

Recombinant SARS-CoV-2 Spike RBD Protein (C-His Tag)(Omicron)

Catalog No. PKSV030477

Description

Synonyms	S protein RBD; 2019-nCoV S protein RBD; SARS-CoV-2 Spike RBD; Omicron Spike RBD
Species	SARS-CoV-2
Expression_host	HEK293 Cells
Sequence	Arg319-Phe541(G339D,S371L,S373P,S375F,K417N,N440K,G446S,S477N,T478K,E484A,Q493R,G496S,Q498R,N501Y,Y505H)
Accession	YP_009724390.1
Mol_Mass	26.2 kDa
AP_Mol_Mass	32-40kDa
Tag	C-His
Bio_activity	1.Loaded Human ACE2-Fc(PKSR030492) on Protein A Biosensor, can bind SARS-CoV-2 S RBD (Omicron, B.1.1.529)(PKSV030477) with an affinity constant of 6.32 nM as determined in BLI assay.2.Loaded Anti-SARS-CoV-2 S1 mAb-Fc on Protein A Biosensor, can bind SARS-CoV-2 S RBD (Omicron, B.1.1.529) with an affinity constant of 19.5 nM as determined in BLI assay.

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per µg 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
Reconstitution	Not Applicable

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 term 'peplomer' is typically used to refer to a grouping of heterologous proteins on the virus surface that function together. 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

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domain (RBD), leading to a higher mortality rate.