Adaptive biotechnologies™

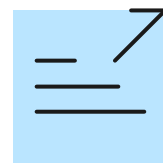# Decoding the Immune Response to COVID-19

Adaptive Biotechnologies and Microsoft are working together to provide the largest, real-time view of the adaptive immune response to SARS-COV-2 via an open database called ImmuneCODE™

What's inside:

With billions of T-cell receptors (TCRs) sequenced from thousands of de-identified patient samples, ImmuneCODE contains detailed information on the extraordinarily diverse set of T cells shown to specifically recognize unique features of SARS-COV-2, called antigens, with unprecedented speed and scale.[1]

T cells are the first responders to any infection and signal to B cells to produce antibodies.[1]

T cells contain a treasure trove of information that could provide one consistent and trackable measure of the immune response.[1,2]
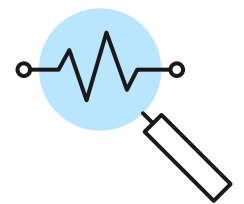
T cells play a critical role in confirming past infections to COVID-19 and understanding immunity.[2]

Data from ImmuneCODE is being made freely available to the global research community to develop better diagnostics, vaccines and therapeutics for the virus. The open data is being used to power:

1

immunoSEQ® T-MAP™ COVID: A new research tool for vaccine developers to accurately and reproducibly measure the T-cell immune response to vaccines in development and track the persistence of that response over time.[3]

2

T-Detect®: The first clinical T-cell based assay to confirm recent or past infection to SARS-COV-2. Data demonstrates that this a significantly more sensitive method to assess past infection than antibody testing in a real-world setting.[4]

[1]Adaptive Biotechnologies - ImmuneCODE™. https://immunerace.adaptivebiotech.com/data/.

[2]Dan JM, et al. Immunological memory to SARS-CoV-2 assessed for greater than six months after infection. bioRxiv. doi: https://doi.org/10.1101/2020.11.15.383323.

[3]Snyder TM, et al. Magnitude and dynamics of the T-cell response to SARS-CoV-2 infection at both individual and population levels. medRxiv. doi: https://doi.org/10.1101/2020.07.31.20165647

[4]Gittelman RM, et al. Diagnosis and Tracking of Past SARS-CoV-2 Infection in a Large Study of Vo', Italy Through T-Cell Receptor Sequencing. medRxiv. doi: https://doi.org/10.1101/2020.11.09.20228023