

**Synonym**

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

**Source**

SARS-CoV-2 S1 protein NTD, His Tag (S1D-C52He) is expressed from human 293 cells (HEK293). It contains AA Ser 13 - Leu 303 (Accession # [QHD43416.1](#)). The L18F/ T20N/ P26S/ D138Y/ R190S mutations were identified on the spike protein N-terminal domain (NTD) in the SARS-CoV-2 Gamma variant (Pango lineage: P.1; other names: 20J/501Y.V3).

Predicted N-terminus: Ser 13

**Molecular Characterization**

This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 34.9 kDa. The protein migrates as 50-66 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 1.0 EU per  $\mu\text{g}$  by the LAL method.

**Purity**

>90% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22  $\mu\text{m}$  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.*

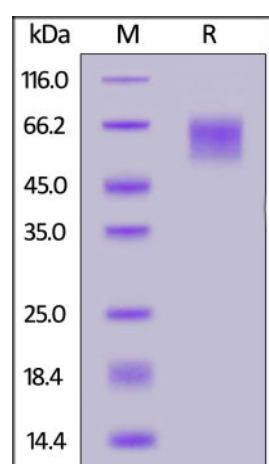
**Storage**

For long term storage, the product should be stored at lyophilized state at  $-20^{\circ}\text{C}$  or lower.

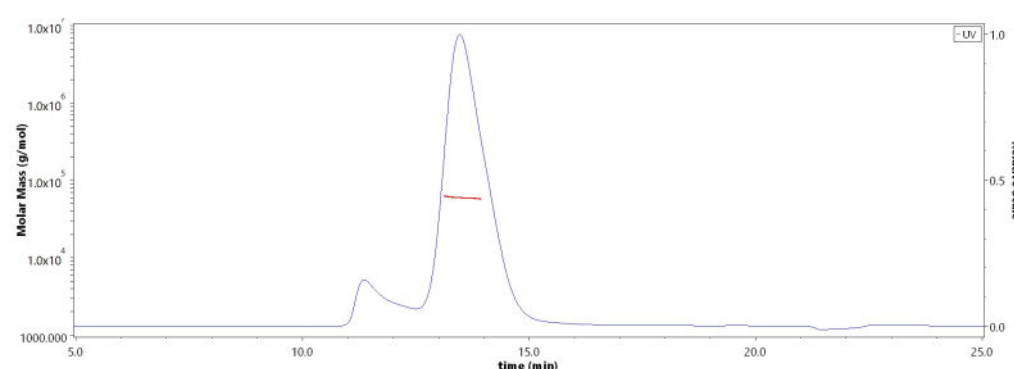
*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$  for 12 months in lyophilized state;
- $-70^{\circ}\text{C}$  for 3 months under sterile conditions after reconstitution.

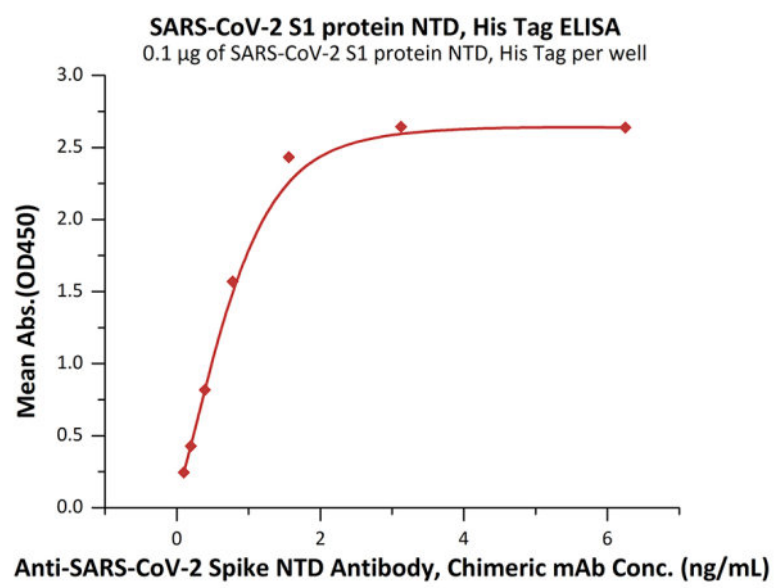
**SDS-PAGE**

SARS-CoV-2 S1 protein NTD, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

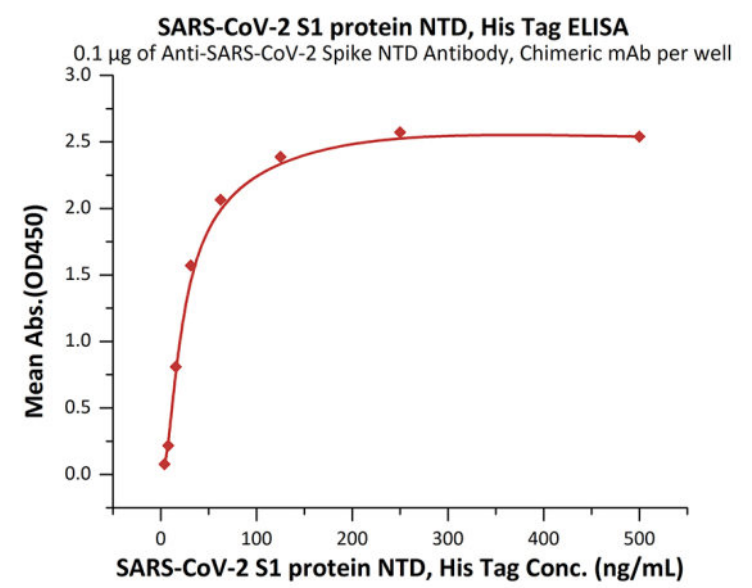
**Bioactivity-ELISA****SEC-MALS**

The purity of SARS-CoV-2 S1 protein NTD, His Tag (Cat. No. S1D-C52He) is more than 85% and the molecular weight of this protein is around 55-65 kDa verified by SEC-MALS.

[Report](#)



Immobilized SARS-CoV-2 S1 protein NTD, His Tag (Cat. No. S1D-C52He) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Spike NTD Antibody, Chimeric mAb (Cat. No. SPD-M121) with a linear range of 0.1-0.8 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 SARS-CoV-2 S1 protein NTD, His Tag (Cat. No. S1D-C52He) with a linear range of 4-31 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.