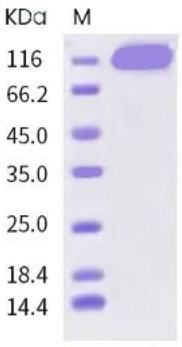
PRODUCT DATASHEET

Catalog No:	BSV-COV-PR-02
Pack Size	100 µg
Product Name:	SARS-CoV-2 (2019-nCoV) Spike Protein (S1 Subunit, His Tag)
Description:	A DNA sequence encoding the NCP-CoV(2019-nCoV) spike protein S1 Subunit was expressed with a polyhistidine tag at the C-terminus.
Species:	2019-nCoV, SARS-CoV-2
Sequence:	A DNA sequence encoding the NCP-CoV (2019-nCoV) Spike Protein (RBD) was expressed with the Fc region of mouse IgG1 at the C-terminus.
Accession No.:	YP_009724390.1
Tag:	C-terminal His Tag
Host:	Expressed in HEK293 cells
Applications:	The 2019-nCoV Spike Protein (S1 Subunit, His Tag) can bind with Human ACE2 in functional ELISA assay.
Purity:	>90% as determined by SDS-PAGE.
Predicted Molecular Mass:	 The recombinant NCP-CoV(2019-nCoV) Spike Protein (S1 Subunit, His Tag) consists of 681 amino acids and predicts a molecular mass of 76.5 kDa.

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Formulation:	Lyophilized from sterile PBS, pH 7.4.
Endotoxin:	Endotoxin level is < 1.0 EU/μg purified protein (LAL test)
Shipping, Storage and Stability:	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. Samples are stable for up to twelve months from date of receipt at -20℃ to -80℃ Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
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 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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