PRODUCT DATASHEET

Catalog No:	BSV-COV-PR-46	BSV-COV-PR-47
Pack Size	100 µg	500 µg
Product Name:	2019 nCoV/COVID19 RBD domain of spike recombinant protein (S), Biotinylated	
Description:	DNA sequence encoding the COVID-19 protein domain [319-541] of nCoV Spike (S) protein including a C-terminal His AVI tag was expressed in CHO cells.	
Species:	2019-nCoV, SARS-CoV-2	
Sequence:	DNA sequence encoding the COVID-19 protein domain [319-541] of nCoV Spike (S) protein including a C-terminal His AVI tag was expressed in CHO cells.	
Accession No.:	6vsb_A	
Tag:	C-terminal His AVI Tag	
Host:	CHO cells	
Activity:	The activity was tested by binding human ACE2 with biotinylated RBD in a functional ELISA assay, the linear was determined to be 10-100 ng/ml.	
Purity:	>95% as determined by SDS-PAGE and HPLC.	

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Predicted Molecular Mass:	Recombinant 2019 nCoV RBD is a protein consisting of 250 amino acid residues, due to glycosylation migrates as an approximately 35 kDa protein on SDS-PAGE.
Presentation:	Lyophilised from 0.2μM filtered PBS, pH 7.4
Endotoxin:	Endotoxin level is < 0.1 ng/μg of protein (<1.0 EU/μg purified protein) (LAL test)
Shipping, Storage and Stability:	The lyophilized protein is stable for at least 2 years from the date of receipt at -20°C.

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Background:	The spike (S) glycoprotein of coronaviruses contains protrusions that will only bind to certain receptors on the host cell. It has been reported that 2019-nCoV can infect the human Respiratory Epithelial cells through interaction with the human ACE2 receptor. The S 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. So, S protein has a key role in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity. Known receptors binding 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 S protein 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. Besides, the S protein is known to be essential in the binding of the virus to the host cell at the advent of the infection process. The main functions for the S 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.

FOR RESEARCH LABORATORY TEST USE ONLY!

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