Recombinant SARS-CoV-2 S-trimer(D614G)(His Tag)

Catalog Number: PKSV030388

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

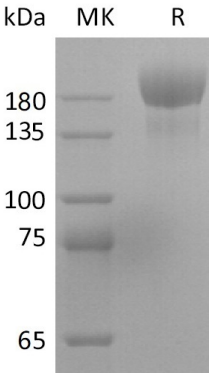
Description

Species	SARS-CoV-2
Source	HEK293 Cells-derived SARS-CoV-2 SARS-CoV-2 S-trimer(D614G) protein Cys15-Gln1208(D614G), with an C-terminal His
Calculated MW	136.5 kDa
Observed MW	170-220 kDa
Accession	QHD43416.1
Bio-activity	Immobilized Recombinant 2019-nCoV S-trimer Protein (His Tag)(D614G)(Active) (Cat#PKSV030388) at 2μg/ml (100 μl/well) can bind Recombinant Human ACE-2 Protein (Fc Tag)(Active)(Cat#PKSR030492). The ED_{50} of PKSR030492 is 31.75 ng/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, pH 7.4.

Data



Background

The spike (S) glycoprotein of coronaviruses contains protrusions that will only bind to certain receptors on the host cell. 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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