Biotinylated SARS-CoV-2 Spike RBD Protein, His,Avitag™ (XBB.1.16/Omicron) (MALS verified)

Catalog # SPD-C82Q4

Synonym

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

Source

Biotinylated SARS-CoV-2 Spike RBD Protein, His,Avitag (XBB.1.16/Omicron) (SPD-C82Q4) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # QHD43416.1 (G339H, R346T, L368I, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, V445P, G446S, N460K, S477N, T478R, E484A, F486P, F490S, Q498R, N501Y, Y505H)). The spike mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: XBB.1.16).
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 35-40 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

>90% as determined by SDS-PAGE.

>95% 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

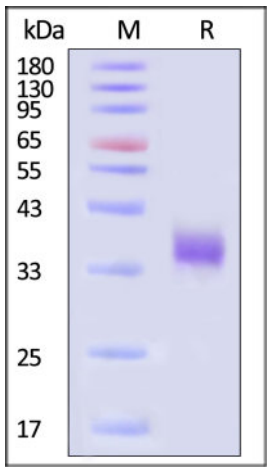
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

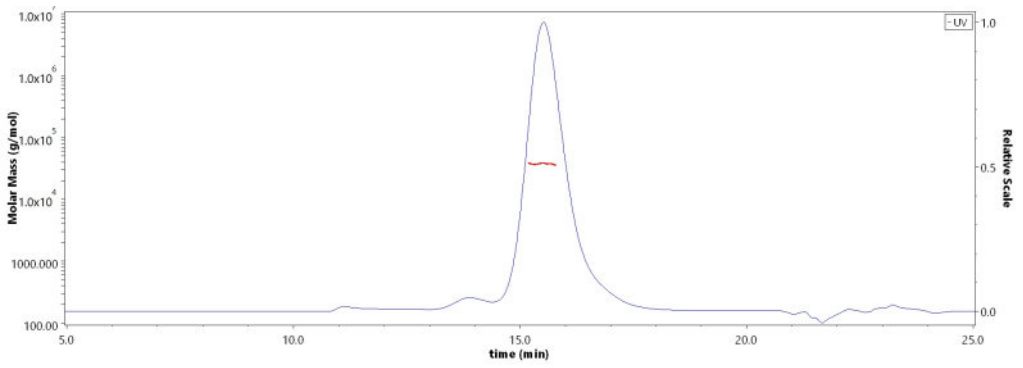
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



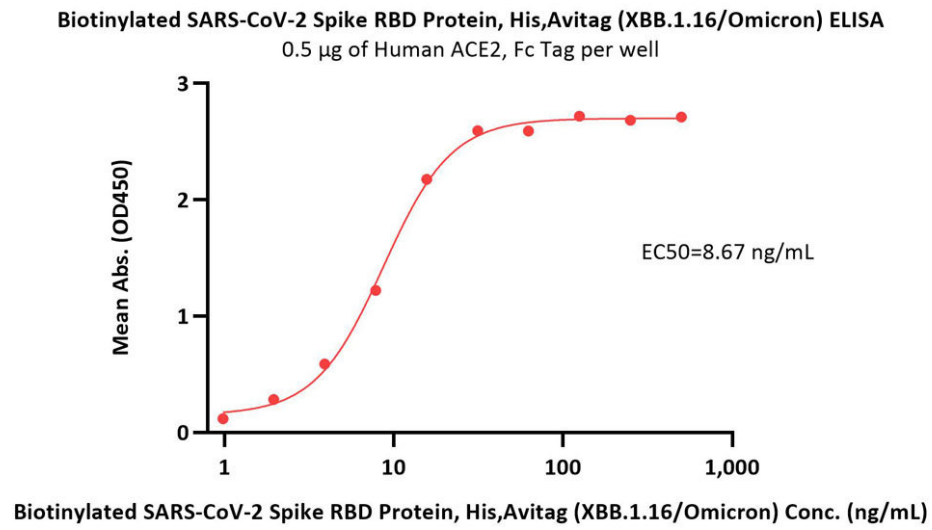
Biotinylated SARS-CoV-2 Spike RBD Protein, His,Avitag (XBB.1.16/Omicron) on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

