DATA SHEET

Product Name:	(SARS-CoV-2) S1 Protein-ACE2 Binding Inhibitor Screening Kit
Catalog #:	CV-4007
Size:	1 kit - 100 Assays
Sample Type:	Serum, Plasma
Components:	S1 Protein coated Microplate | 8 x 12 strips Biotinylated Human ACE2 | 1 Vial Streptavidin-HRP | 25 µl SARS-CoV-2 Inhibitor | 70 µl TMB Substrate | 20 ml Stop Solution | 20 ml Wash Buffer (10X) | 50 ml Assay Diluent | 50 ml Plate Sealers | 4
Storage:	Store the kit at -20˚C, protected from light. Briefly centrifuge small vials prior to opening. Upon opening, use within two months. • S1 Protein coated Microplate: Store at -20˚C • Biotinylated Human ACE2: Reconstitute the vial in 60 µl Assay Diluent. Divide into aliquots • & store at -20˚C. Keep on ice while in use. • Streptavidin-HRP: After opening, store at 4˚C, protected from light. • TMB Substrate, Stop Solution and Assay Diluent: After opening, store at 4˚C. Bring to room temperature (RT) before use. • SARS-CoV-2 Inhibitor: Divide into aliquots and store at -20˚C. Keep on ice while in use. • Wash Buffer (10X): Bring the bottle to RT. Prepare 1X Wash Buffer for the assay by diluting the 10X Wash Buffer with dH2O. The 1X Wash Buffer can be stored at 4˚C for one month.

For research use only. Not for use in humans.

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Description:	Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), also known as the 2019 Novel Coronavirus (2019-nCoV) or human coronavirus 2019 (HCoV-19 or hCoV-19), is the cause of the Coronavirus Disease 2019 (COVID-19) pandemic. It is a RNA virus that causes severe respiratory diseases in humans. (SARS-CoV-2) coronavirus contains four main structural proteins namely Spike (S), Membrane (M), Envelope (E), and Nucleocapsid (N) protein. Spike protein is located on the outer envelope of the virion and mediates the viral entry and thus, plays an important role in inducing neutralizing antibodies and protective immunity. S protein consists of S1 and S2 subunits. The S1 subunit contains a receptor-binding domain that can specifically bind to the host-receptor namely Angiotensin Converting Enzyme 2 (ACE2), which facilitates the entry of the virus into the target cells including respiratory or intestinal epithelial cells, endothelial cells, alveolar monocytes or macrophages. The receptor recognition step is an important determinant of the viral infectivity, pathogenesis & host range. Therefore, an intervention strategy that targets S1 protein and ACE2 interaction presents an important target for vaccination or antiviral strategies that includes small molecules and therapeutic antibodies. (SARS-CoV-2) S1 Protein-ACE2 Binding Inhibitor Screening Kit can be used to screen for potential inhibitors of S1 protein binding to human ACE2. In this assay, the binding of S1 protein to biotinylated human ACE2 is detected using Streptavidin-HRP. Subsequently, a TMB substrate is added to visualize the HRP enzymatic reaction thereby generating a blue colored product that changes to yellow once the stop solution is added. The density of the yellow color is proportional to the binding of S1 protein to Human ACE2. However, in the presence of potent inhibitor(s), the binding of S1 protein to Human ACE2 is suppressed thereby preventing the color generation. The assay kit is adapted to a 96-well format and provides a reliable test for high throughput screening of potential inhibitors of S1 protein binding to Human ACE2.
Application:	Screening or characterizing inhibitors of (SARS-CoV-2), S1 protein binding to human ACE2

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