novel T Cell Targets in COVID-19

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T-Scan platform discovered that T cells of COVID-19 patients recognize a core set of shared targets in SARS-CoV-2 and that most of these targets are not found in the Spike protein

Identification of specific T cell targets enables development of next-generation vaccines, T cell-based diagnostics, and T cell therapies for COVID-19

WALTHAM, Mass.–(BUSINESS WIRE)—TScan Therapeutics, a biopharmaceutical company focused on the development of T cell receptor (TCR)-engineered T cell therapies in oncology, today announced the [publication of a study](#) identifying the targets of T cells in recovering COVID-19 patients in *Immunity*, a Cell Press journal. The Company used their target discovery platform, T-Scan, to identify the precise epitope targets in the novel coronavirus that are recognized by the T cells of convalescent patients. The Company found that T cells typically recognize between three and eight targets in coronavirus that are shared among patients with the same human leukocyte antigen (HLA) type. Most of these targets were not located in the Spike protein, a concerning finding as current vaccine development efforts are focused on eliciting an antibody response to the Spike protein. These findings highlight the potential need for second-generation vaccines that incorporate these targets given T cells play an important role in mediating long-term immunity to the virus, as well as the development of T-cell based diagnostics and T cell therapies. The TScan study also showed that patients' T cells do not cross-react with seasonal coronaviruses that cause the common cold, decreasing the likelihood that prior exposure to these viruses confers immunity to COVID-19.

"T cells play a critical role in fighting viral infections and are particularly important in generating long-term immunity to future infections," said Gavin MacBeath, Ph.D., Chief Scientific Officer at TScan. "By determining exactly how T cells recognize the novel coronavirus in recovering patients, we can now design second-generation vaccines that elicit a more natural T cell response to the virus than vaccine candidates currently in development. The discovery that antibodies against the virus tend to diminish rapidly in recovering patients underscores the need for new approaches to support the fight against this pandemic."

"These data highlight the power of our high-throughput T-Scan target discovery platform to quickly identify T cell targets in areas of urgent medical need like COVID-19, and reinforce our belief in the impact this approach can have in our core focus of treating cancer," said David Southwell, Chief Executive Officer at TScan. "We are actively continuing conversations with partners interested in harnessing the power of our novel discoveries for use in next-generation vaccines, T cell-based diagnostics, and T cell therapeutics for COVID-19."

TScan's COVID-19 study was conducted in collaboration with academic partners Atlantic Health System in Morristown, NJ and Ochsner Medical Center in New Orleans, LA that supported the collection of samples from convalescent COVID-19 patients for use in the T-Scan platform. In total, 78 patients were enrolled in this study and all T cell epitopes identified were validated using independent functional assays.

About TScan Therapeutics

TScan discovers and develops transformative T cell therapies (TCR-T) to treat liquid cancers, solid tumors, and other serious diseases. Our proprietary, high-throughput platform identifies previously uncharacterized, clinically-derived shared T cell antigens and all off-target TCR interactions, to enable the development of highly efficacious TCR-Ts with minimal off-target effects. Lead program TSC-100 is expected to enter clinical development for liquid cancers in 2021, and the Company is advancing additional TCR-Ts for solid cancers. TScan was co-founded by Chair Christoph Westphal (Partner, Longwood Fund) based on pioneering research from the Elledge Lab at Brigham and Women's Hospital. The Company has raised over \$80 million to date from leading strategic collaborators and investors including Longwood Fund, Novartis Institutes for Biomedical Research, Astellas Venture Management, Novartis Venture Fund, Bessemer Venture Partners, GV, 6 Dimensions Capital, and Pitango Venture Capital.