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

Catalog Number: PKSR030489

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 Cys15-Gln1208, with an C-terminal
		His
Calculated MW		136.6 kDa
Observed MW		170-220 kDa
Accession		QHD43416.1
Bio-activity		Loaded Human ACE-2-Fc on Protein A Biosensor, can bind 2019-nCoV S-trimer
		Protein-His with an affinity constant of 0.125 nM as determined in BLI assay.
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 $< -20^{\circ}$ C.
Formulation		Supplied as a 0.2 µm filtered solution of PBS, pH7.4.
Data		
	kDa	MK R
	180	0.3-
	135	
	100	0.2-
	75	
		0.1
	65	0
		0 100 200 300 400 500 Time (s)
	45	
> 95 % as determined by reducing SDS-PAGE. Loaded Human ACE-2-Fc on Protein A Biosensor, car		
		2019-nCoV S-trimer Protein-His with an affinity constant of
		0.125 nM as determined in BLI assay.

Background

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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, Oacetylated 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.