

Recombinant COVID-19 S protein RBD, His-tagged (MALS verified)

Cat. No. Spike-212V **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant COVID-19 S protein RBD (MALS verified) (Arg319-Lys537) was fused to His-tag at the C-terminus and expressed in human 293 cells (HEK293).
Species	Sars-CoV-2
Source	HEK293
ProteinLength	Arg319-Lys537
Description	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	Arg319
Form	Lyophilized from 0.22 µm filtered solution in PBS, pH7.4, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 26.5 kDa. The protein migrates as 32-35 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

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Endotoxin	Less than 1.0 EU per µg by the LAL method.
Purity	>95% as determined by SDS-PAGE. >90% as determined by SEC-MALS.
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 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

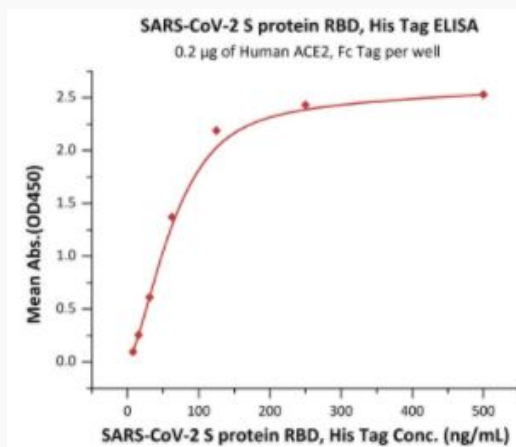
Gene Name	S
Official Symbol	S
Synonyms	spike glycoprotein
Gene ID	43740568
Protein Refseq	YP_009724390.1
UniProt ID	P0DTC2

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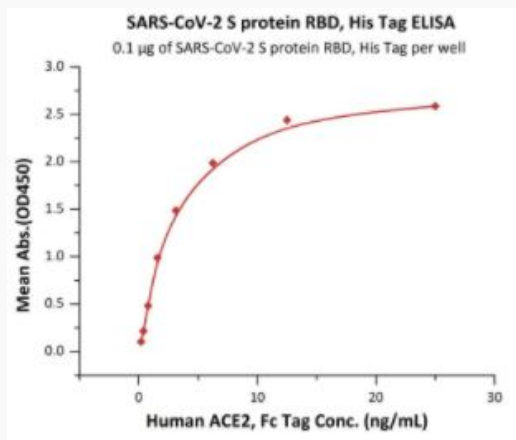
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Bioactivity-ELISA of Spike-212V



Immobilized Human ACE2, Fc Tag at 2 µg/mL (100 µL/well) can bind COVID-19 S protein RBD, His Tag with a linear range of 8-125 ng/mL (QC tested).

Bioactivity-ELISA of Spike-212V



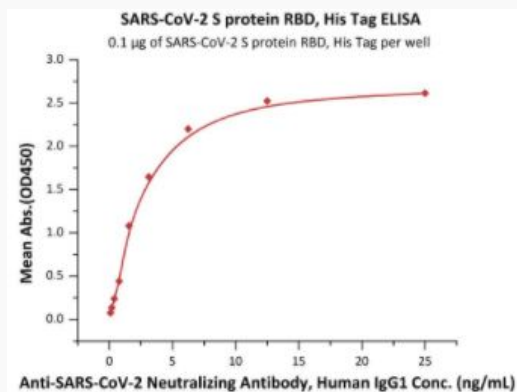
Immobilized COVID-19 S protein RBD, His Tag at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag with a linear range of 0.2-3 ng/mL (Routinely tested).

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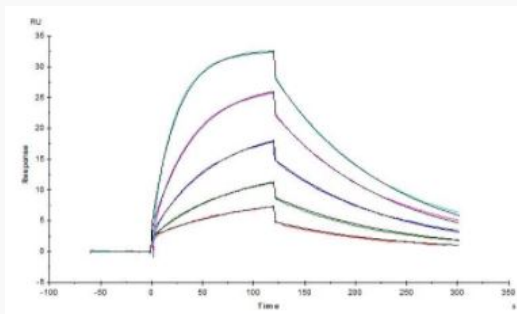
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Bioactivity-ELISA of Spike-212V



Immobilized COVID-19 S protein RBD, His Tag at 1 µg/mL (100 µL/well) can bind Anti-COVID-19 Neutralizing Antibody, Human IgG1 with a linear range of 0.1-3 ng/mL (Routinely tested).

Bioactivity-SPR of Spike-212V



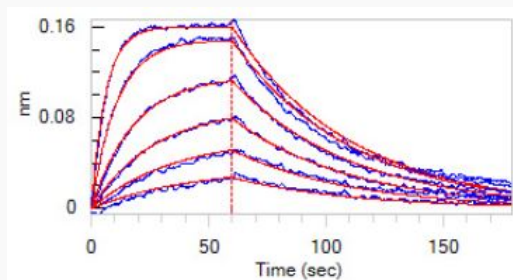
Human ACE2, Fc Tag captured on CM5 chip via anti-human IgG Fc antibodies surface can bind COVID-19 S protein RBD, His Tag with an affinity constant of 17 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

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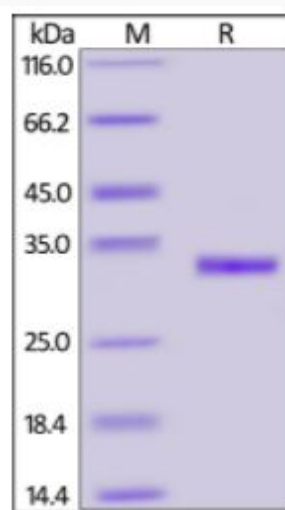
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Bioactivity-BLI of Spike-212V



Loaded Human ACE2, Fc Tag on Protein A Biosensor, can bind COVID-19 S protein RBD, His Tag with an affinity constant of 34.5 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

SDS-PAGE of Spike- 212V



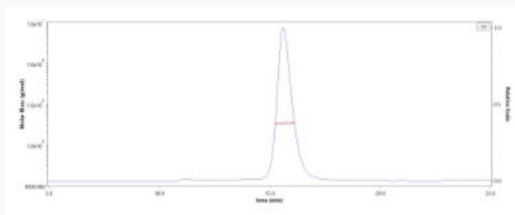
COVID-19 S protein RBD, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

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SEC-MALS of Spike-212V



The purity of COVID-19 S protein RBD, His Tag was more than 90% and around 30-40 kDa verified by SEC-MALS.

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