



### Synonym

Spike,S protein RBD,Spike glycoprotein Receptor-binding domain,S glycoprotein RBD,Spike protein RBD

### Source

SARS-CoV-2 S protein RBD, His Tag(SPD-C52H3) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # [QHD43416.1](#)).

Predicted N-terminus: Arg 319

### Molecular Characterization

S protein RBD(Arg 319 - Lys 537) QHD43416.1	Poly-his
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This protein carries a polyhistidine tag at the C-terminus.

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.

### 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.

### Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

### Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

### Storage

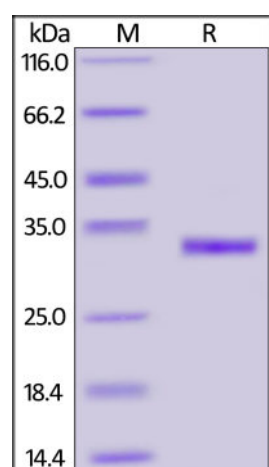
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

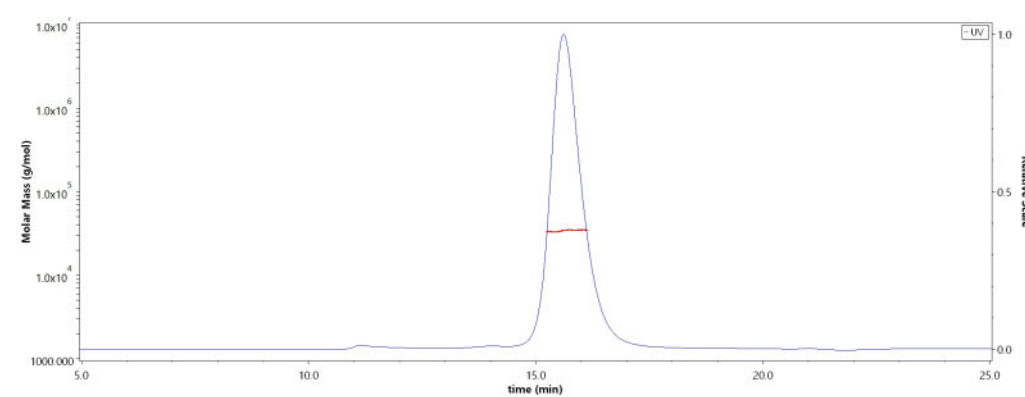
### SDS-PAGE



SARS-CoV-2 S protein RBD, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

### Bioactivity-ELISA

### SEC-MALS

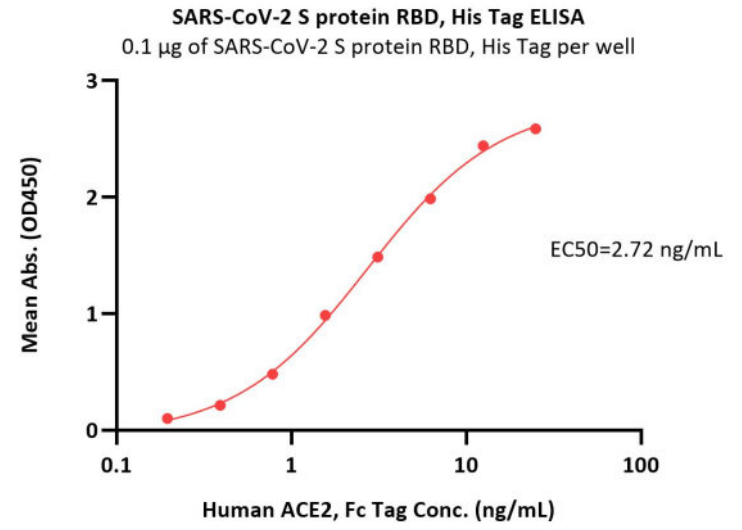
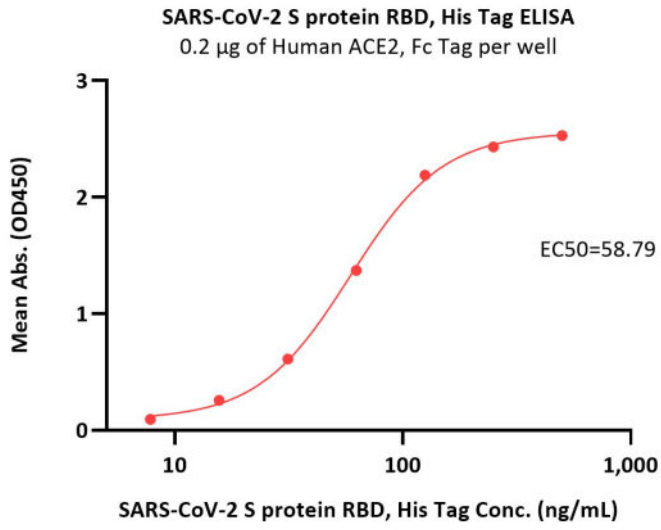


