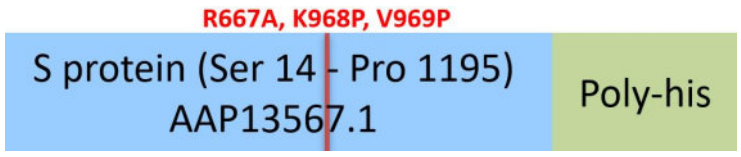
Synonym

Spike,S protein,Spike glycoprotein,S glycoprotein

Source

SARS S protein (R667A, K968P, V969P), His Tag (SPN-S52H6) is expressed from human 293 cells (HEK293). It contains AA Ser 14 - Pro 1195 (Accession # AAP13567.1 (R667A, K968P, V969P)). The recombinant protein is expressed with T4 fibritin trimerization motif and a polyhistidine tag at the C-terminus. Proline substitutions (K968P, V969P) and alanine substitutions (R667A) are introduced to stabilize the trimeric prefusion state of SARS-CoV S protein and abolish the furin cleavage site, respectively.
Predicted N-terminus: Ser 14

Molecular Characterization



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

The protein has a calculated MW of 136.3 kDa. The protein migrates as 190-210 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 μm filtered solution in 50 mM Tris, 150 mM NaCl, 0.2 M Sodium citrate, pH5.5 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

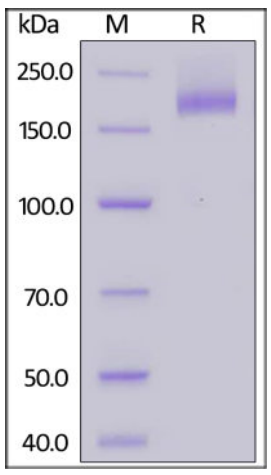
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

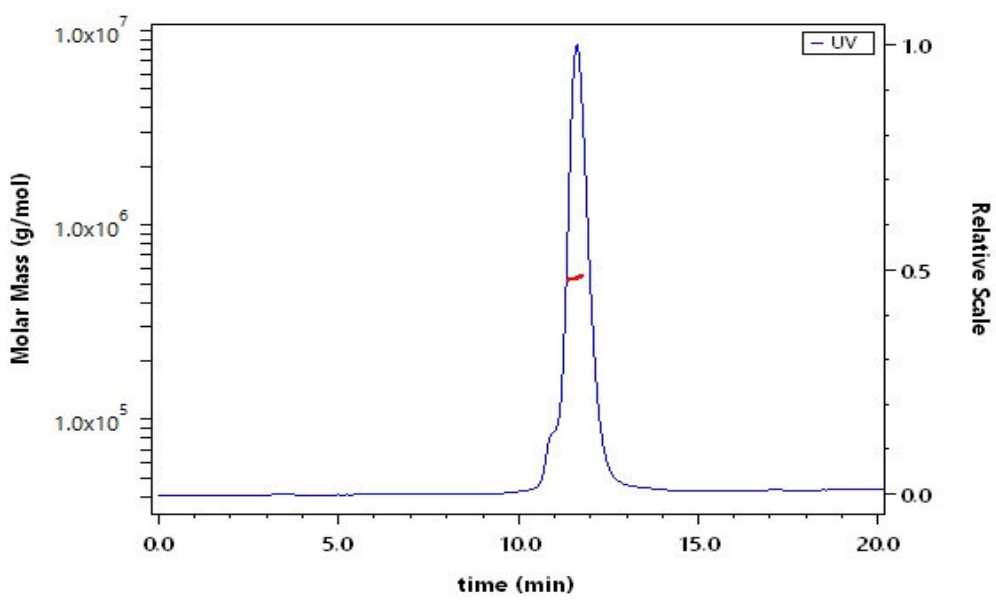
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



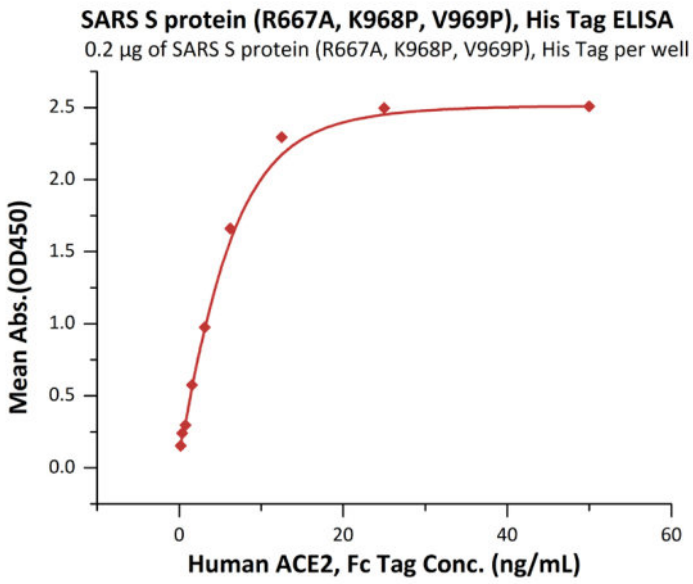
SARS S protein (R667A, K968P, V969P), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

