

**Synonym**

Spike,S1 protein,Spike glycoprotein Subunit1,S glycoprotein Subunit1,Spike protein S1

**Source**

SARS-CoV-2 S1 protein, Fc Tag(S1N-C5255) is expressed from human 293 cells (HEK293). It contains AA Val 16 - Arg 685 (Accession # [QHD43416.1](#)). Predicted N-terminus: Val 16

**Molecular Characterization**

S1 protein(Val 16 - Arg 685) QHD43416.1	Fc(Pro 100 - Lys 330) P01857
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This protein carries a human IgG1 Fc tag at the C-terminus

The protein has a calculated MW of 101.5 kDa. The protein migrates as 130-150 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.

**Formulation**

Lyophilized from 0.22 µm filtered solution in Tris, Glycine and NaCl, pH7.5 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.*

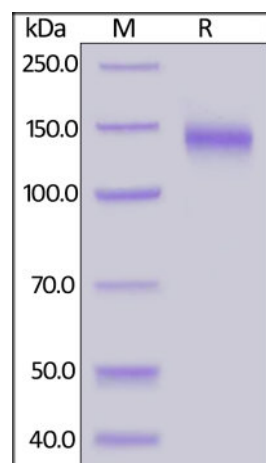
**Storage**

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

*Please avoid repeated freeze-thaw cycles.*

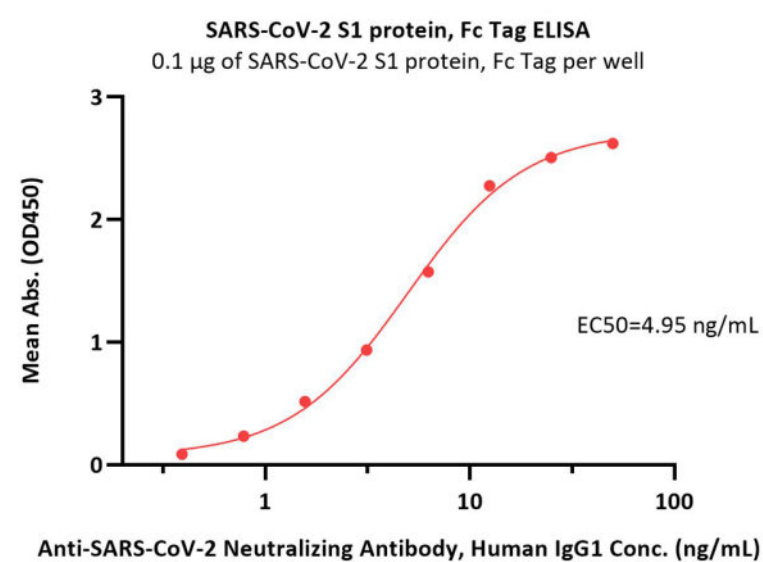
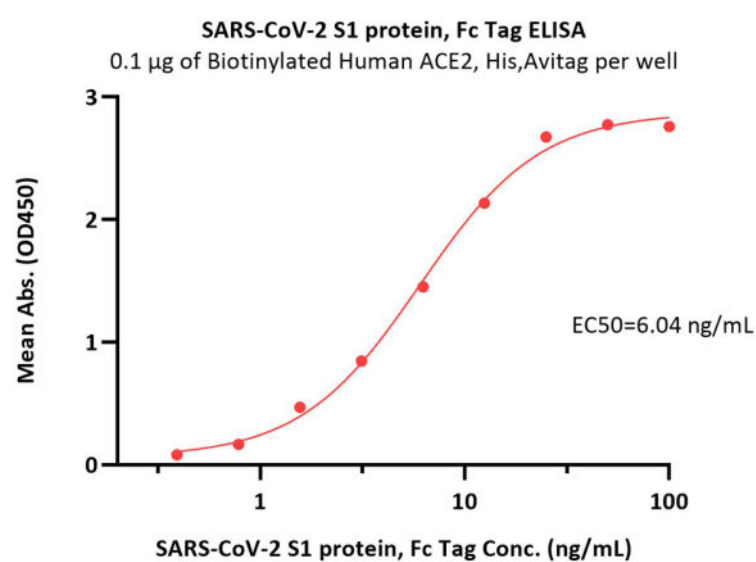
This product is stable after storage at:

- -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 S1 protein, Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

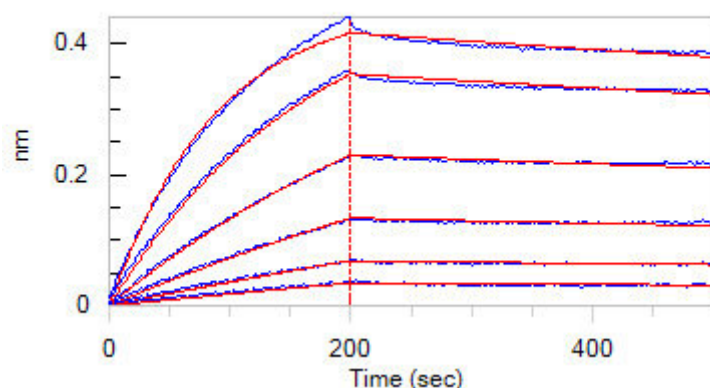
**Bioactivity-ELISA**



Immobilized Biotinylated Human ACE2, His,Avitag (Cat. No. AC2-H82E6) at 1 µg/mL (100 µL/well) on Streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate, can bind SARS-CoV-2 S1 protein, Fc Tag (Cat. No. S1N-C5255) with a linear range of 0.4-6 ng/mL (QC tested).

Immobilized SARS-CoV-2 S1 protein, Fc Tag (Cat. No. S1N-C5255) 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 0.4-6 ng/mL (Routinely tested).

### Bioactivity-BLI



Loaded SARS-CoV-2 S1 protein, Fc Tag (Cat. No. S1N-C5255) on Protein A Biosensor, can bind Human ACE2, His Tag (Cat. No. AC2-H52H8) with an affinity constant of 3.47 nM as determined in BLI assay (ForteBio Octet Red96e) (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.