

Synonym

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

Source

SARS-CoV-2 S protein RBD (A475V), His Tag (SPD-C52Hd) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537(A475V) (Accession # [QHD43416.1\(A475V\)](#)).
Predicted N-terminus: Arg 319

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 26.5 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. Normally trehalose is added as protectant before lyophilization.

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.

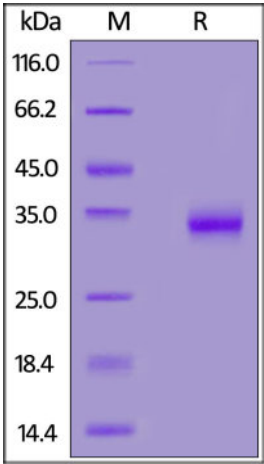
Storage

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

Please avoid repeated freeze-thaw cycles.

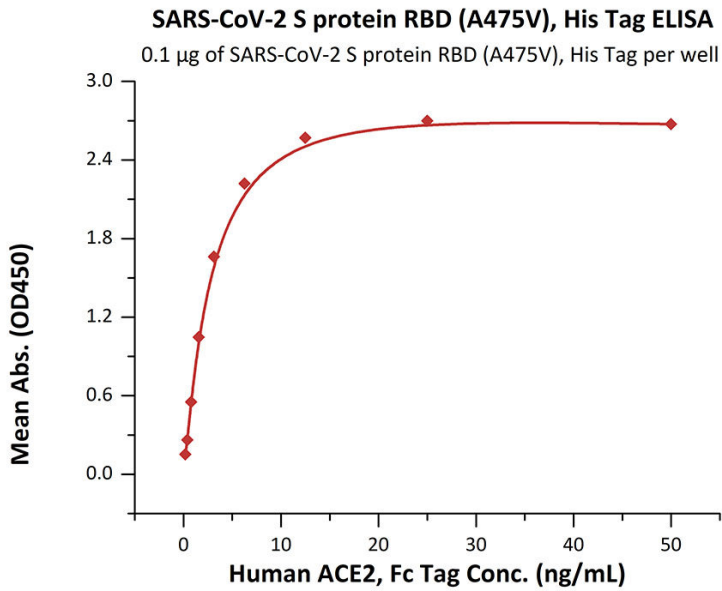
- This product is stable after storage at:
- -20°C to -70°C for 12 months in lyophilized state;
 - -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

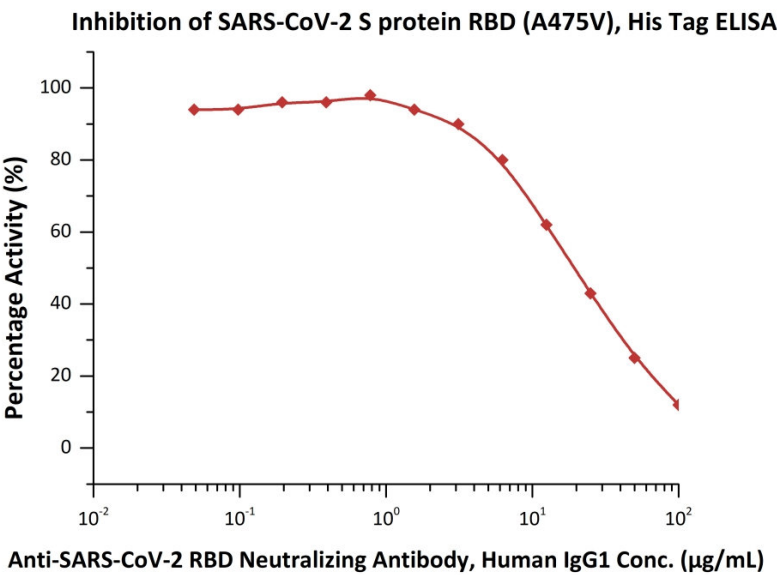


SARS-CoV-2 S protein RBD (A475V), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

