

SARS-CoV-2 Spike Trimer, His Tag (B.1.1.529/Omicron) (MALS verified)

Cat. No.	SPN-C52Hz
Lot. No.	5714a-21C6F1-21C6
Size	50 ug

Description

Source SARS-CoV-2 Spike Trimer, His Tag (B.1.1.529/Omicron) (SPN-C52Hz) is the ectodomain of SARS-CoV-2 spike protein which contains AA Val 16 - Pro 1213 (Accession # QHD43416.1 (A67V, HV69-70del, T95I, G142D, VYY143-145del, N211del, L212I, ins214EPE, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F)). The 35 spike mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: B.1.1.529; GISAID clade: GR/484A; Nextstrain clade: 21K). 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 138.2 kDa. The protein migrates as 170-200 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Specifications

Physical Appearance Colorless transparent liquid.

Protein Content Verified by UV280, SDS-PAGE, BCA and / or Bradford.

Endotoxin Less than 1.0 EU per µg by the LAL method.

Purity >95% as determined by SDS-PAGE.
96.89% as determined by HP-SEC, and 584.30 kDa verified by MALS.

Bioactivity Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2 Spike Trimer, His Tag (B.1.1.529/Omicron) (Cat. No. SPN-C52Hz) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.4-13 ng/mL (QC tested).

Formulation Delivered as bulk protein in a 0.2 µm filtered solution of PBS with 10% trehalose as protectant. The final concentration of SARS-CoV-2 Spike Trimer, His Tag (B.1.1.529/Omicron) (MALS verified) is 730 µg/ml, with a total volume of 69 µL.

Instruction

It is strongly recommended to centrifuge at 1000 rpm for 15s before opening the cap.

Avoid vigorous shaking or vortexing.

Minimal volume for aliquot

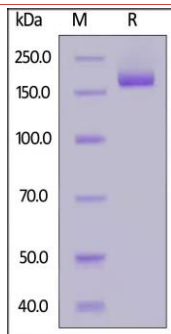
To avoid surface adsorption loss and inactivation, the protein must **NOT** be aliquoted to less than 10 µg per vial.

Under the following conditions, Carrier protein (0.1% (W/V) BSA or HSA) **MUST** be included in reconstitution buffer.

1. Aliquots of less than 10 µg/vial;
2. The concentration is less than the protein concentration published on the COA;
3. Long term storage.

SDS-PAGE

SARS-CoV-2 Spike Trimer, His Tag (B.1.1.529/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%.



Storage

Avoid repeated freeze-thaw cycles.

The product **MUST** be stored at -70°C or lower upon receipt.

The product is validated to be stable after storage at -70°C for 3 months under sterile conditions.

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