SEC-MALS

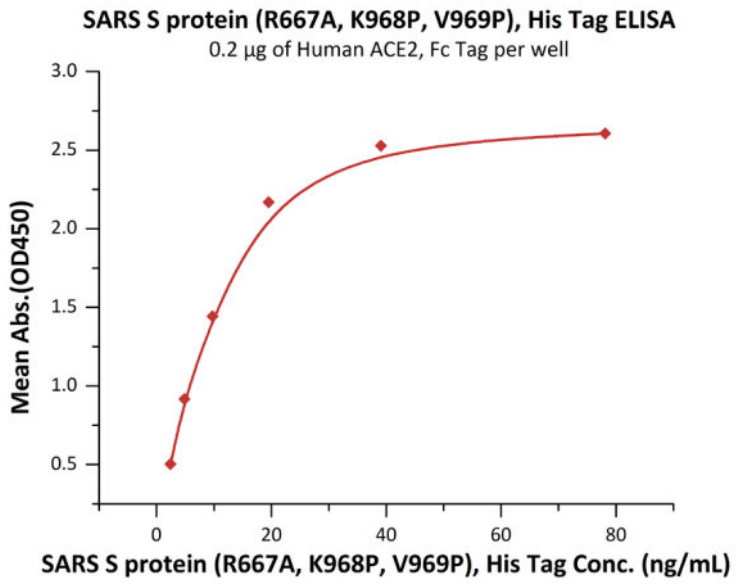


The purity of SARS S protein (R667A, K968P, V969P), His Tag (Cat. No. SPN-S52H6) is more than 90% and the molecular weight of this protein is around 508-562 kDa verified by SEC-MALS.
Report

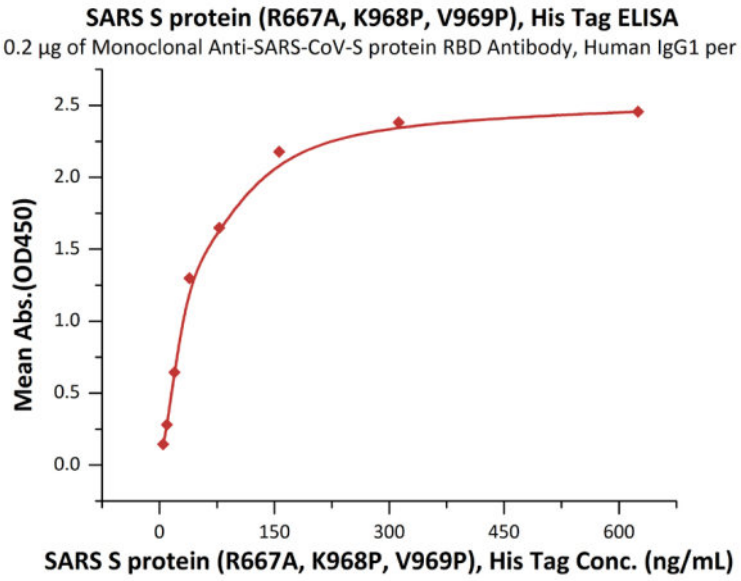
Bioactivity-ELISA



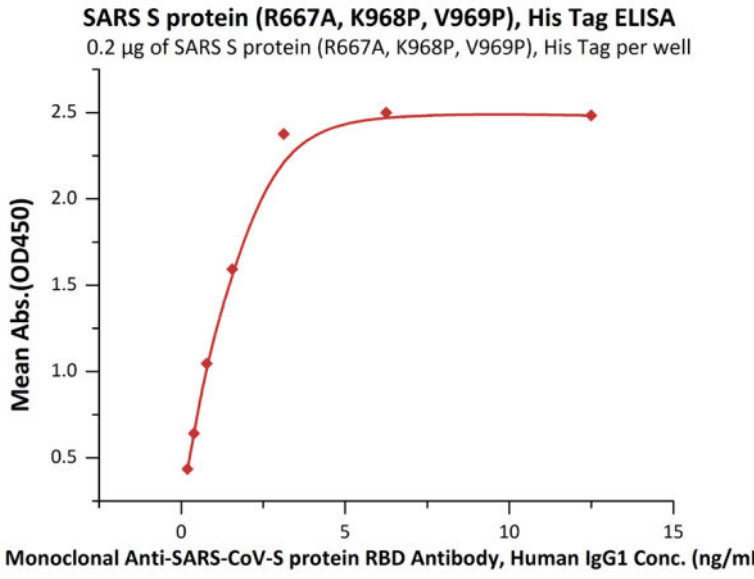
Immobilized SARS S protein (R667A, K968P, V969P), His Tag (Cat. No. SPN-S52H6) at 2 μg/mL (100 μL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.2-6 ng/mL (QC tested).



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 2 μg/mL (100 μL/well) can bind SARS S protein (R667A, K968P, V969P), His Tag (Cat. No. SPN-S52H6) with a linear range of 2-20 ng/mL (Routinely tested).



Immobilized Monoclonal Anti-SARS-CoV-S protein RBD Antibody, Human IgG1 at 2 μg/mL (100 μL/well) can bind SARS S protein (R667A, K968P, V969P), His Tag (Cat. No. SPN-S52H6) with a linear range of 5-78 ng/mL (Routinely tested).



Immobilized SARS S protein (R667A, K968P, V969P), His Tag (Cat. No. SPN-S52H6) at 2 μg/mL (100 μL/well) can bind Monoclonal Anti-SARS-CoV-S protein RBD Antibody, Human IgG1 with a linear range of 0.2-2 ng/mL (Routinely tested).

Background

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.