

**Synonym**

Spike,S protein,Spike glycoprotein,S glycoprotein

**Source**

SARS-CoV-2 Spike Trimer, His Tag (BA.3/Omicron) (SPN-C522c) is expressed from human 293 cells (HEK293). The spike mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BA.3; GISAID clade: GRA; Nextstrain clade: 21M). The recombinant protein is expressed from human 293 cells (HEK293) with T4 fibrin 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 137.8 kDa. The protein migrates as 160-200 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 1.0 EU per  $\mu\text{g}$  by the LAL method.

**Purity**

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

**Formulation**

Supplied as 0.2  $\mu\text{m}$  filtered solution in PBS.

Contact us for customized product form or formulation.

**Shipping**

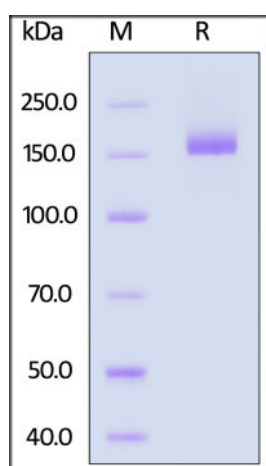
*This product is supplied and shipped as sterile liquid solution with dry ice, please inquire the shipping cost.*

**Storage**

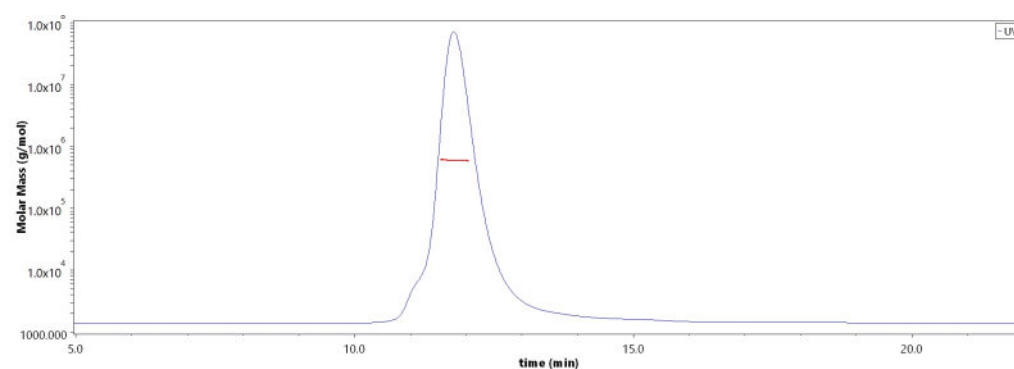
*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- The product MUST be stored at  $-70^{\circ}\text{C}$  or lower upon receipt;
- $-70^{\circ}\text{C}$  for 3 months under sterile conditions.

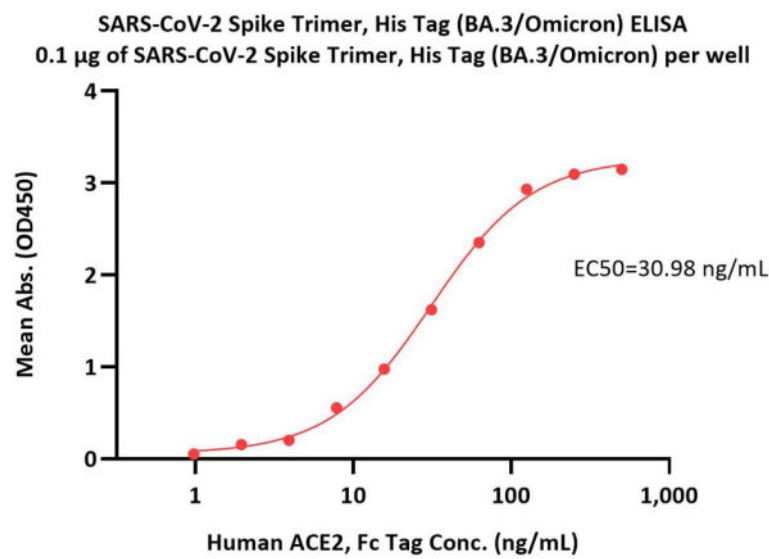
**SDS-PAGE**

SARS-CoV-2 Spike Trimer, His Tag (BA.3/Omicron) on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

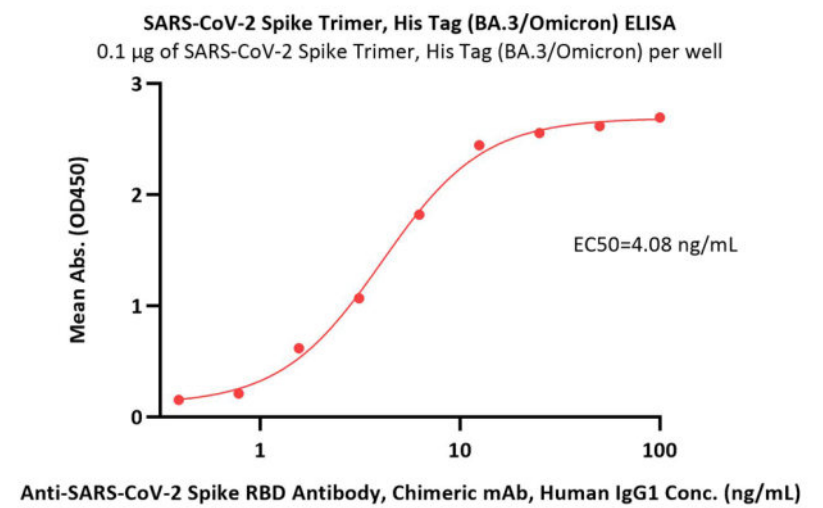
**Bioactivity-ELISA****SEC-MALS**

The purity of SARS-CoV-2 Spike Trimer, His Tag (BA.3/Omicron) (Cat. No. SPN-C522c) is more than 90% and the molecular weight of this protein is around 565-615 kDa verified by SEC-MALS.

[Report](#)



Immobilized SARS-CoV-2 Spike Trimer, His Tag (BA.3/Omicron) (Cat. No. SPN-C522c) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 2-31 ng/mL (QC tested).



Immobilized SARS-CoV-2 Spike Trimer, His Tag (BA.3/Omicron) (Cat. No. SPN-C522c) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 (Cat. No. S1N-M122) with a linear range of 0.001-0.013 µg/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

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.