

Recombinant COVID-19 S protein RBD, Fc-tagged

Cat. No. Spike-187V **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant COVID-19 S protein RBD (Arg319-Phe541), fused to a mouse IgG2a Fc tag at the C-terminus, was expressed in human 293 cells (HEK293).
Species	Sars-CoV-2
Source	HEK293
ProteinLength	Arg319-Phe541
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 Tris with Glycine, Arginine and NaCl, pH7.5, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 52.0 kDa. The protein migrates as 60-65 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

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

GENE INFORMATION

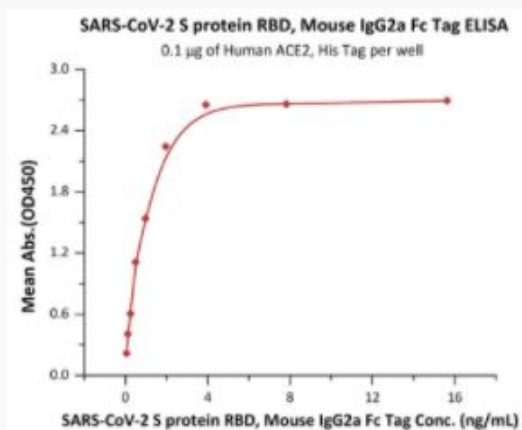
Gene Name	S
Official Symbol	S
Synonyms	spike glycoprotein
Gene ID	43740568
Protein Refseq	YP_009724390.1
UniProt ID	P0DTC2

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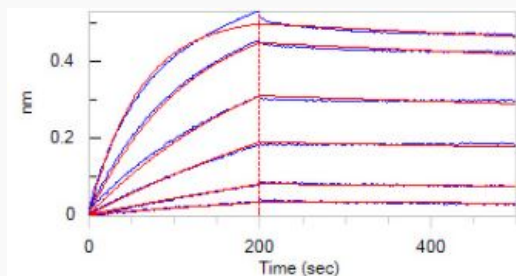
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Bioactivity-ELISA of Spike-187V



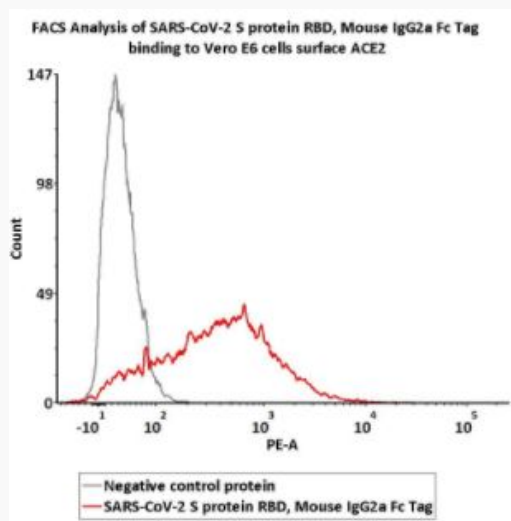
Immobilized Human ACE2, His Tag at 1 µg/mL (100 µL/well) can bind COVID-19 S protein RBD, Mouse IgG2a Fc Tag with a linear range of 0.06-2 ng/mL (QC tested).

Bioactivity-BLI of Spike-187V



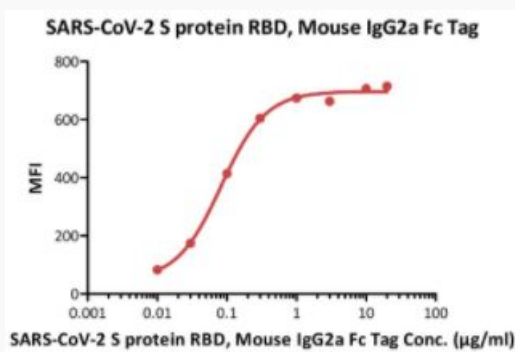
Loaded COVID-19 S protein RBD, Mouse IgG2a Fc Tag on AMC Biosensor, can bind Human ACE2, His Tag with an affinity constant of 1.75 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Bioactivity-FACS of Spike-187V



FACS analysis shows that COVID-19 S protein RBD, Mouse IgG2a Fc Tag can bind to Vero E6 cells surface ACE2. The concentration of COVID-19 S protein RBD is 3 $\mu\text{g/mL}$ (Routinely tested).

Bioactivity-FACS of Spike-187V



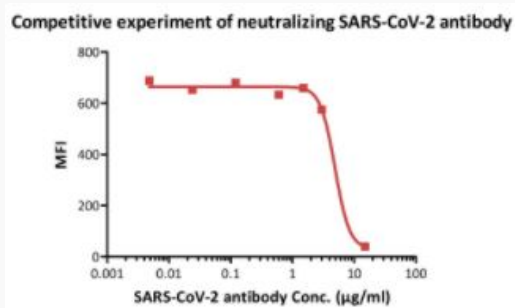
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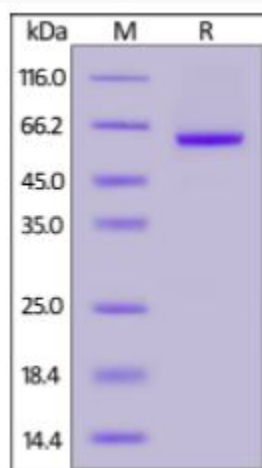
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Bioactivity-FACS of Spike-187V



FACS analysis shows that the binding of COVID-19 S protein RBD, Mouse IgG2a Fc Tag to Vero E6 cells surface ACE2 was inhibited by increasing concentration of neutralizing COVID-19 antibody. The concentration of SARS-CoV-2 S protein RBD used is 3 µg/mL. The IC₅₀ is 4.895 µg/mL (Routinely tested).

SDS-PAGE of Spike-187V



COVID-19 S protein RBD, Mouse IgG2a Fc 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%.