SARS-CoV-2 (COVID-19) S1 protein, Mouse IgG2a Fc Tag

Catalog # S1N-C5257

Synonym

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

Source

SARS-CoV-2 S1 protein, Mouse IgG2a Fc Tag (S1N-C5257) 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	mFc(Glu 98 - Lys 330) P01863

This protein carries a mouse IgG2a Fc tag at the C-terminus.

The protein has a calculated MW of 101.9 kDa. The protein migrates as 115-130 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.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4. 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

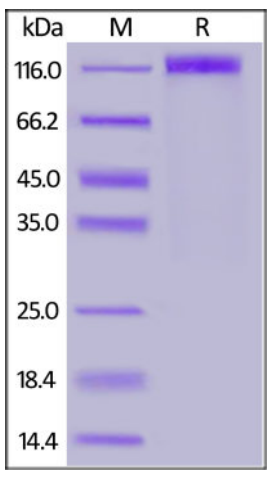
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

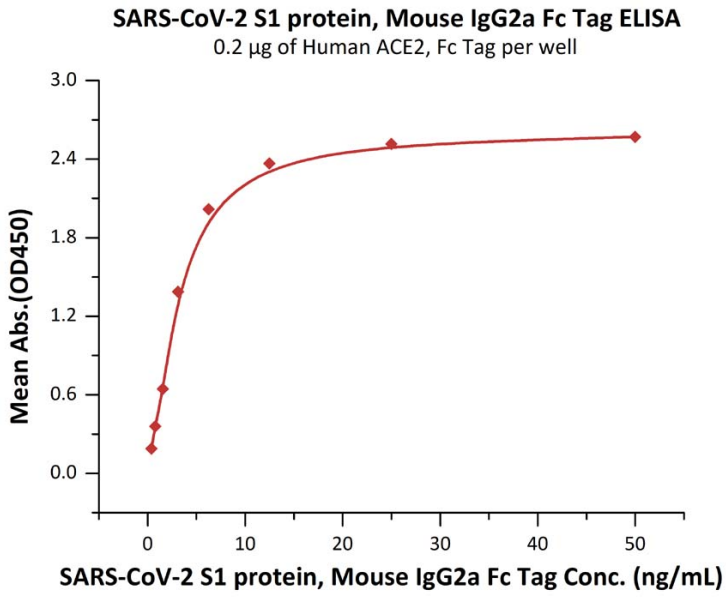
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



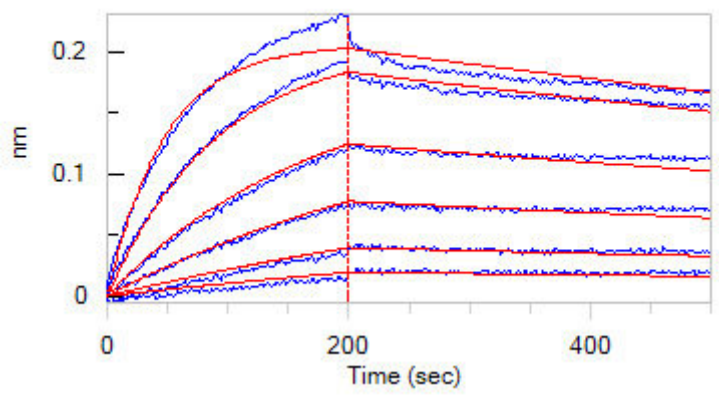
SARS-CoV-2 S1 protein, Mouse IgG2a Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

Bioactivity-ELISA



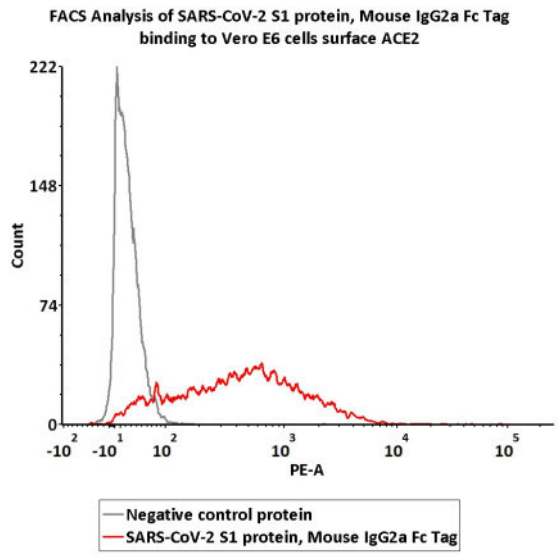
Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 2 μg/mL (100 μL/well) can bind SARS-CoV-2 S1 protein, Mouse IgG2a Fc Tag (Cat. No. S1N-C5257) with a linear range of 0.4-6 ng/mL (QC tested).

