

Synonym

S1 protein NTD,Spike protein S1 NTD,BetaCoV S1-NTD

Source

Biotinylated SARS-CoV-2 Spike NTD, His,Avitag (SPD-C82H3) is expressed from human 293 cells (HEK293). It contains AA Ser 13 - Leu 303 (Accession # [QHD43416.1](#) (T19R, G142D, EF156-157del, R158G)). The mutations T19R, G142D, EF156-157del, R158G were identified in the SARS-CoV-2 Delta variant (Pango lineage: B.1.617.2).

Predicted N-terminus: Ser 13

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 36.3 kDa. The protein migrates as 45-65 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.

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.

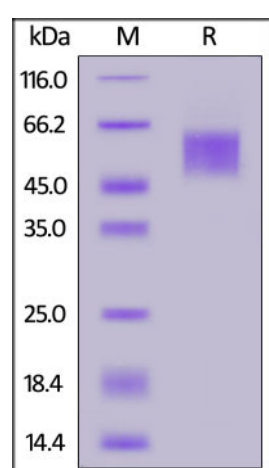
Storage

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:

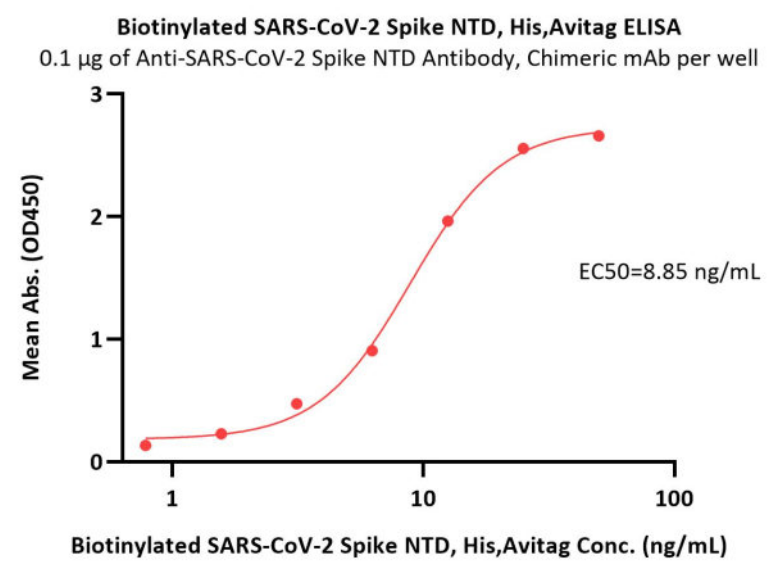
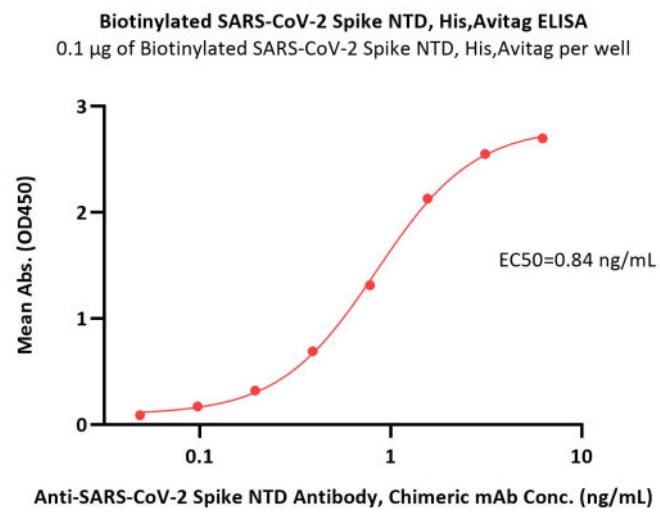
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

Biotinylated SARS-CoV-2 Spike NTD, His,Avitag 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



Immobilized Biotinylated SARS-CoV-2 Spike NTD, His,Avitag (Cat. No. SPD-C82H3) 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 NTD Antibody, Chimeric mAb (Cat. No. SPD-M121) with a linear range of 0.1-2 ng/mL (QC tested).

Immobilized Anti-SARS-CoV-2 Spike NTD Antibody, Chimeric mAb (Cat. No. SPD-M121) at 1 µg/mL (100 µL/well) can bind Biotinylated SARS-CoV-2 Spike NTD, His,Avitag (Cat. No. SPD-C82H3) with a linear range of 0.8-13 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.