Biotinylated SARS-CoV-2 Spike RBD Protein (L452R, E484Q), His,Avitag™ (MALS verified)

Catalog # SPD-C82Ec

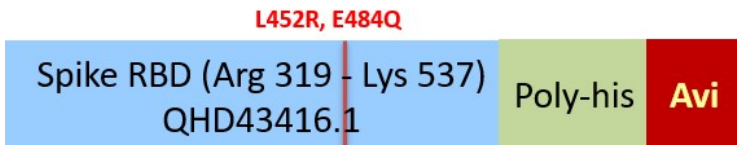
Synonym

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

Source

Biotinylated SARS-CoV-2 Spike RBD Protein (L452R, E484Q), His,Avitag (SPD-C82Ec) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # QHD43416.1 (L452R, E484Q)). The L452R, E484Q mutations were identified in the SARS-CoV-2 Delta variant (Pango lineage: B.1.617.2; other names: 21A/S:478K).
Predicted N-terminus: Arg 319

Molecular Characterization



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

The protein has a calculated MW of 28.3 kDa. The protein migrates as 33-45 kDa 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.

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

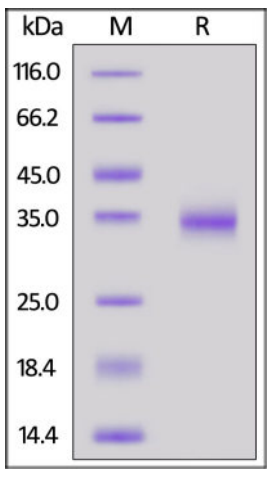
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

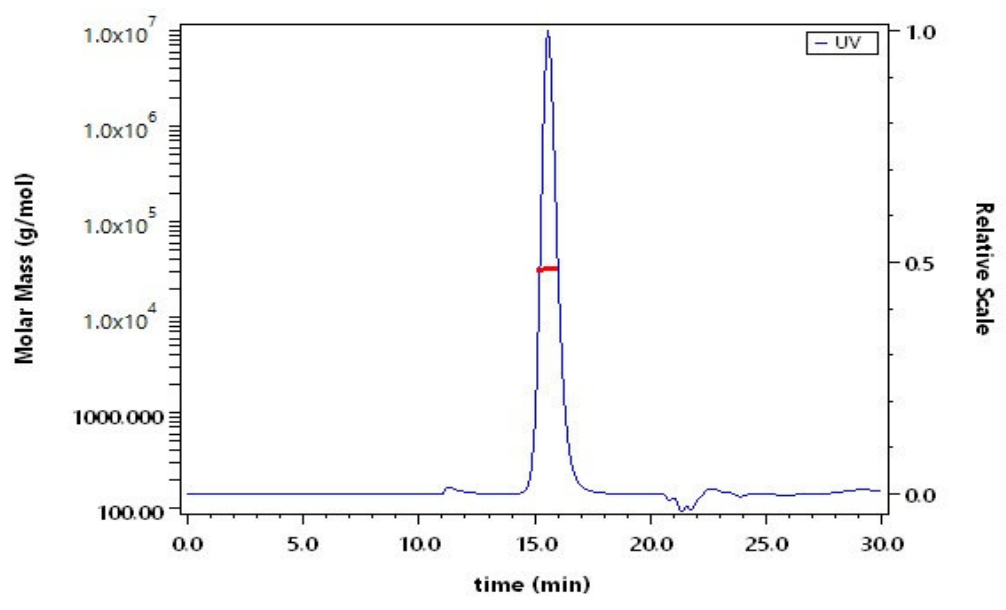
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



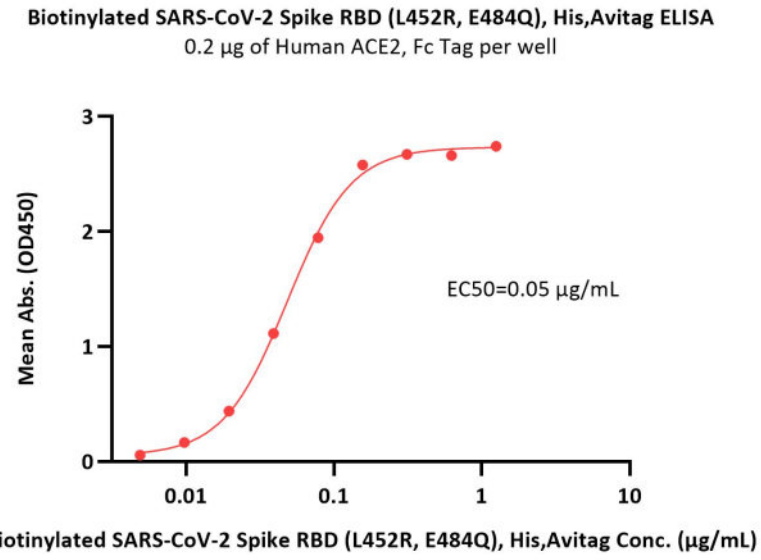
Biotinylated SARS-CoV-2 Spike RBD Protein (L452R, E484Q), His,Avitag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

