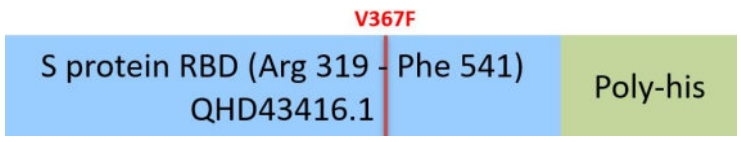
Synonym

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

Source

SARS-CoV-2 S protein RBD (V367F), His Tag(SPD-S52H4) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Phe 541 (Accession # QHD43416.1 (V367F)).
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

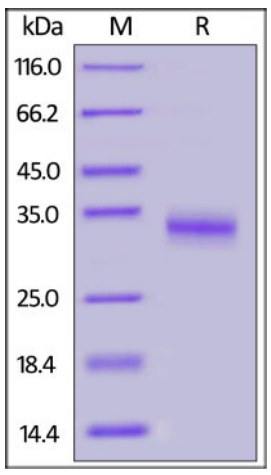
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

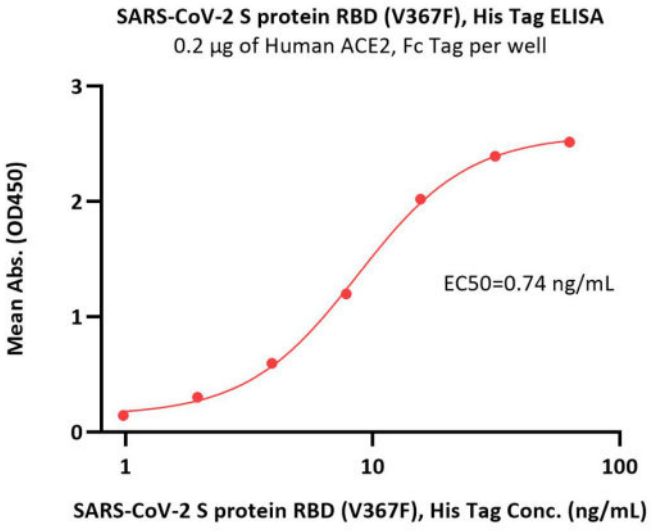
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

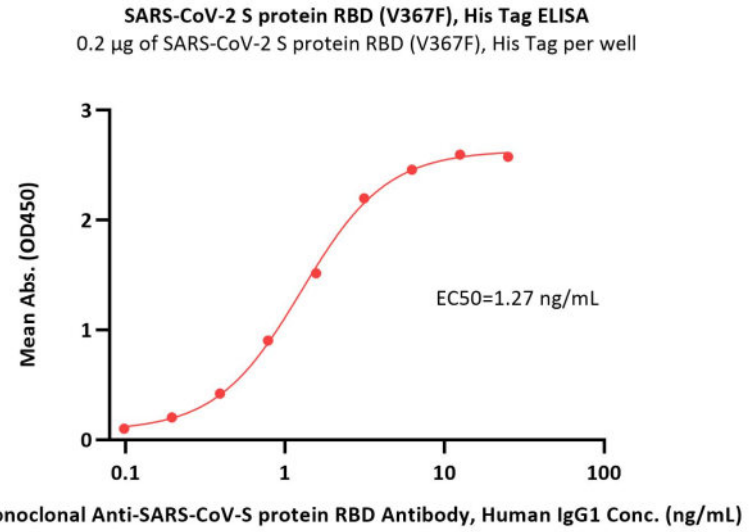


SARS-CoV-2 S protein RBD (V367F), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

