# SARS-CoV-2 (COVID-19) S1 protein CTD, His Tag (MALS-verified)

Catalog # S1D-C52H3

## Synonym

S1 protein CTD,Spike protein S1 CTD,BetaCoV S1-CTD,COVID-19

## Source

SARS-CoV-2 S1 protein CTD, His Tag (MALS-verified) (S1D-C52H3) is expressed from human 293 cells (HEK293). It contains AA Asn 334 - Pro 527 (Accession # QHD43416.1).
Predicted N-terminus: Asn 334

## Molecular Characterization


This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 23.6 kDa. The protein migrates as 28-30 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

## 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,pH7.3 . Normally trehalose is added as protectant before lyophilization.

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

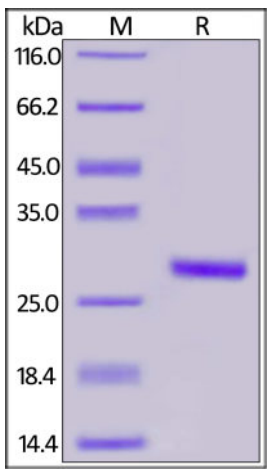
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

***Please avoid repeated freeze-thaw cycles.***

This product is stable after storage at:

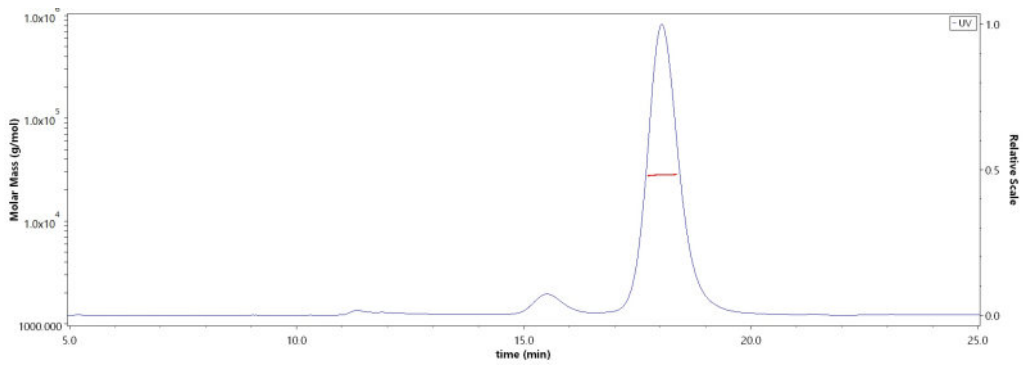
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE




SARS-CoV-2 S1 protein CTD, His Tag (MALS-verified) on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

## SEC-MALS




The purity of SARS-CoV-2 S1 protein CTD, His Tag (MALS-verified) (Cat. No. S1D-C52H3) was more than 90% and the molecular weight of this protein is around 23-33 kDa verified by SEC-MALS.
Report

