

### Synonym

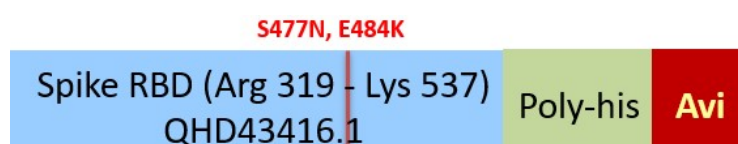
Spike,S protein RBD,Spike glycoprotein Receptor-binding domain,S glycoprotein RBD,Spike protein RBD

### Source

Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), His,Avitag (SPD-C82Ef) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # [QHD43416.1](#) (S477N, E484K)). The mutations (S477N, E484K) were identified in the SARS-CoV-2 variants which emerged in Europe (known as B.1.620).

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 28.2 kDa. The protein migrates as 35-40 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

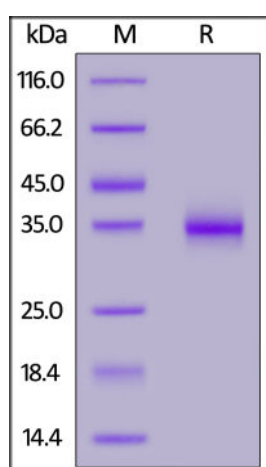
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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.

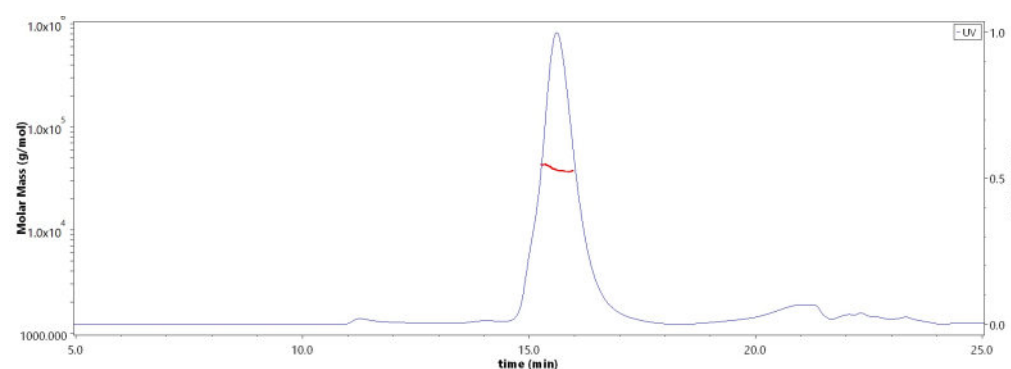
### SDS-PAGE



Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), 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%.

### Bioactivity-ELISA

### SEC-MALS

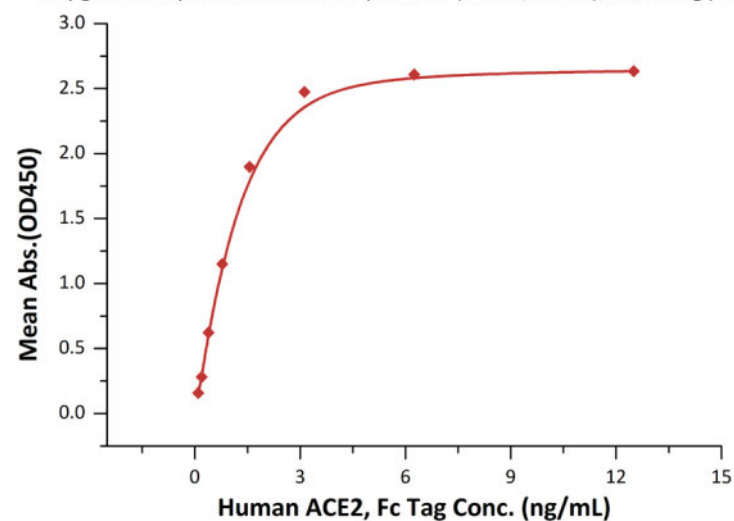


The purity of Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), His,Avitag (Cat. No. SPD-C82Ef) is more than 90% and the molecular weight of this protein is around 35-45 kDa verified by SEC-MALS.

[Report](#)

**Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), His,Avitag ELISA**

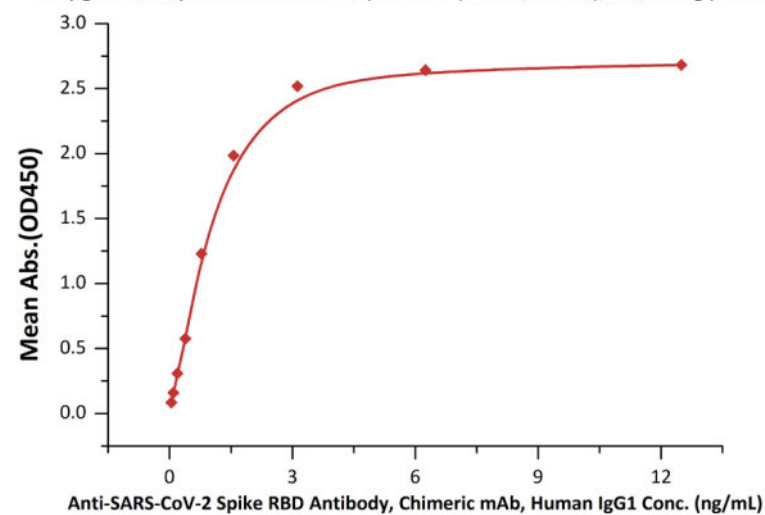
0.1 µg of Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), His,Avitag per well



Immobilized Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), His,Avitag (Cat. No. SPD-C82Ef) 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 0.2-2 ng/mL (QC tested).

**Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), His,Avitag ELISA**

0.1 µg of Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), His,Avitag per well



Immobilized Biotinylated SARS-CoV-2 Spike RBD (S477N, E484K), His,Avitag (Cat. No. SPD-C82Ef) 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 0.1-2 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.

### Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.