Bioactivity-BLI

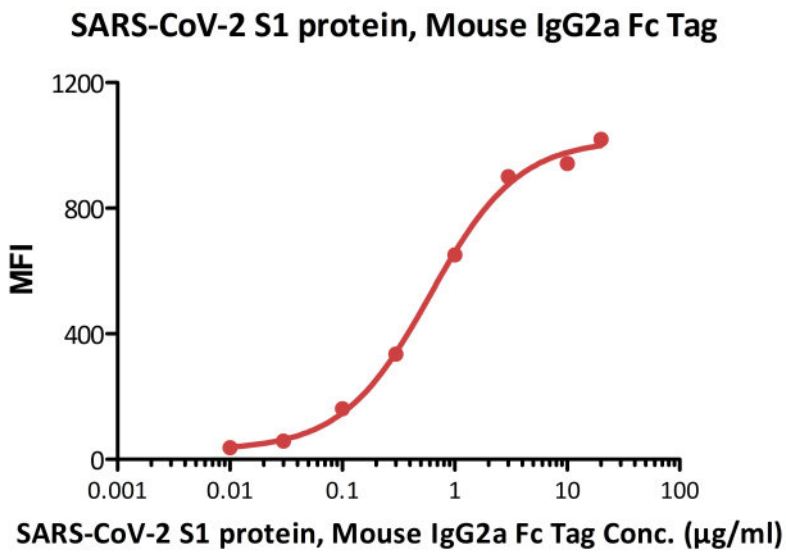


Loaded SARS-CoV-2 S1 protein, Mouse IgG2a Fc Tag (Cat. No. S1N-C5257) on AMC Biosensor, can bind Human ACE2, His Tag (Cat. No. AC2-H52H8) with an affinity constant of 3.95 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

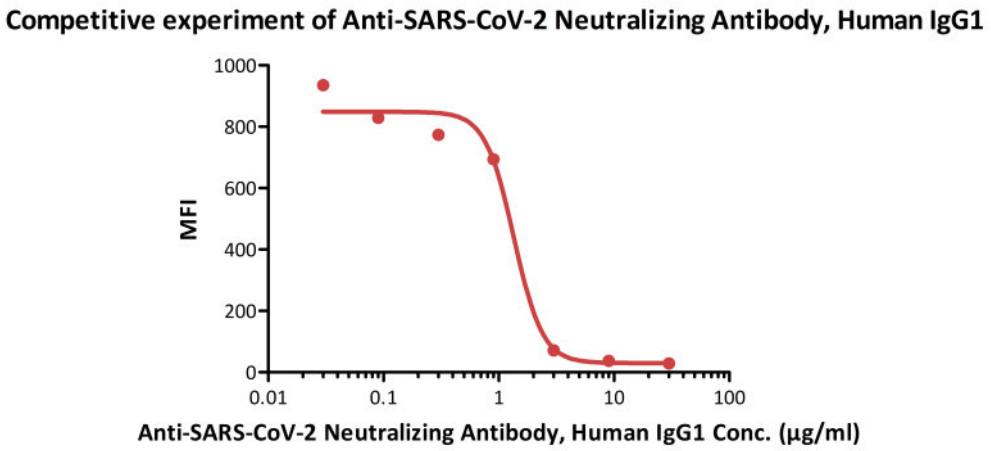
Bioactivity-FACS



FACS analysis shows that SARS-CoV-2 S1 protein, Mouse IgG2a Fc Tag (Cat. No. S1N-C5257) can bind to Vero E6 cells surface ACE2. The concentration of SARS-CoV-2 S1 protein is 3 μg/ml. (Routinely tested).



FACS analysis shows that SARS-CoV-2 S1 protein, Mouse IgG2a Fc Tag (Cat. No. S1N-C5257) can bind to Vero E6 cells surface ACE2. The EC50 is 0.605 μg/ml (Routinely tested).



FACS analysis shows that the binding of SARS-CoV-2 S1 protein, Mouse IgG2a Fc Tag (Cat. No. S1N-C5257) to Vero E6 cells surface ACE2 was inhibited by increasing concentration of Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35). The concentration of SARS-CoV-2 S1 protein used is 3ug/ml. The IC50 is 1.352 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.

Clinical and Translational Updates

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