## Bioactivity-ELISA

# SARS-CoV-2 (COVID-19) S1 protein CTD, His Tag (MALS-verified)

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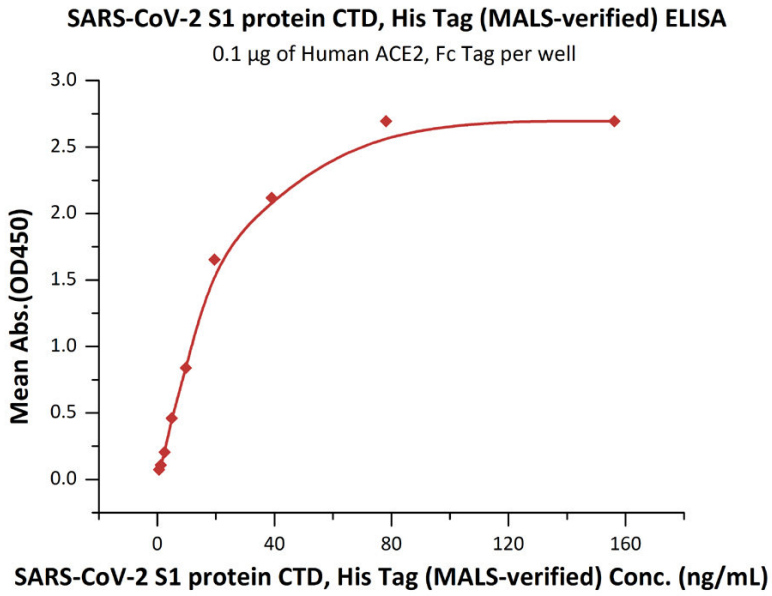
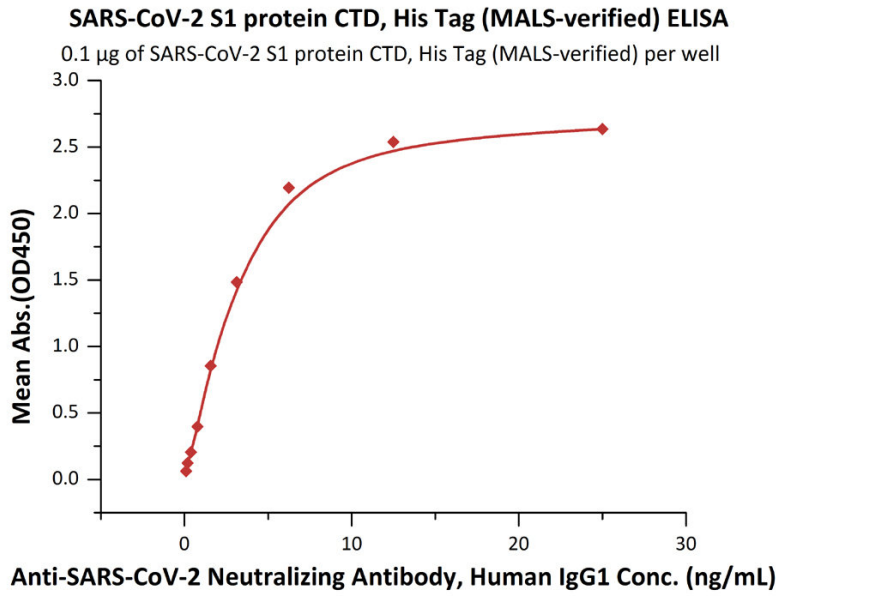
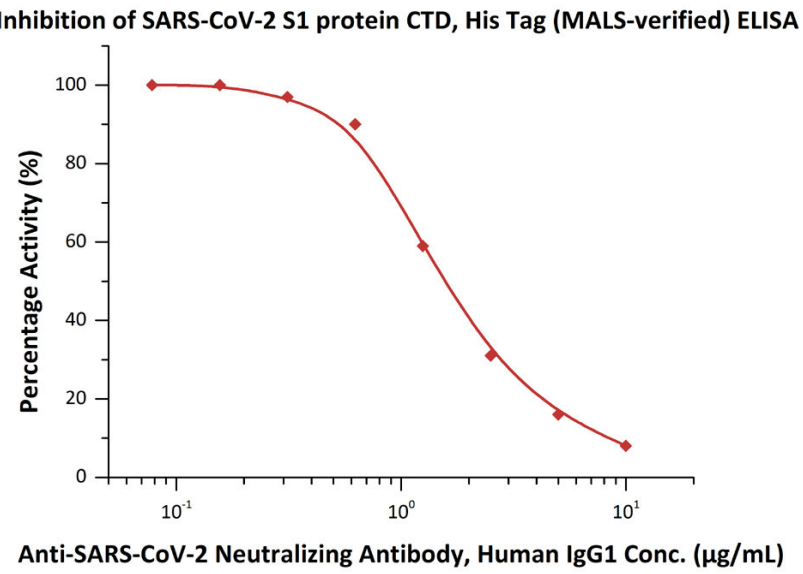



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 1 μg/mL (100 μL/well) can bind SARS-CoV-2 S1 protein CTD, His Tag (MALS-verified) (Cat. No. S1D-C52H3) with a linear range of 0.6-20 ng/mL (QC tested).




Immobilized SARS-CoV-2 S1 protein CTD, His Tag (MALS-verified) (Cat. No. S1D-C52H3) at 1 μg/mL (100 μL/well) can bind Anti-SARS-CoV-2 Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) ) with a linear range of 0.1-3 ng/mL (Routinely tested).




Serial dilutions of Anti-SARS-CoV-2 Neutralizing Antibody were added into Biotinylated Human ACE2, His,Avitag (Cat. No. AC2-H82E6): SARS-CoV-2 S1 protein CTD, His Tag (MALS-verified) (Cat. No. S1D-C52H3) binding reactions. The half maximal inhibitory concentration (IC50) is 1.47 μg/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.

## References

(1) Wan Y, et al. J Virol. 2020. pii: JVI.00127-20.
(2) Benvenuto D, et al. J Med Virol. 2020.
(3) Chang CY, et al. AMB Express. 2020. 10(1):20.

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.