



## Synonym

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

## Source

SARS-CoV-2 S protein RBD, Mouse IgG2a Fc Tag(SPD-C5259) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Phe 541 (Accession # [QHD43416.1](#)).

Predicted N-terminus: Arg 319

## Molecular Characterization

S protein RBD(Arg 319 - Phe 541)	mFc(Glu 98 - Lys 330)
QHD43416.1	P01863

This protein carries a mouse IgG2a Fc tag at the C-terminus.

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.

## Endotoxin

Less than 1.0 EU per  $\mu$ g by the LAL method / rFC method.

## Purity

>95% as determined by SDS-PAGE.

## Formulation

Lyophilized from 0.22  $\mu$ m 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

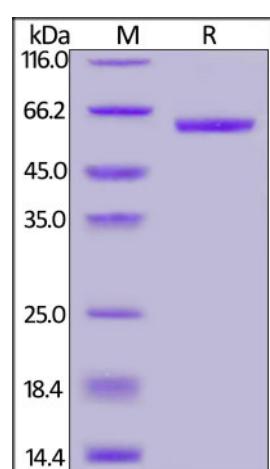
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

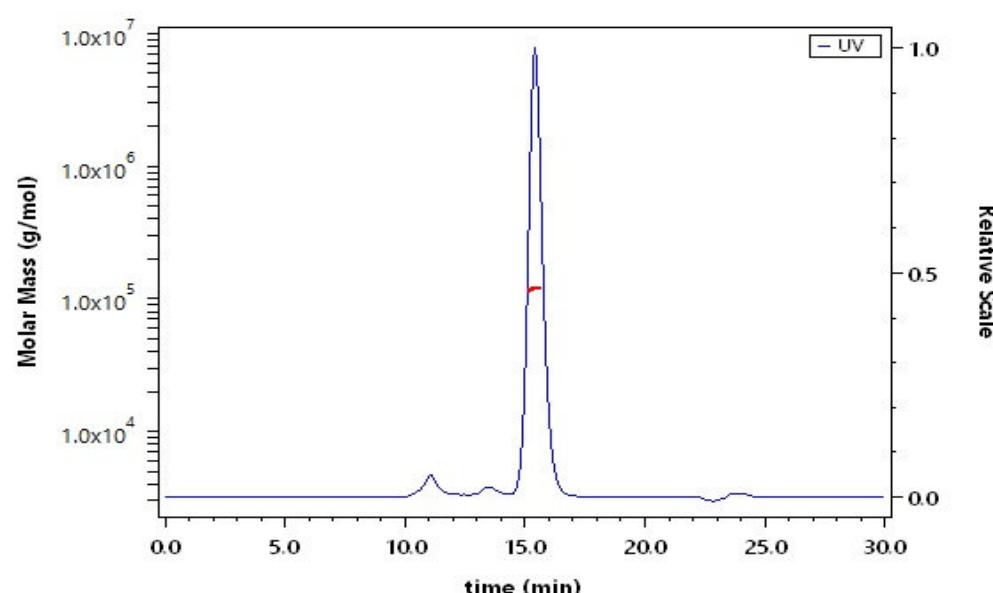
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE



SARS-CoV-2 S protein RBD, Mouse IgG2a Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

## SEC-MALS



The purity of SARS-CoV-2 S protein RBD, Mouse IgG2a Fc Tag (Cat. No. SPD-C5259) is more than 85% and the molecular weight of this protein is around 105-120 kDa verified by SEC-MALS.

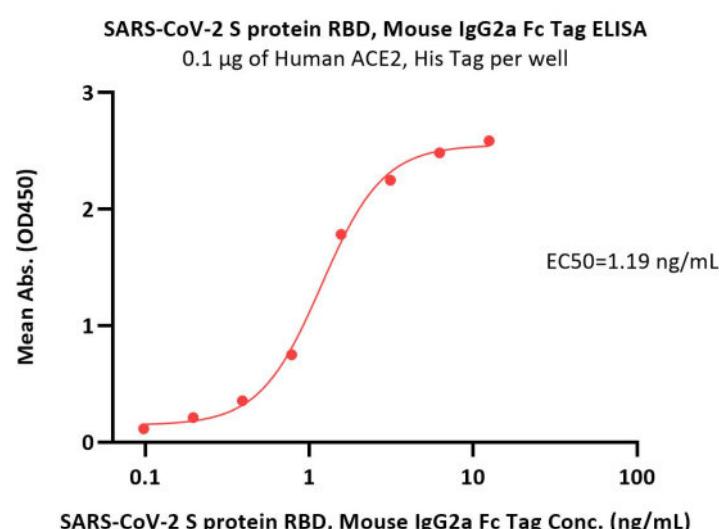
[Report](#)

