

### Synonym

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

### Source

SARS-CoV-2 Spike NTD, His Tag (BA.2/Omicron) (SPD-C522h) is expressed from human 293 cells (HEK293). It contains AA Ser 13 - Leu 303 (Accession # [QHD43416.1](#) (T19I, LPP24-26del, A27S, G142D, V213G)). The spike mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BA.2; GISAID clade: GRA; Nextstrain clade: 21L).  
Predicted N-terminus: Ser 13

### Molecular Characterization

This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 34.6 kDa. The protein migrates as 50-60 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

### 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

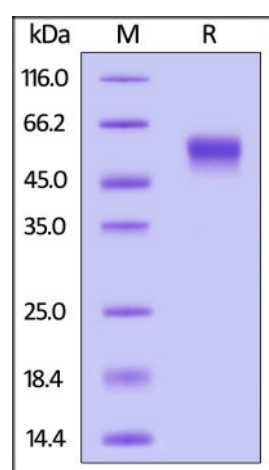
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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.

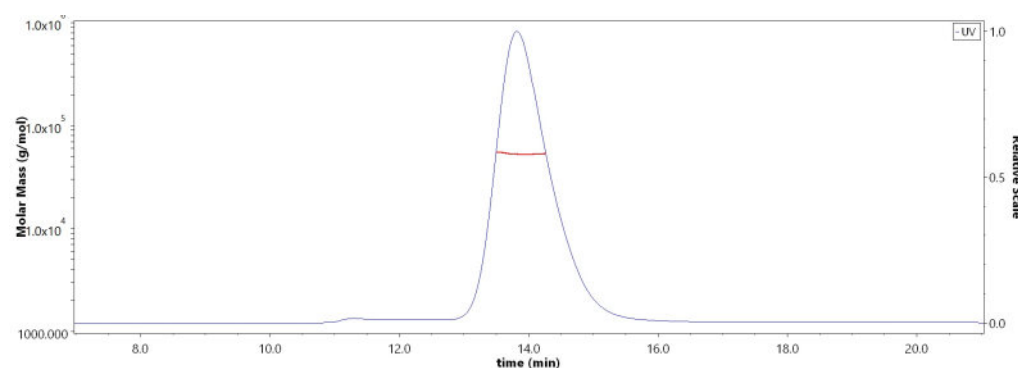
### SDS-PAGE



SARS-CoV-2 Spike NTD, His Tag (BA.2/Omicron) on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

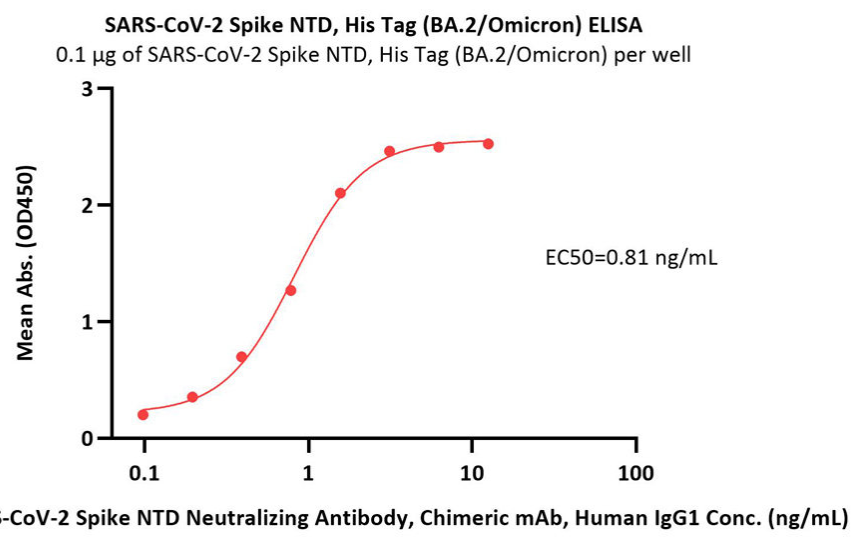
### Bioactivity-ELISA

### SEC-MALS



The purity of SARS-CoV-2 Spike NTD, His Tag (BA.2/Omicron) (Cat. No. SPD-C522h) is more than 95% and the molecular weight of this protein is around 45-61 kDa verified by SEC-MALS.

[Report](#)



Immobilized SARS-CoV-2 Spike NTD, His Tag (BA.2/Omicron) (Cat. No. SPD-C522h) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Spike NTD Neutralizing Antibody, Chimeric mAb, Human IgG1 (Cat. No. SPD-M121) with a linear range of 0.1-2 ng/mL (QC 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.