

### Synonym

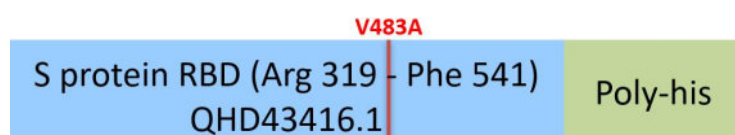
Spike,S protein RBD,Spike glycoprotein Receptor-binding domain,S glycoprotein RBD,Spike protein RBD

### Source

SARS-CoV-2 S protein RBD (V483A), His Tag(SPD-C52H5) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Phe 541 (Accession # [QHD43416.1](#) (V483A)).

Predicted N-terminus: Arg 319

### Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 27.0 kDa. The protein migrates as 33-35 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.

### 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

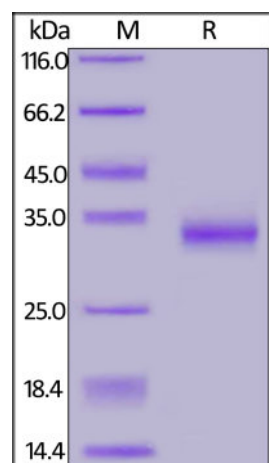
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

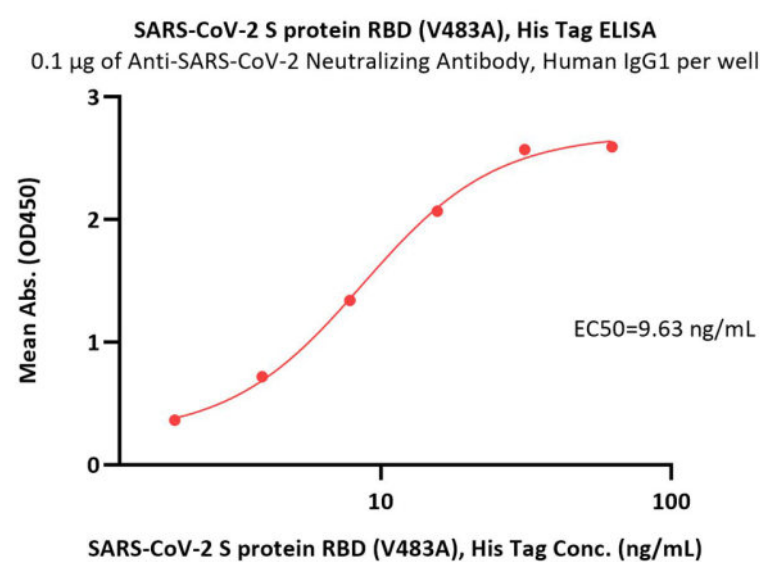
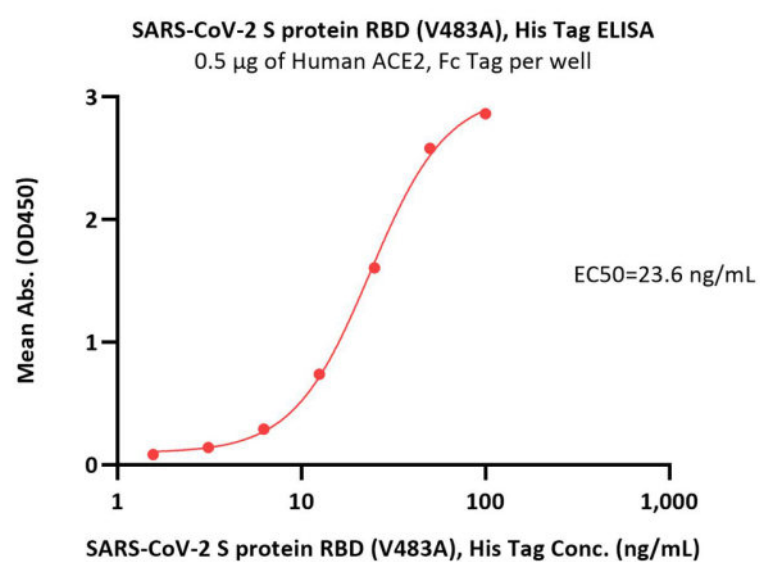
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### SDS-PAGE



SARS-CoV-2 S protein RBD (V483A), 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%.