## Bioactivity-ELISA

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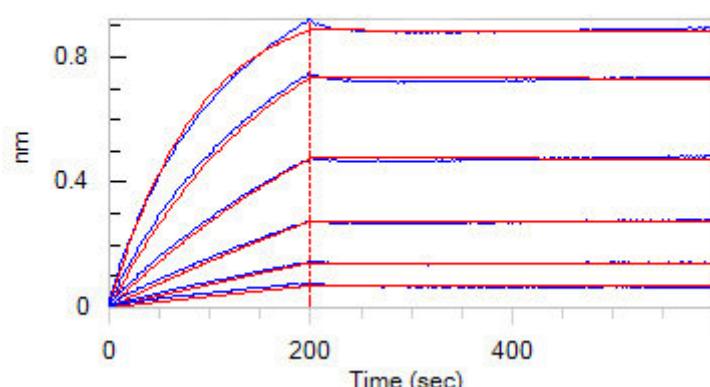


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Immobilized Human ACE2, His Tag (Cat. No. AC2-H52H8) at 1 µg/mL (100 µL/well) can bind SARS-CoV-2 S protein RBD, Mouse IgG2a Fc Tag (Cat. No. SPD-C5259) with a linear range of 0.1-2 ng/mL (QC tested).

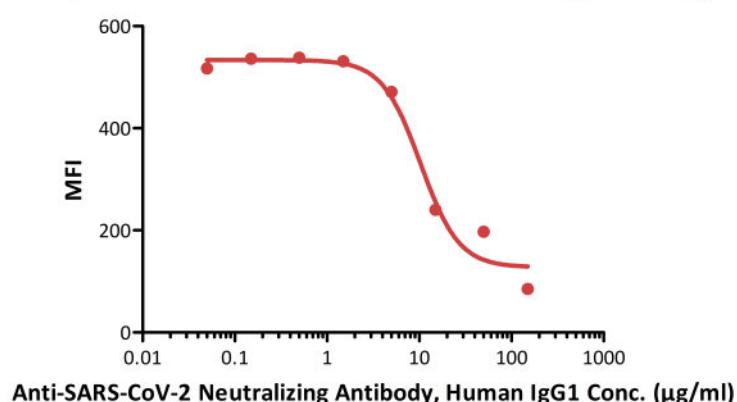
### Bioactivity-BLI



Loaded SARS-CoV-2 S protein RBD, Fc Tag (Cat. No. SPD-C5259) on Protein A Biosensor, can bind Human ACE2, His Tag (Cat. No. AC2-H52H8) with an affinity constant of 0.123nM as determined in BLI assay (ForteBio Octet Red96e)(Routinely tested).

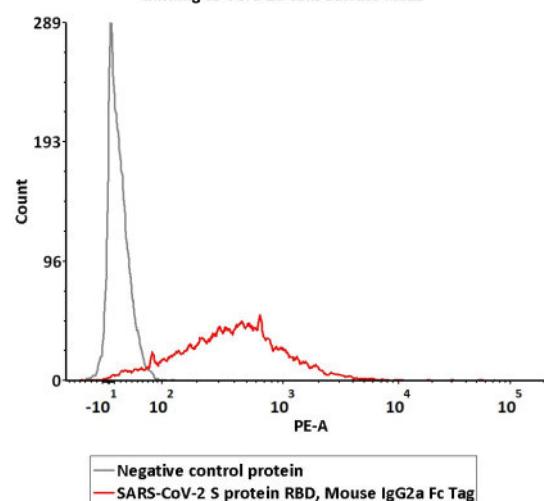
### Bioactivity-FACS

#### Competitive experiment of Anti-SARS-CoV-2 Neutralizing Antibody, Human IgG1



FACS analysis shows that the binding of SARS-CoV-2 S protein RBD, Mouse IgG2a Fc Tag (Cat. No. SPD-C5259) to Vero E6 cells surface ACE2 was inhibited by increasing concentration of Anti-SARS-CoV-2 Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35). The

#### FACS Analysis of SARS-CoV-2 S protein RBD, Mouse IgG2a Fc Tag binding to Vero E6 cells surface ACE2



FACS analysis shows that SARS-CoV-2 S protein RBD, Mouse IgG2a Fc Tag (Cat. No. SPD-C5259) can bind to Vero E6 cells surface ACE2. The concentration of SARS-CoV-2 S protein RBD is 5 µg/ml.

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**concentration of SARS-CoV-2 S protein RBD used is 5 $\mu$ g/ml. The IC50 is 10.33  $\mu$ g/ml (Routinely tested).**

## 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.

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