The purity of SARS-CoV-2 S protein RBD, His Tag (Cat. No. SPD-C52H3) is more than 90% and the molecular weight of this protein is around 30-40 kDa verified by SEC-MALS.

[Report](#)

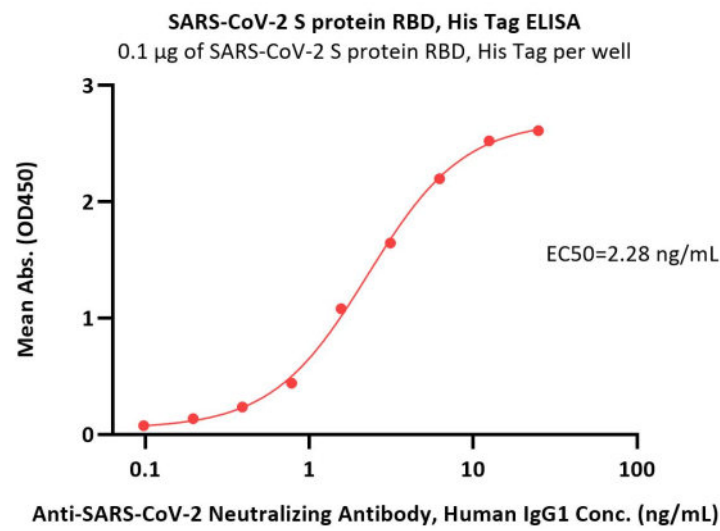
Discounts, Gifts,  
and more!





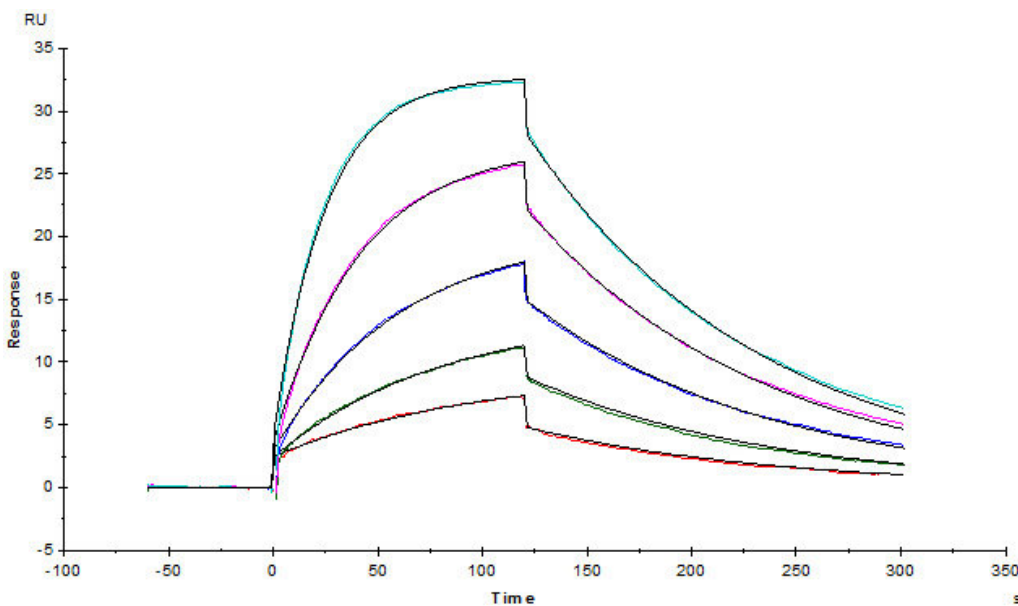
Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 2 µg/mL (100 µL/well) can bind SARS-CoV-2 S protein RBD, His Tag (Cat. No. SPD-C52H3) with a linear range of 8-125 ng/mL (QC tested).