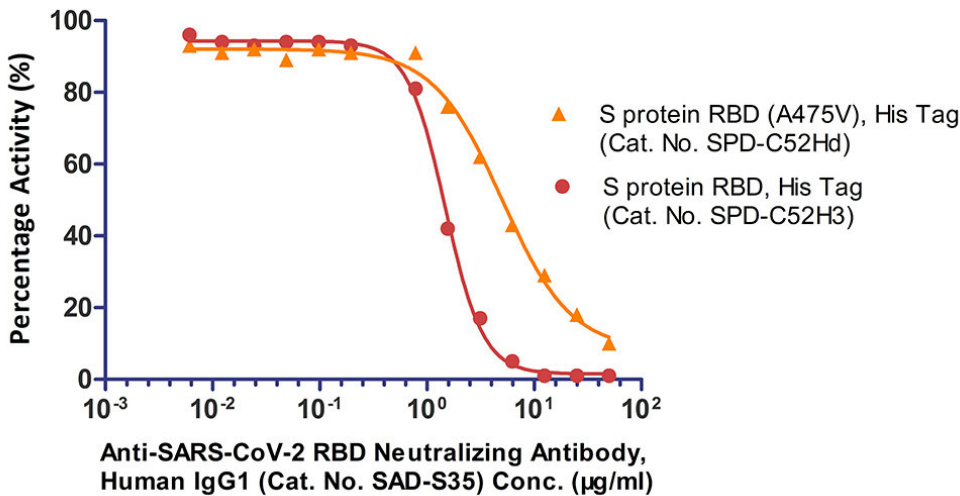
Bioactivity-ELISA



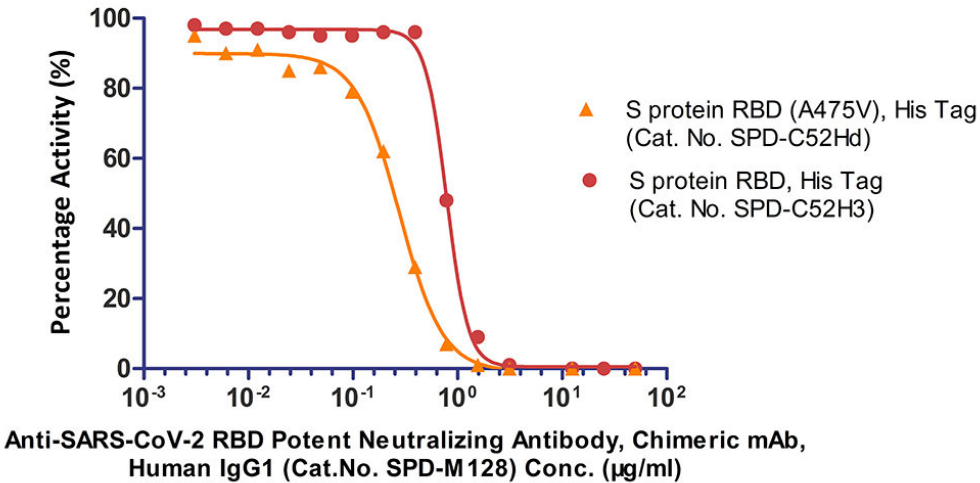
Immobilized SARS-CoV-2 S protein RBD (A475V), His Tag (Cat. No. [SPD-C52Hd](#)) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. [AC2-H5257](#)) with a linear range of 0.1-3 ng/mL (QC tested).



Serial dilutions of Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat. No. [SAD-S35](#)) were added into SARS-CoV-2 S protein RBD (A475V), His Tag (Cat. No. [SPD-C52](#)) : Biotinylated Human ACE2, His,Avitag (Cat. No. AC2-H82E6) binding reactions. The half maximal inhibitory concentration (IC50) is 19.5 µg/mL (Routinely tested).



Serial dilutions of Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat.No. SAD-S35) were added into SARS-CoV-2 (COVID-19) S protein RBD (A475V), His Tag (Cat.No. SPD-C52Hd) and SARS-CoV-2 (COVID-19) S protein RBD, His Tag (Cat.No. SPD-C52H3) : Biotinylated Human ACE2 / ACEH Protein, His,Avitag™ (MALS verified) (Cat.No. AC2-H82E6) binding reactions. The half maximal inhibitory concentrations (IC50) of SARS-CoV-2 (COVID-19) S protein RBD (A475V), His Tag (Cat.No. SPD-C52Hd) and SARS-CoV-2 (COVID-19) S protein RBD, His Tag (Cat.No. SPD-C52H3) are 4.67291 µg/mL and 1.44469 µg/mL respectively (Routinely tested).

