



## Synonym

Spike,S protein,Spike glycoprotein,S glycoprotein

## Source

Biotinylated HCoV-HKU1 (isolate N5) Spike Trimer, His,Avitag (SPN-H82E3) is expressed from human 293 cells (HEK293). It contains AA Ala 13 - Asn 1276 (Accession # [Q0ZME7-1](#)). Amino acid substitutions RRKRR 752-756 GGSGS and NL 1067-1068 PP are introduced to abolish the furin cleavage site and stabilize the trimeric prefusion state of the spike protein, respectively.

Predicted N-terminus: Ala 13

## Molecular Characterization

Spike protein(Ala 13 - Asn 1276)  
Q0ZME7-1      Poly-his      Avi

This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 147.2 kDa. The protein migrates as 200-220 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

## Labeling

*Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.*

## Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

## 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 PBS 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

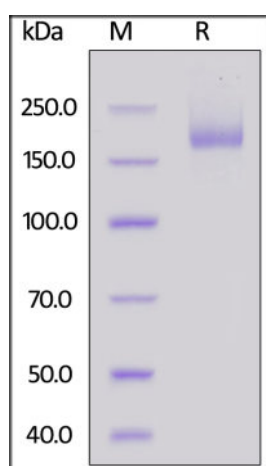
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

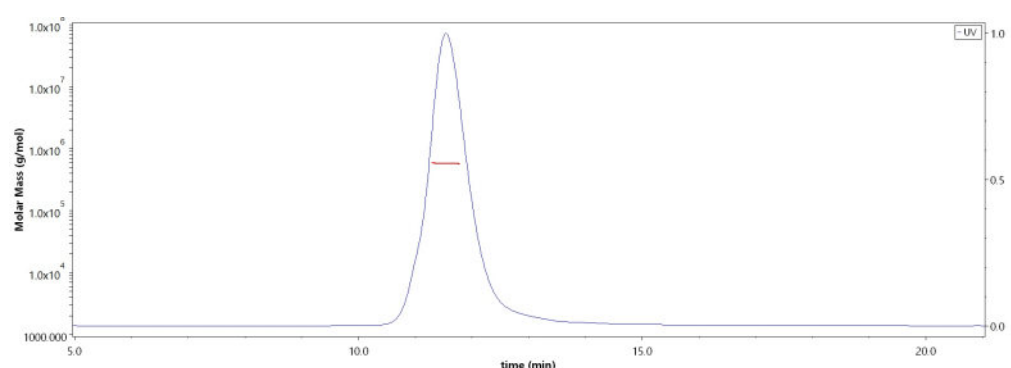
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE



Biotinylated HCoV-HKU1 (isolate N5) Spike Trimer, His,Avitag 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 Biotinylated HCoV-HKU1 (isolate N5) Spike Trimer, His,Avitag (Cat. No. SPN-H82E3) is more than 85% and the molecular weight of this protein is around 590-620 kDa verified by SEC-MALS.

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## 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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