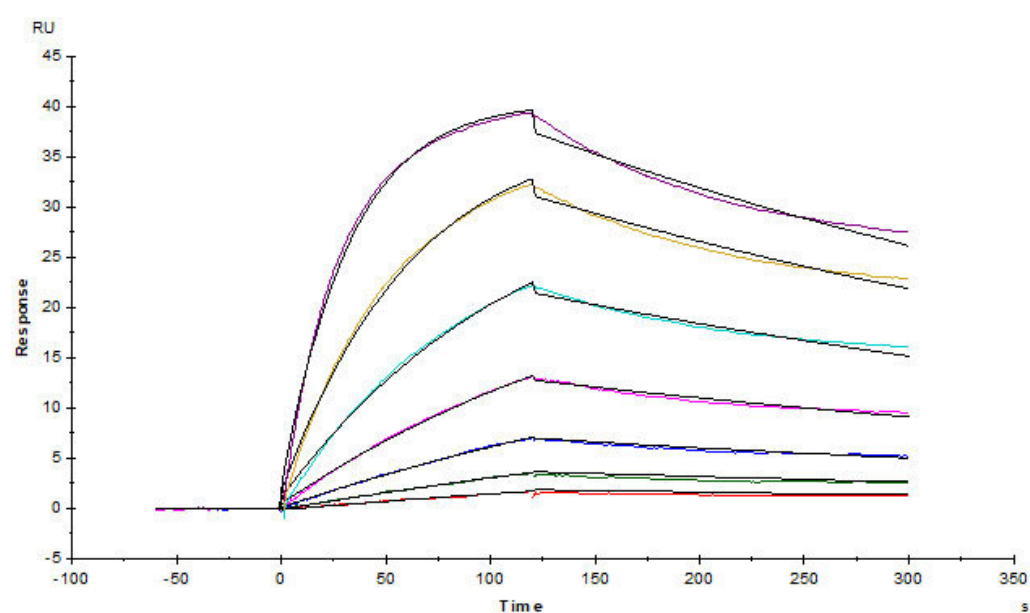
### Bioactivity-ELISA



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 5 µg/mL (100 µL/well) can bind SARS-CoV-2 S protein RBD (V483A), His Tag (Cat. No. SPD-C52H5) with a linear range of 2-50 ng/mL (QC tested).

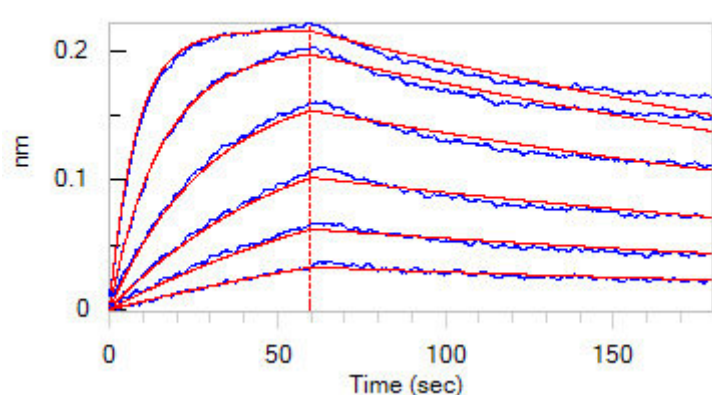
Immobilized Anti-SARS-CoV-2 Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) at 1 µg/mL (100 µL/well) can bind SARS-CoV-2 S protein RBD (V483A), His Tag (Cat. No. SPD-C52H5) with a linear range of 2-16 ng/mL (Routinely tested).

**Bioactivity-SPR**

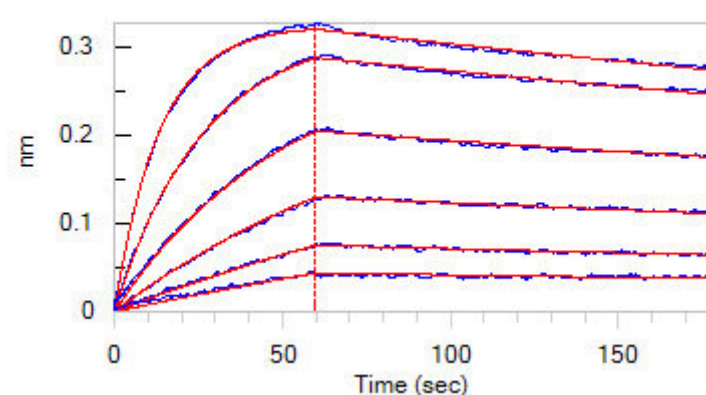


Human ACE2, Fc Tag (Cat. No. AC2-H5257) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind SARS-CoV-2 S protein RBD (V483A), His Tag (Cat. No. SPD-C52H5) with an affinity constant of 4.13 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

**Bioactivity-BLI**



Loaded Human ACE2, Fc Tag (Cat. No. AC2-H5257) on Protein A Biosensor, can bind SARS-CoV-2 S protein RBD (V483A), His Tag (SPD-C52H5) with



Loaded Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) on AHC Biosensor, can bind SARS-CoV-2 S protein RBD (V483A), His Tag (Cat. No. SPD-C52H5) with an affinity constant of

an affinity constant of 6.15 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

**4.57 nM as determined in BLI assay (ForteBio Octet Red96e) (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.

## Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.