Recombinant SARS-CoV-2 S1 Protein (C-10His)

Catalog Number: PKSV030278

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

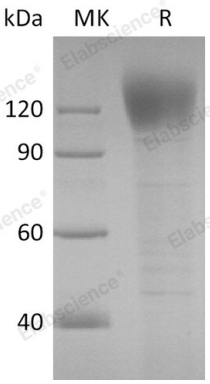
Description

Species	SARS-CoV-2
Source	HEK293 Cells-derived SARS-CoV-2 Spike protein Gln14-Arg685, with an C-terminal His
Calculated MW	76.6 kDa
Observed MW	100-130 kDa
Accession	QHD43416.1
Bio-activity	Loaded Human ACE-2-Fc on Protein A Biosensor, can bind 2019-nCoV S1 Protein-His with an affinity constant of 37.3 nM as determined in BLI assay.(Regularly tested)

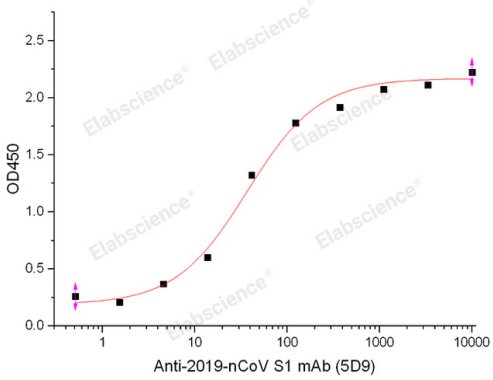
Properties

Purity	> 90 % as determined by reducing SDS-PAGE.
Concentration	Subject to label value.
Endotoxin	Please contact us for more information.
Storage	Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.
Shipping	This product is provided as liquid. It is shipped at frozen temperature with blue ice/ gel packs. Upon receipt, store it immediately at < - 20°C.
Formulation	Supplied as a 0.2 μm filtered solution of PBS, pH7.4.

Data



> 90 % as determined by reducing SDS-PAGE.



Immobilized 2019-nCoV S1 Protein-His at 2μg/ml (100 μl/well) can bind SARS-COV-2 Spike Monoclonal Antibody(2019-nCoV)(5D9)(Cat#E-AB-V1001). The ED50 of E-AB-V1001 is 36. 9 ng/ml.

Background

The spike (S) glycoprotein of coronaviruses contains protrusions that will only bind to certain receptors on the host cel l. Known receptors bind S1 are ACE2, angiotensin-converting enzyme 2; DPP4, dipeptidyl peptidase-4; APN, aminopeptidase N; CEACAM, carcinoembryonic antigen-related cell adhesion molecule 1; Sia, sialic acid; O-ac Sia, O-acetylated sialic acid. The spike is essential for both host specificity and viral infectivity. The spike (S) glycoprotein of coronaviruses is known to be essential in the binding of the virus to the host cell at the advent of the infection process. It's been reported that SARS-CoV-2 (COVID-19 coronavirus, 2019-nCoV) can infect the human respiratory epithelial cells through interaction with the human ACE2 receptor. The spike protein is a large type I transmembrane protein containing two subunits, S1 and S2. S1 mainly contains a receptor binding domain (RBD), which is responsible for recognizing the cell surface receptor. S2 contains basic elements needed for the membrane fusion. The S protein plays key parts in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity. The main functions for the Spike protein are summarized as: Mediate receptor binding and membrane fusion; Defines the range of the hosts and specificity of the virus; Main component to bind with the neutralizing antibody; Key target for vaccine design; Can be transmitted between different hosts through gene recombination or mutation of the receptor binding domain (RBD), leading to a higher mortality rate.

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