

**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 (BF.7&BA.4.6/Omicron) (SPD-C82E1) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # [QHD43416.1](#) (G339D, R346T, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, L452R, S477N, T478K, E484A, F486V, Q498R, N501Y, Y505H)). The spike mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BF.7&BA.4.6).  
 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 34-36 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.

**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**

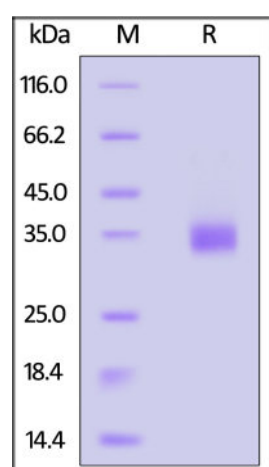
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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 3 months under sterile conditions after reconstitution.

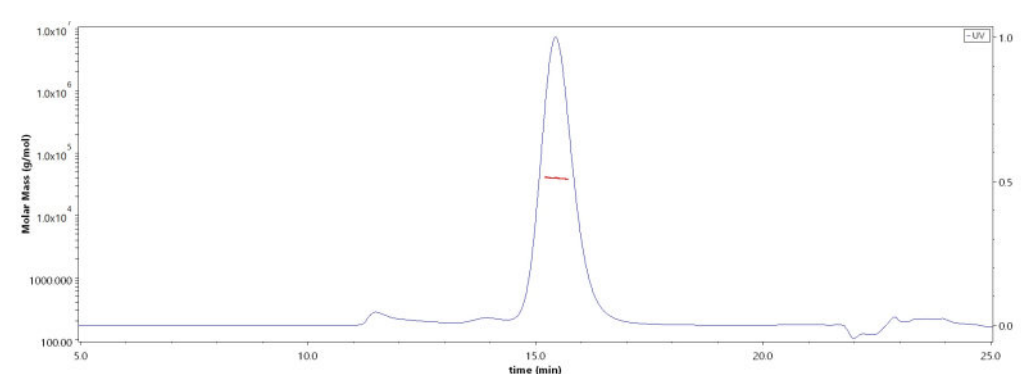
**SDS-PAGE**



Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (BF.7&BA.4.6/Omicron) on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

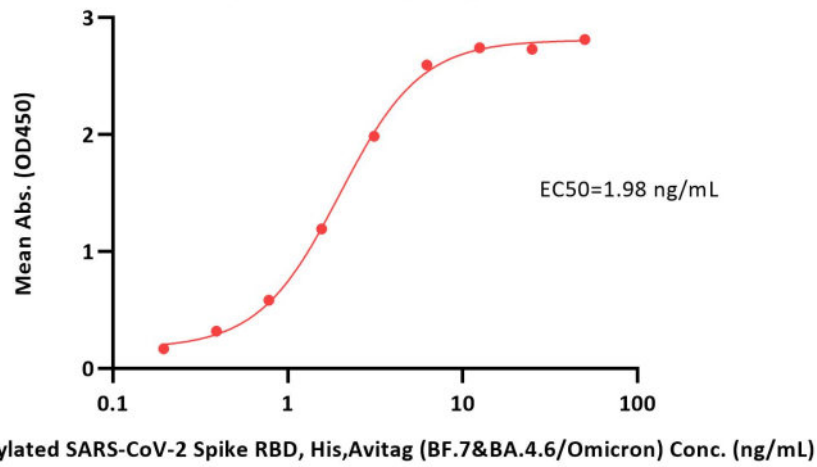
**Bioactivity-ELISA**

**SEC-MALS**

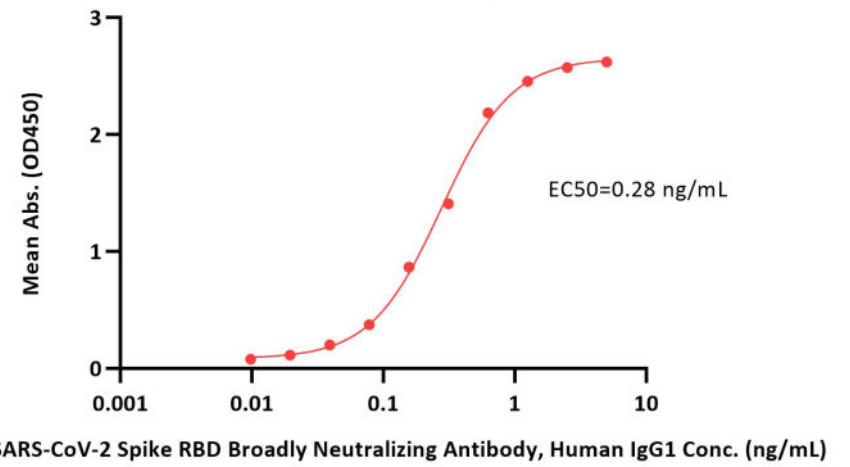


The purity of Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (BF.7&BA.4.6/Omicron) (Cat. No. SPD-C82E1) is more than 90% and the molecular weight of this protein is around 34-44 kDa verified by SEC-MALS. [Report](#)

**Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (BF.7&BA.4.6/Omicron) ELISA**  
0.5 µg of Human ACE2, Fc Tag per well



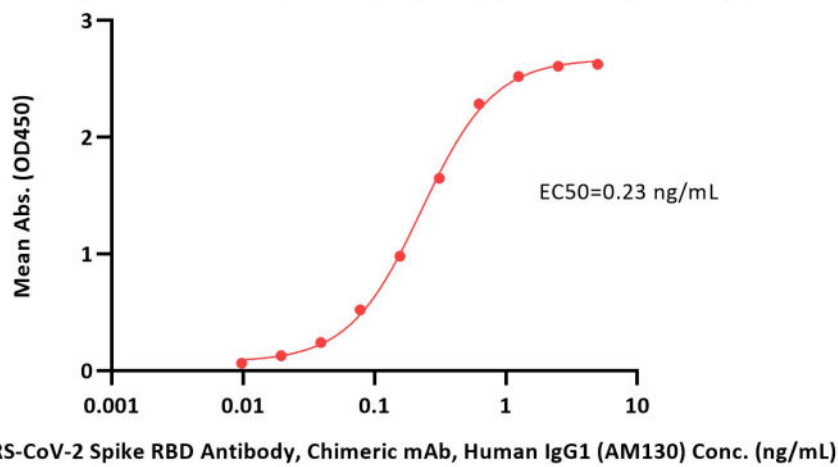
**Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (BF.7&BA.4.6/Omicron) ELISA**  
0.1 µg of Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (BF.7&BA.4.6/Omicron) per well



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 5 µg/mL (100 µL/well) can bind Biotinylated SARS-CoV-2 Spike RBD, His,Avitag™ (BF.7&BA.4.6/Omicron) (Cat. No. SPD-C82E1) with a linear range of 0.2-6 ng/mL (QC tested).

Immobilized Biotinylated SARS-CoV-2 Spike RBD, His,Avitag™ (BF.7&BA.4.6/Omicron) (Cat. No. SPD-C82E1) 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 (Cat. No. SPD-M265) with a linear range of 0.1-1 ng/mL (Routinely tested).

**Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (BF.7&BA.4.6/Omicron) ELISA**  
0.1 µg of Biotinylated SARS-CoV-2 Spike RBD, His,Avitag (BF.7&BA.4.6/Omicron) per well



Immobilized Biotinylated SARS-CoV-2 Spike RBD, His,Avitag™ (BF.7&BA.4.6/Omicron) (Cat. No. SPD-C82E1) 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-M130) with a linear range of 0.1-1 ng/mL (Routinely tested).

## Background

It has 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](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.