

Synonym

Spike,S protein,Spike glycoprotein,S glycoprotein

Source

SARS-CoV-2 Spike Trimer, His Tag (BA.2.75/Omicron) (SPN-C522k) is expressed from human 293 cells (HEK293). It contains AA Val 16 - Pro 1213 (Accession # [QHD43416.1](#) (T19I, LPP24-26del, A27S, G142D, K147E, W152R, F157L, I210V, V213G, G257S, G339H, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, G446S, N460K, S477N, T478K, E484A, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K, R683A, R685A, F817P, A892P, A899P, A942P, K986P, V987P)). The spike mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BA.2.75). 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.

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 160-190 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

Supplied as 0.2 µm 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.

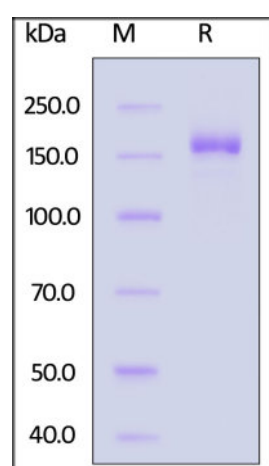
Storage

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 3 months under sterile conditions.

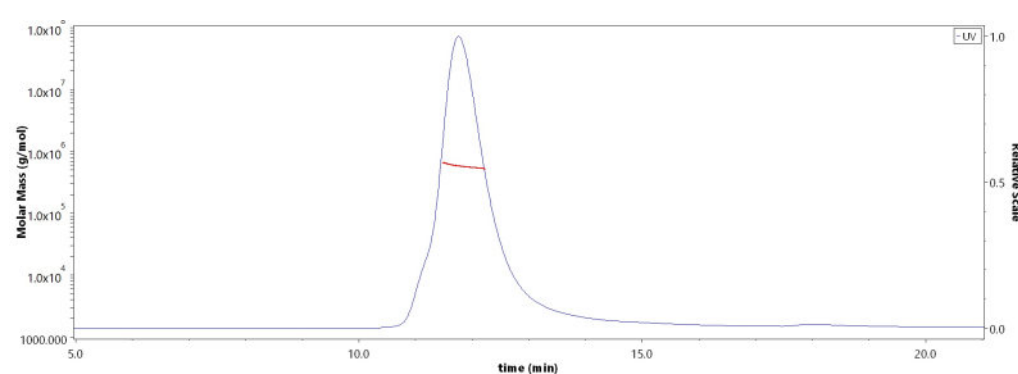
SDS-PAGE



SARS-CoV-2 Spike Trimer, His Tag (BA.2.75/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%.

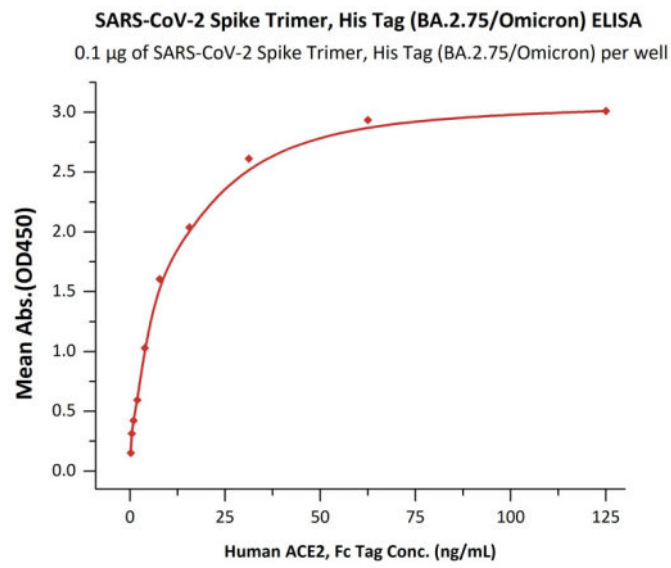
Bioactivity-ELISA

SEC-MALS



The purity of SARS-CoV-2 Spike Trimer, His Tag (BA.2.75/Omicron) (Cat. No. SPN-C522k) is more than 90% and the molecular weight of this protein is around 545-585 kDa verified by SEC-MALS.

[Report](#)



Immobilized SARS-CoV-2 Spike Trimer, His Tag (BA.2.75/Omicron) (Cat. No. SPN-C522k) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.2-0.8 ng/mL (QC tested).

Background

It has 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 if you have any question on this product.