



Synonym

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

Source

Biotinylated SARS-CoV-2 Spike RBD, His,Avitag(SPD-C82E9) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # [QHD43416.1](#)).

Predicted N-terminus: Arg 319

Molecular Characterization

Spike RBD(Arg 319 - Lys 537)
QHD43416.1 Poly-his Avi

This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 28.2 kDa. The protein migrates as 33-36 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Labeling

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

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

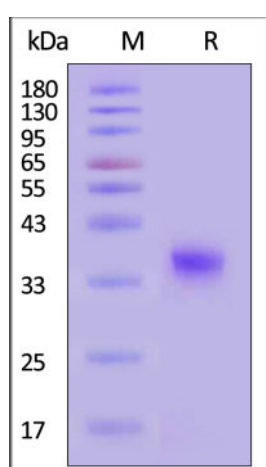
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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 12 months under sterile conditions after reconstitution.

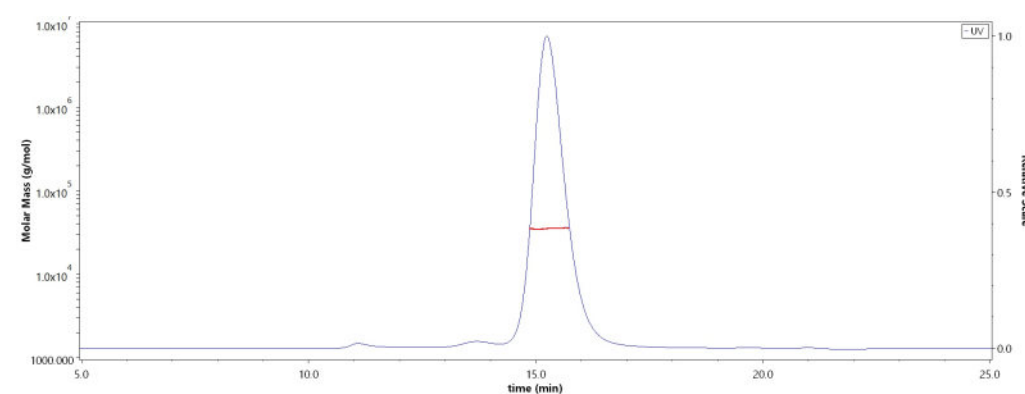
SDS-PAGE



Biotinylated SARS-CoV-2 Spike RBD, His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA

SEC-MALS

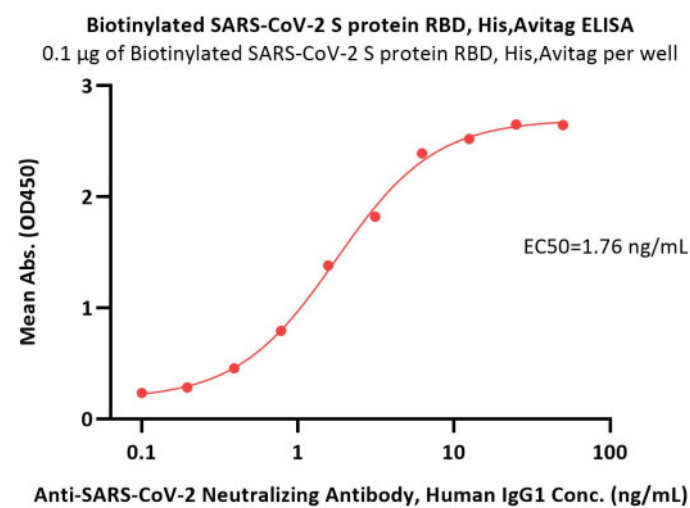
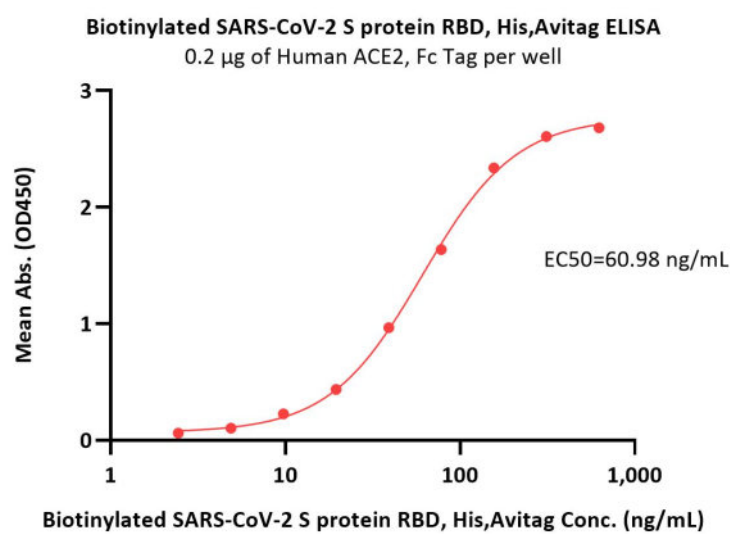


The purity of Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (Cat. No. SPD-C82E9) is more than 90% and the molecular weight of this protein is around 33-43 kDa verified by SEC-MALS.

[Report](#)

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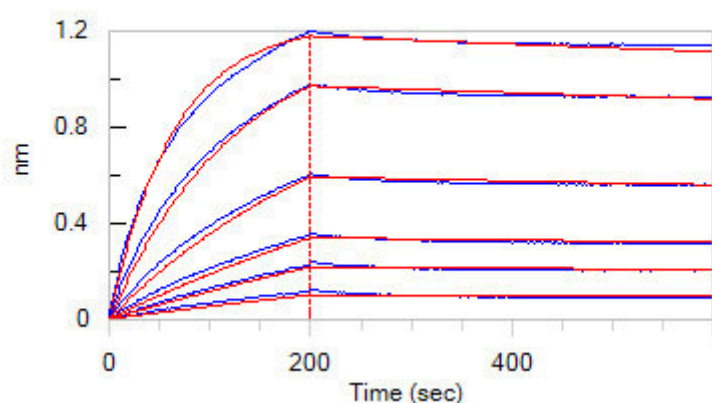




Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 2 µg/mL (100 µL/well) can bind Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (Cat. No. SPD-C82E9) with a linear range of 4-125 ng/mL (QC tested).

Immobilized Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (Cat. No. SPD-C82E9) at 1 µg/mL (100 µL/well) on streptavidin precoated (0.5 µg/well) plate, 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-BLI



Loaded Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (Cat. No. SPD-C82E9) on SA Biosensor, can bind Human ACE2, His Tag (Cat. No. AC2-H52H8) with an affinity constant of 1.14 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

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