SEC-MALS

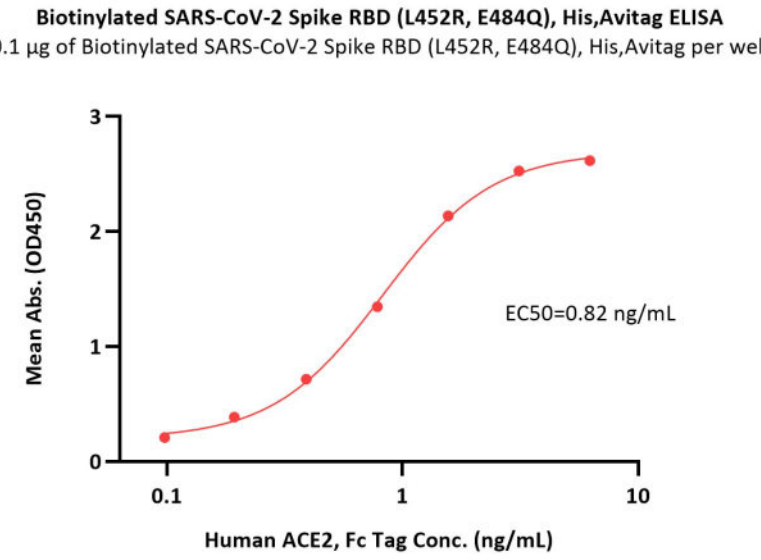


The purity of Biotinylated SARS-CoV-2 Spike RBD Protein (L452R, E484Q), His,Avitag (Cat. No. SPD-C82Ec) is more than 90% and the molecular weight of this protein is around 30-40 kDa verified by SEC-MALS.
Report

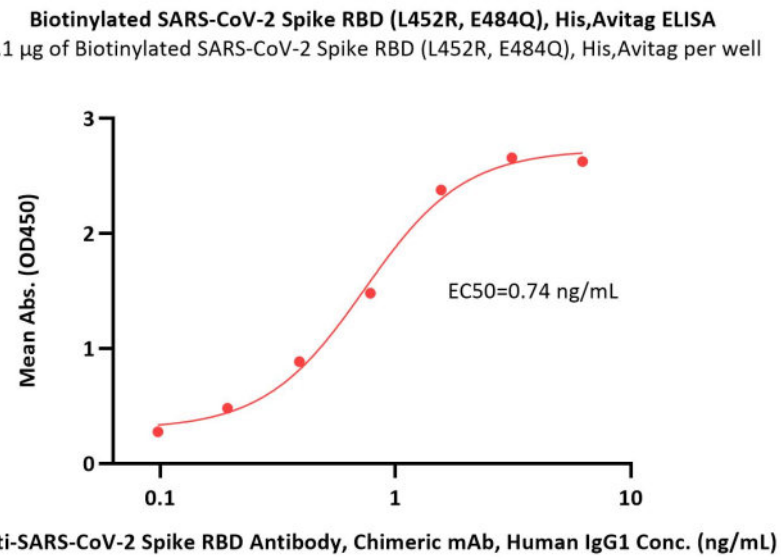
Bioactivity-ELISA



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 2 μg/mL (100 μL/well) can bind Biotinylated SARS-CoV-2 Spike RBD Protein (L452R, E484Q), His,Avitag (Cat. No. SPD-C82Ec) with a linear range of 10-78 ng/mL (QC tested).



Immobilized Biotinylated SARS-CoV-2 Spike RBD Protein (L452R, E484Q), His,Avitag (Cat. No. SPD-C82Ec) at 1 μg/mL (100 μL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 μg/well) plate can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.4-2 ng/mL (Routinely tested).



Immobilized Biotinylated SARS-CoV-2 Spike RBD Protein (L452R, E484Q), His,Avitag (Cat. No. SPD-C82Ec) at 1 μg/mL (100 μL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 μg/well) plate can bind Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 (Cat. No. S1N-M122) with a linear range of 0.4-2 ng/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.