SARS-CoV-2 S protein (D614G), His Tag, Super stable trimer (MALS verified)

Catalog # SPN-C52H3

Synonym

Spike,S protein,Spike glycoprotein,S glycoprotein,COVID-19

Source

SARS-CoV-2 S protein (D614G), His Tag, Super stable trimer (SPN-C52H3) is the ectodomain of SARS-CoV-2 S protein that contains AA Val 16 - Pro 1213 (Accession # QHD43416.1) and D614G mutation, which has become increasingly common in SARS-CoV-2 viruses from around the world . The recombinant protein is expressed from human 293 cells (HEK293) with T4 fibritin trimerization motif and a polyhistidine tag at the C-terminus. Proline substitutions (F817P, A892P, A899P, A942P, K986P, V987P) and alanine substitutions (R683A and R685A) are introduced to stabilize the trimeric prefusion state of SARS-CoV-2 S protein and abolish the furin cleavage site, respectively.

Molecular Characterization

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

The protein has a calculated MW of 138.0 kDa. The protein migrates as 170-200 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. 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

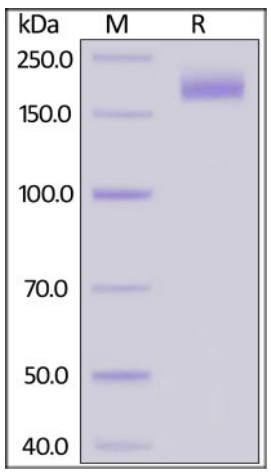
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

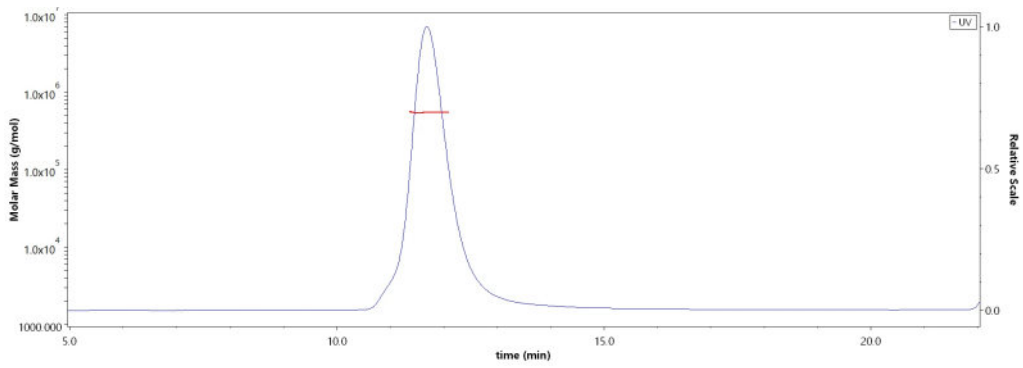
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



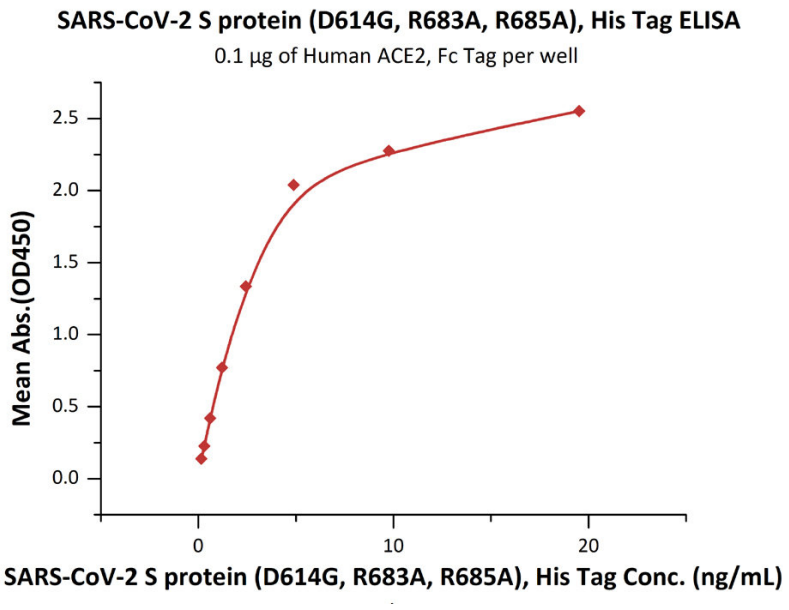
SARS-CoV-2 S protein (D614G), His Tag, Super stable trimer on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

SEC-MALS

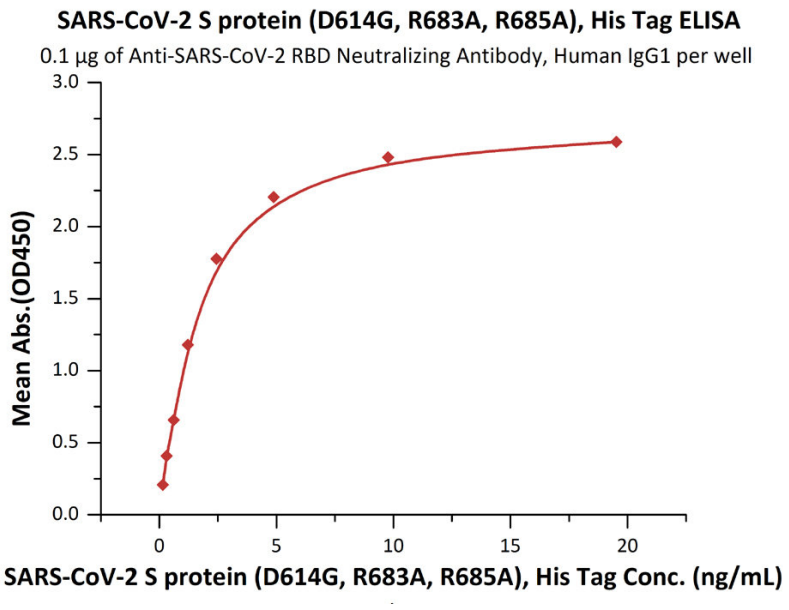


The purity of SARS-CoV-2 S protein (D614G), His Tag, Super stable trimer (Cat. No. SPN-C52H3) was more than 90% and the molecular weight of this protein is around 520-620 kDa verified by SEC-MALS.
Report

Bioactivity-ELISA



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 1 μg/mL (100 μL/well) can bind SARS-CoV-2 S protein (D614G), His Tag, Super stable trimer (Cat. No. SPN-C52H3) with a linear range of 0.2-5 ng/mL (QC tested).



Immobilized Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) at 1 μg/mL (100 μL/well) can bind SARS-CoV-2 S protein (D614G), His Tag, Super stable trimer (Cat. No. SPN-C52) with a linear range of 0.2-2 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.

References

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