SEC-MALS

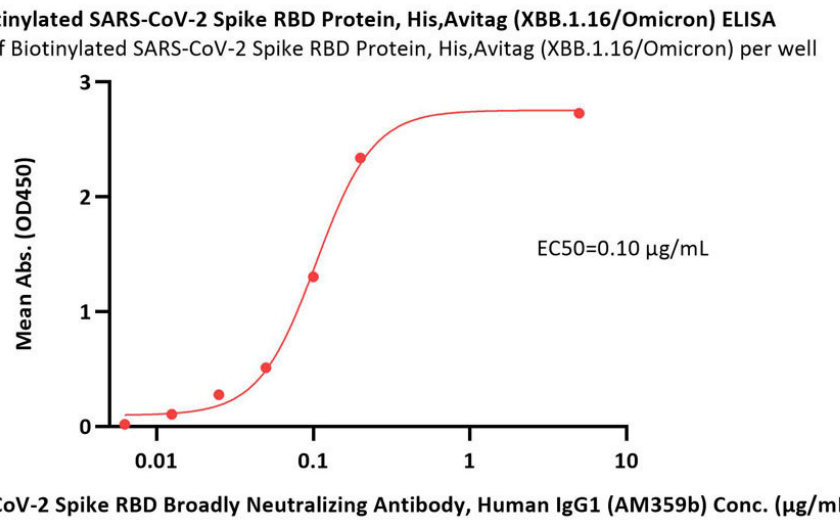


The purity of Biotinylated SARS-CoV-2 Spike RBD Protein, His,Avitag (XBB.1.16/Omicron) (Cat. No. SPD-C82Q4) is more than 95% and the molecular weight of this protein is around 30-45 kDa verified by SEC-MALS. Report

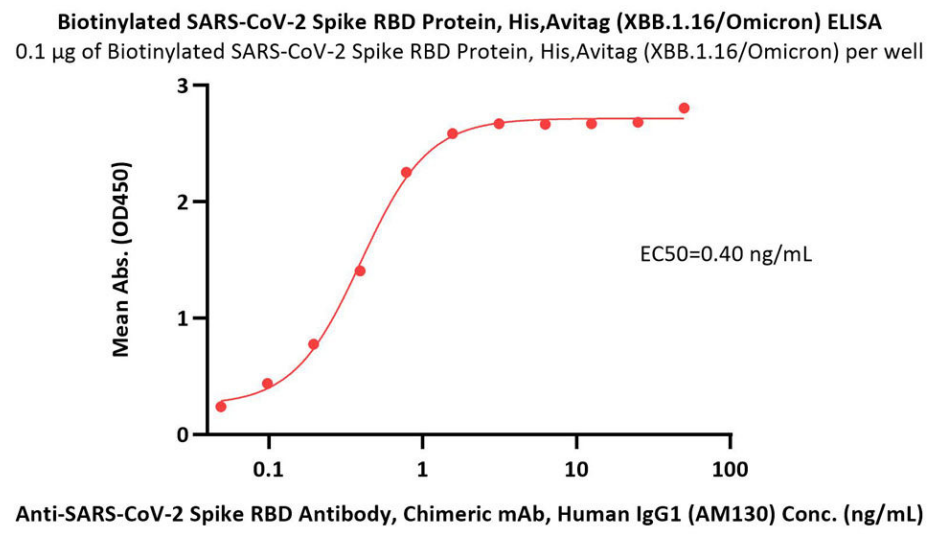
Bioactivity-ELISA



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 5 μg/mL (100 μL/well) can bind Biotinylated SARS-CoV-2 Spike RBD Protein, His,Avitag (XBB.1.16/Omicron) (Cat. No. SPD-C82Q4) with a linear range of 1-16 ng/mL (QC tested).



Immobilized Biotinylated SARS-CoV-2 Spike RBD Protein, His,Avitag (XBB.1.16/Omicron) (Cat. No. SPD-C82Q4) 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 Broadly Neutralizing Antibody, Human IgG1 (AM359b) (Cat. No. SPD-M265) with a linear range of 0.006-0.2 μg/mL (Routinely tested).



Immobilized Biotinylated SARS-CoV-2 Spike RBD Protein, His,Avitag (XBB.1.16/Omicron) (Cat. No. SPD-C82Q4) 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 (AM130) (Cat. No. S1N-M13A1) with a linear range of 0.1-1 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.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.