Recombinant SARS-CoV-2 Spike Protein (RBD-SD1, His Tag)

Catalog Number: PKSR030477

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

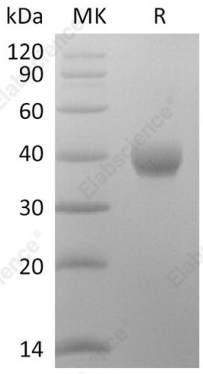
Description

Species	SARS-CoV-2
Source	HEK293 Cells-derived SARS-CoV-2 Spike protein Arg319-Ser591, with an C-terminal His
Calculated MW	141 kDa
Observed MW	35-43 kDa
Accession	QHD43416.1
Bio-activity	Immobilized Human ACE-2-Fc (PKSR030492) at 10 μg/ml (100 μl/well) can bind Recombinant 2019-nCoV Spike Protein (RBD-SD1, His Tag) (PKSR030477). The ED_{50} of Recombinant Recombinant 2019-nCoV Spike Protein (RBD-SD1, His Tag) (PKSR030477) is 0.64 μg/ml.

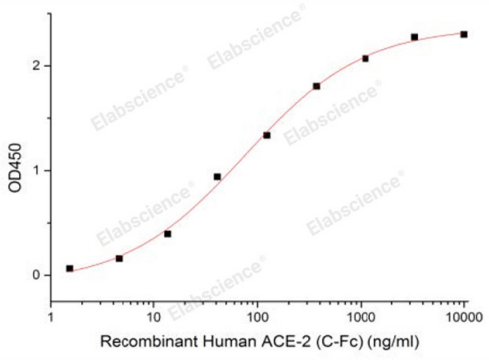
Properties

Purity	> 95% as determined by reducing SDS-PAGE.
Concentration	Subject to label value.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
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

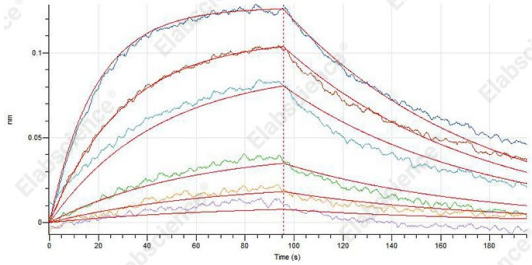


> 95 % as determined by reducing SDS-PAGE.



Immobilized Human ACE-2-Fc(PKSR030492) at 10μg/ml (100 μl/well) can bind Recombinant 2019-nCoV Spike Protein (RBD-SD1, His Tag) (PKSR030477). The ED50 of Recombinant Recombinant 2019-nCoV Spike Protein (RBD-SD1, His Tag) (PKSR030477) is 0.64 μg/ml.

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Loaded Human ACE-2-Fc(PKSR030492) on Protein A Biosensor, can bind 2019-nCoV S-trimer Protein RBD-SD1-His(PKSR030477) with an affinity constant of 15.56 nM as determined in BLI assay.

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 proces s. 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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