Immobilized SARS-CoV-2 S protein RBD, His Tag (Cat. No. SPD-C52H3) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.2-3 ng/mL (Routinely tested).



Immobilized SARS-CoV-2 S protein RBD, His Tag (Cat. No. SPD-C52H3) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) with a linear range of 0.1-3 ng/mL (Routinely tested).

**Bioactivity-SPR**



Human ACE2, Fc Tag (Cat. No. AC2-H5257) captured on CM5 chip via anti-human IgG Fc antibodies surface can bind SARS-CoV-2 S protein RBD, His



# SARS-CoV-2 (COVID-19) S protein RBD, His Tag (MALS verified)

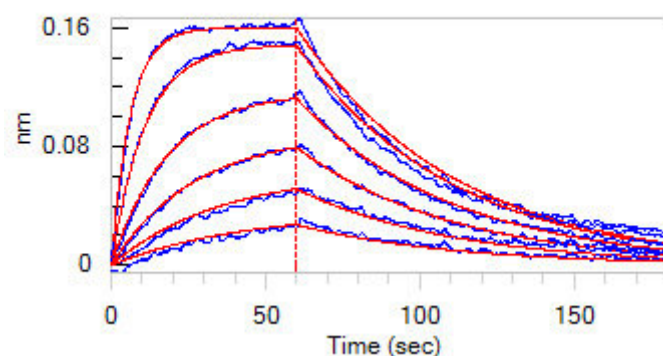
Catalog # SPD-C52H3



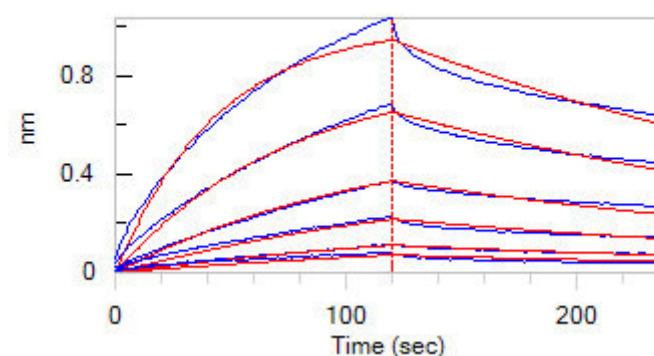
BIOSYSTEMS  
**Acro**

Tag (Cat. No. SPD-C52H3) with an affinity constant of 17 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

## Bioactivity-BLI



Loaded Human ACE2, Fc Tag (Cat. No. AC2-H5257) on Protein A Biosensor, can bind SARS-CoV-2 S protein RBD, His Tag (Cat. No. SPD-C52H3) with an affinity constant of 34.5 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



Loaded Biotinylated Human Neuropilin-1, His, Avitag (Cat. No. NR1-H82E3) on SA Biosensor, can bind SARS-CoV-2 S protein RBD, His Tag (Cat. No. SPD-C52H3) with an affinity constant of 1.01  $\mu$ M as determined in BLI assay (ForteBio Octet Red96e)

## Background

It's been reported that Coronavirus 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.

## Clinical and Translational Updates

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