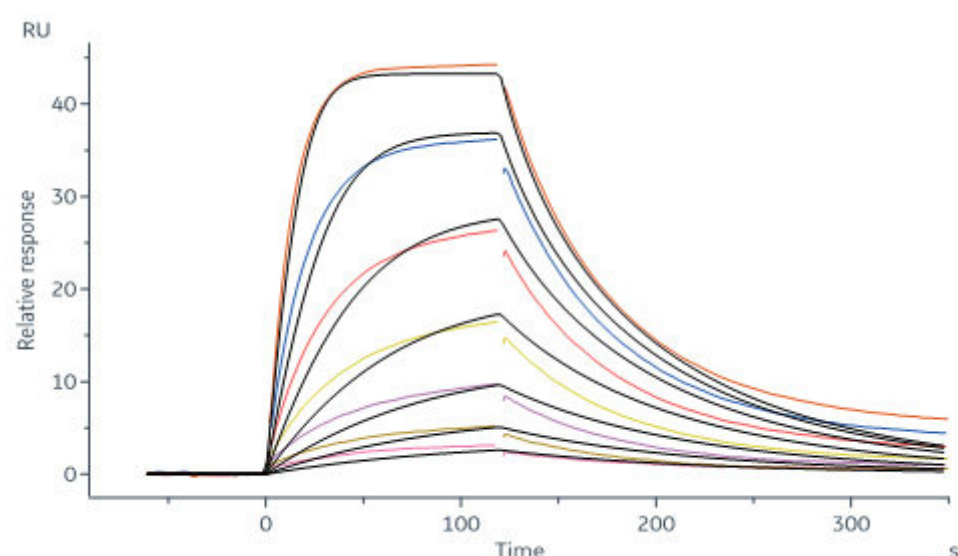


Serial dilutions of Anti-SARS-CoV-2 RBD Potent Neutralizing Antibody, Chimeric mAb, Human IgG1 (Cat. No. [SPD-M128](#)) were added into SARS-CoV-2 (COVID-19) S protein RBD (A475V), His Tag (Cat.No. SPD-C52Hd) and SARS-CoV-2 (COVID-19) S protein RBD, His Tag (Cat.No. SPD-C52H3) : Biotinylated Human ACE2 / ACEH Protein, His,Avitag™ (MALS verified) (Cat.No. AC2-H82E6) binding reactions. The half maximal inhibitory concentrations (IC50) of SARS-CoV-2 (COVID-19) S protein RBD (A475V), His Tag (Cat.No. SPD-C52Hd) and SARS-CoV-2 (COVID-19) S protein RBD, His Tag (Cat.No. SPD-C52H3) are 0.26478 µg/mL and 0.78328 µg/mL respectively (Routinely tested).

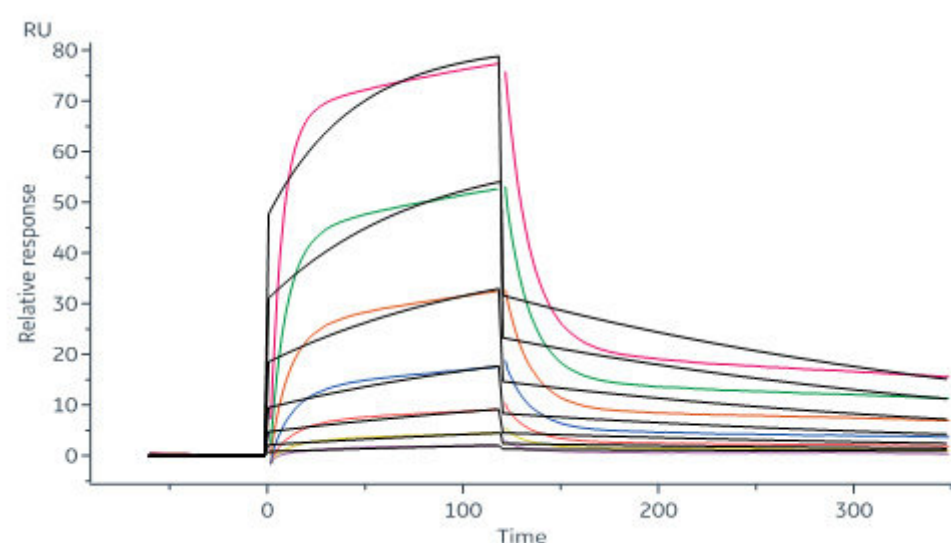
Bioactivity-SPR

SARS-CoV-2 (COVID-19) S protein RBD (A475V), His Tag

Catalog # SPD-C52Hd

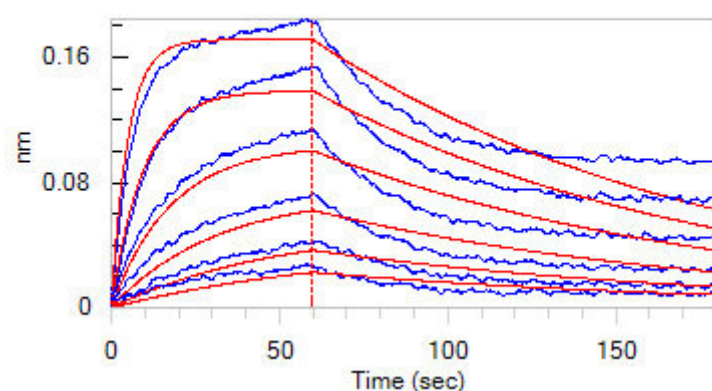


Human ACE2, Fc Tag (Cat. No. AC2-H5257) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind SARS-CoV-2 S protein RBD (A475V), His Tag (Cat. No. SPD-C52Hd) with an affinity constant of 25.8 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).



Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind SARS-CoV-2 S protein RBD (A475V), His Tag (Cat. No. SPD-C52Hd) with an affinity constant of 87.7 nM as determined in a SPR assay (Biacore 8K) (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 (A475V), His Tag (Cat. No. SPD-C52Hd) with an affinity constant of 11 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Background

It's been reported that SARS-CoV-2 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 if you have any question on this product.