

Recombinant COVID-19 Full Length Spike Protein(Val16-Pro1213, R683A, R685A), His-tagged, active trimer (MALS verified)

Cat. No. Spike-208V **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant COVID-19 full length active trimer Spike protein(R683A, R685A)(MALS verified) was fused to His-tag at the C-terminus and expressed in HEK293.
Species	Sars-CoV-2
Source	HEK293
ProteinLength	Val16-Pro1213
Description	Protein S (PROS1) is glycoprotein and expressed in many cell types supporting its reported involvement in multiple biological processes that include coagulation, apoptosis, cancer development and progression, and the innate immune response. Known receptors bind S1 are ACE2, DPP4, CEACAM etc.. It's been reported that COVID-19 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.
Predicted N Terminal	Val16

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Form	Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally trehalose is added as protectant before lyophilization.
Molecular Mass	The protein has a calculated MW of 138.0 kDa. The protein migrates as 160-230 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.
Endotoxin	Less than 1.0 EU per µg by the LAL method.
Purity	>90% as determined by SDS-PAGE.
Storage	For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles. This product is stable after storage at: -20 to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.25 mg/ml. Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

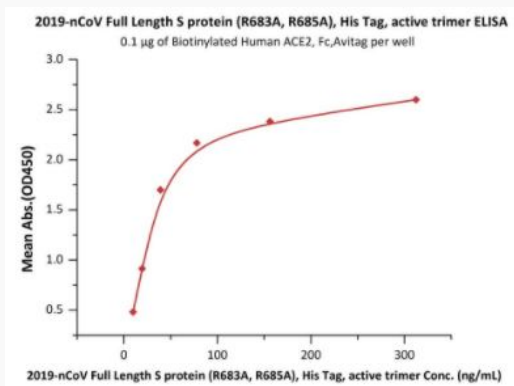
Gene Name	S
Official Symbol	S
Synonyms	GU280_gp02
Gene ID	43740568
Protein Refseq	YP_009724390.1

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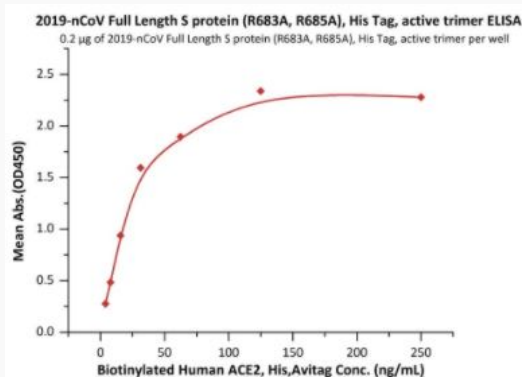
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Bioactivity-ELISA of Spike-208V



Immobilized Biotinylated Human ACE2, Fc,Avitag at 1 µg/mL (100 µL/well) on streptavidin precoated (0.5 µg/well) plate, can bind COVID-19 Full Length S protein (R683A, R685A), His Tag, active trimer with a linear range of 10-40 ng/mL (QC tested).

Bioactivity-ELISA of Spike-208V

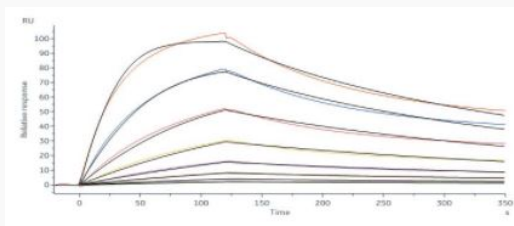


Immobilized COVID-19 Full Length S protein (R683A, R685A), His Tag, active trimer at 2 µg/mL (100 µL/well) can bind Biotinylated Human ACE2, His,Avitag with a linear range of 4-63 ng/mL (Routinely tested).

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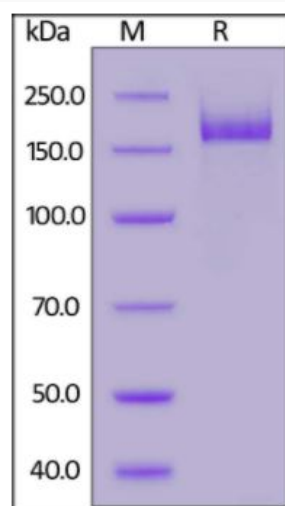
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Bioactivity-SPR of Spike-208V

Human ACE2, Fc Tag (MALS verified) Captured on CM5 chip via anti-human IgG Fc antibodies surface can bind COVID-19 Full Length S protein (R683A, R685A), His Tag, active trimer with an affinity constant of 35.3 nM as determined in a SPR assay (Routinely tested).

SDS-PAGE of Spike-208V



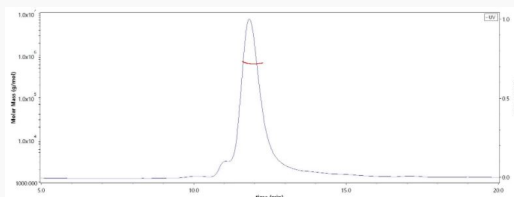
COVID-19 Full Length S protein (R683A, R685A), His Tag, active trimer on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

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SEC-MALS of Spike-208V



The purity of COVID-19 Full Length S protein (R683A, R685A), His Tag, active trimer was more than 85% and around 640-680 kDa verified by SEC-MALS.

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