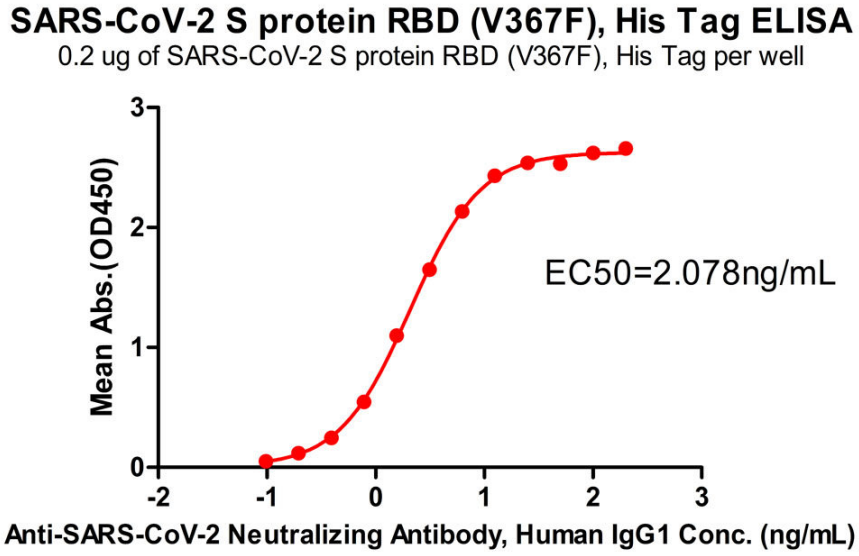
Bioactivity-ELISA



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 2 μg/mL (100 μL/well) can bind SARS-CoV-2 S protein RBD (V367F), His Tag (Cat. No. SPD-S52H4) with a linear range of 1-16 ng/mL (QC tested).

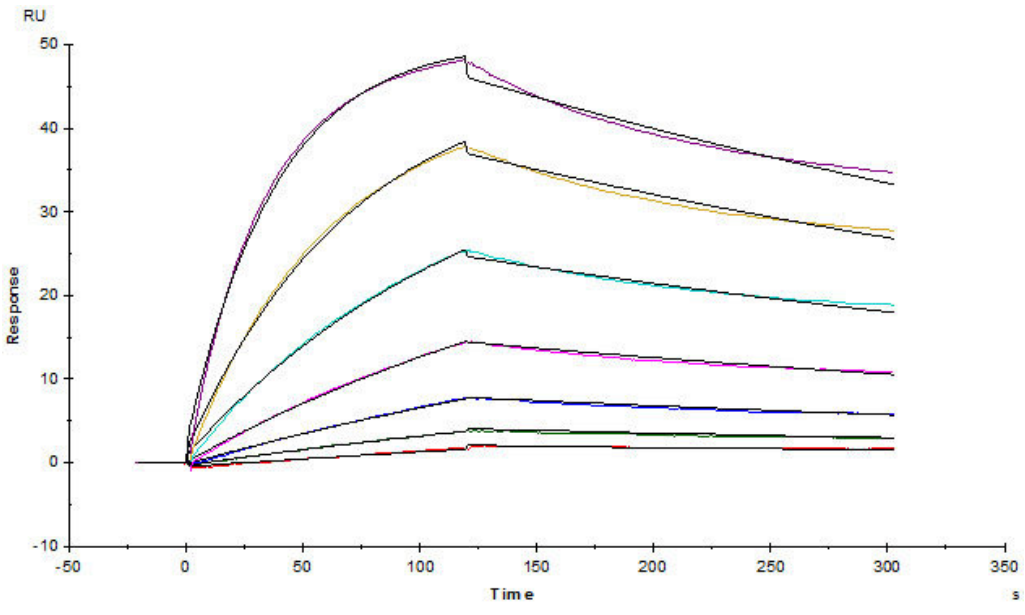


Immobilized SARS-CoV-2 S protein RBD (V367F), His Tag (Cat. No. SPD-S52H4) at 2 μg/mL (100 μL/well) can bind Monoclonal Anti-SARS-CoV-S protein RBD Antibody, Human IgG1 with a linear range of 0.1-3 ng/mL (Routinely tested).



Immobilized SARS-CoV-2 S protein RBD (V367F), His Tag (Cat. No. SPD-S52H4) at 2 μg/mL (100 μL/well) can bind Anti-SARS-CoV-2 Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) with a linear range of 0.195-6.25 ng/mL (Routinely tested).

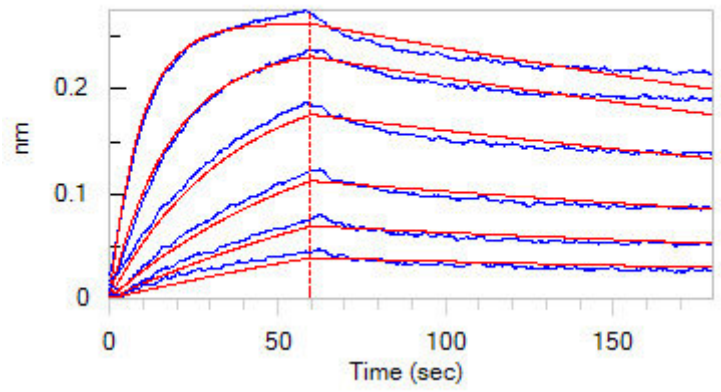
Bioactivity-SPR



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

(V367F), His Tag (Cat. No. SPD-S52H4) with an affinity constant of 4.33 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 (V367F), His Tag (Cat. No. SPD-S52H4) with an affinity constant of 5.5 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 if you have any question on this product.