



## Synonym

Spike,S protein,Spike glycoprotein,S glycoprotein

## Source

SARS-CoV-2 S protein (K417N,D614G), His Tag (SPN-C52Hm) is expressed from human 293 cells (HEK293). It contains AA Val 16 - Pro 1213 (Accession # [QHD43416.1](#)). The mutations (K417N, D614G) were identified in the SARS-CoV-2 variant (known as B.1.351 or 20C/501Y.V2) which emerged in South Africa. 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.

Predicted N-terminus: Val 16

## 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 160-200 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.

## Formulation

Lyophilized from 0.22 µm filtered solution in 0.1 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

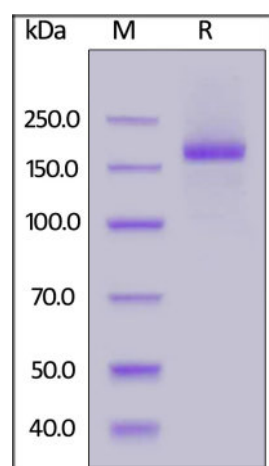
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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.

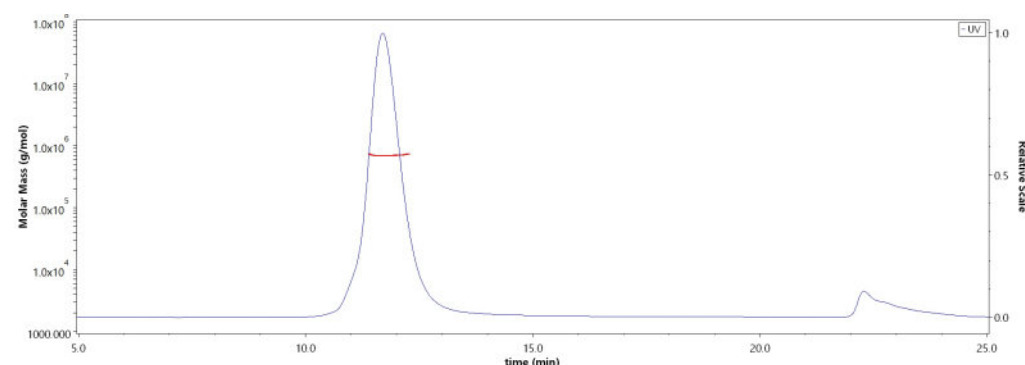
## SDS-PAGE



SARS-CoV-2 Spike Trimer (K417N, D614G), 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%.

## Bioactivity-ELISA

## SEC-MALS



The purity of SARS-CoV-2 Spike Trimer (K417N, D614G), His Tag (Cat. No. SPN-C52Hm) is more than 85% and the molecular weight of this protein is around 680-720 kDa verified by SEC-MALS.

[Report](#)

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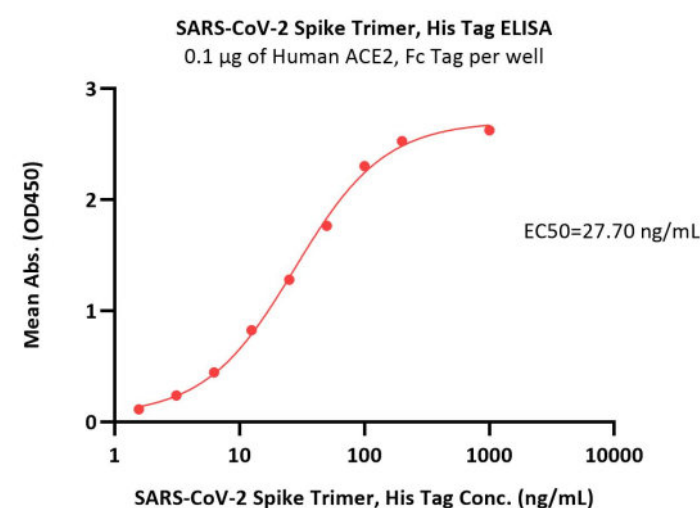
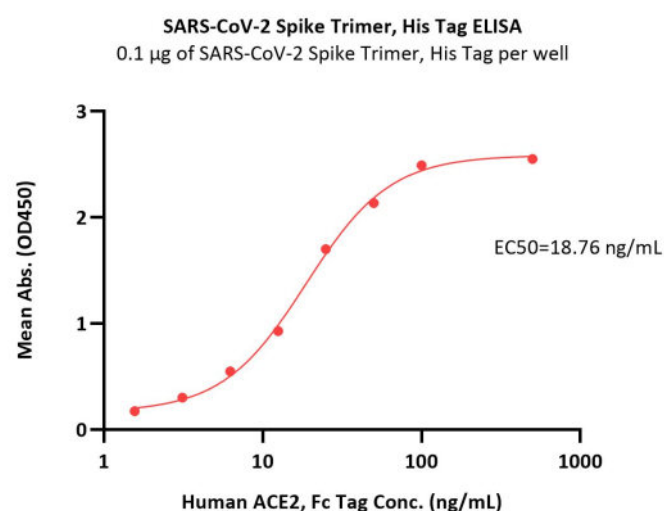


# SARS-CoV-2 Spike Trimer Protein (K417N, D614G), His Tag (MALS verified)

Catalog # SPN-C52Hm



BIOSYSTEMS  
**Acro**



Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 1 µg/mL (100 µL/well) can bind SARS-CoV-2 Spike Trimer, His Tag (Cat. No. SPN-C52Hm) with a linear range of 1.6-50 ng/mL (QC tested).

Immobilized SARS-CoV-2 Spike Trimer, His Tag (Cat. No. SPN-C52Hm) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 3.1-50 ng/mL (Routinely tested).

## Background

It's been reported that SARS-CoV-2 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

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