SARS-CoV-2 Spike S1 Protein, His Tag (BA.2.12.1/Omicron)

Catalog # S1N-C52Hx

Synonym

Spike,S1 protein,Spike glycoprotein Subunit1,S glycoprotein Subunit1,Spike protein S1

Source

SARS-CoV-2 Spike S1, His Tag (BA.2.12.1/Omicron) (S1N-C52Hx) is expressed from human 293 cells (HEK293). It contains AA Val 16 - Arg 685 (Accession # QHD43416.1 (T19I, LPP24-26del, A27S, G142D, V213G, G339D, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, L452Q, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H)). The spike mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BA.2.12.1; GISAID clade: GRA).
Predicted N-terminus: Val 16

Molecular Characterization

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 76.8 kDa. The protein migrates as 100-116 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 PBS, 0.2 M Arginine, pH7.4 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

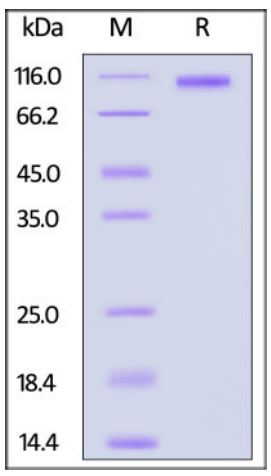
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

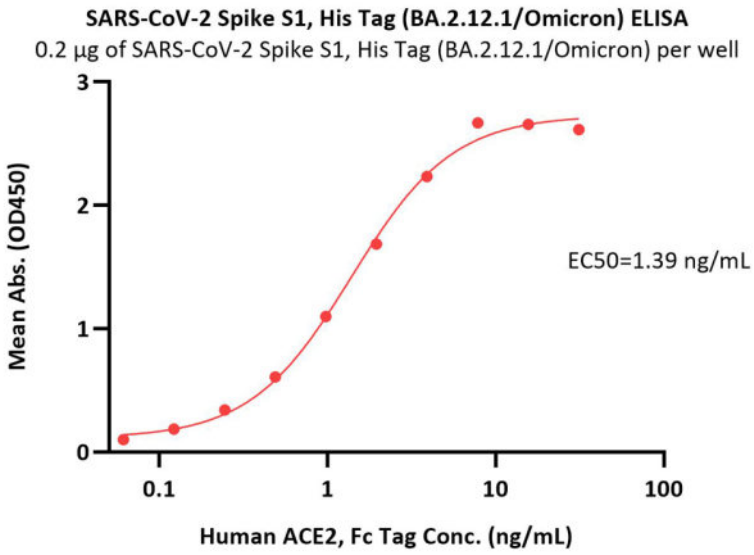
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

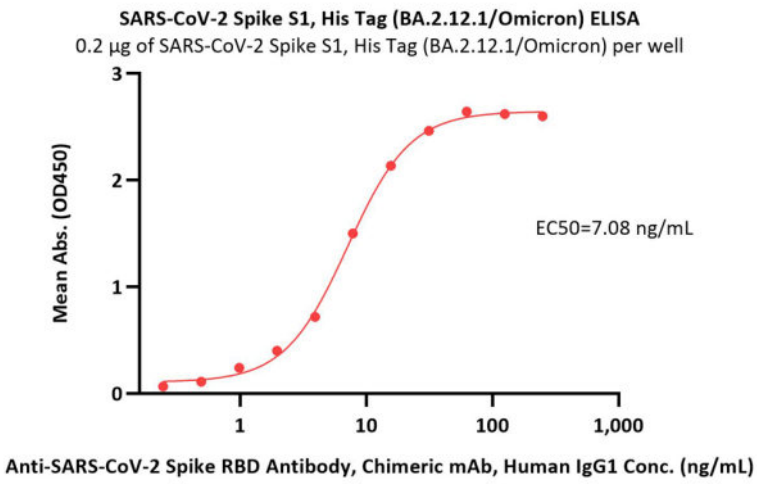


SARS-CoV-2 Spike S1, His Tag (BA.2.12.1/Omicron) on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

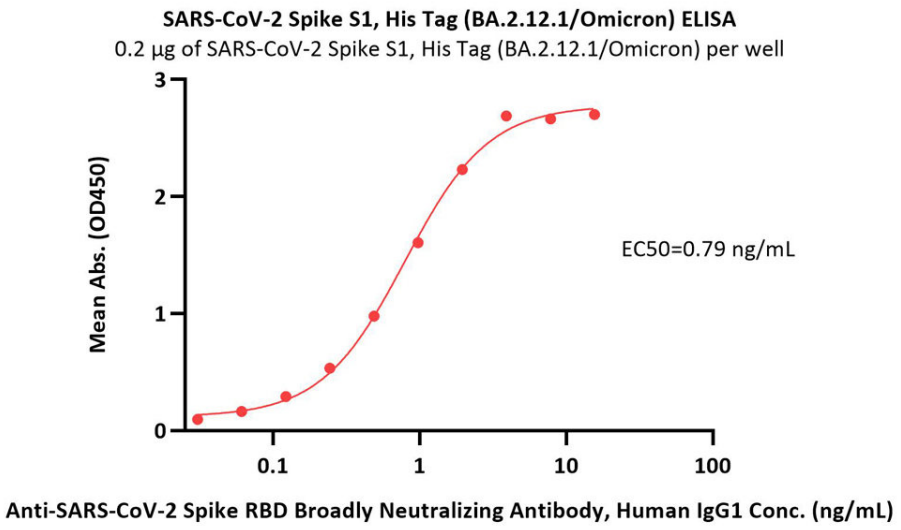
Bioactivity-ELISA



Immobilized SARS-CoV-2 Spike S1, His Tag (BA.2.12.1/Omicron) (Cat. No. S1N-C52Hx) at 2 μg/mL (100 μL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.1-4 ng/mL (QC tested).



Immobilized SARS-CoV-2 Spike S1, His Tag (BA.2.12.1/Omicron) (Cat. No. S1N-C52Hx) at 2 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 0.2-16 ng/mL (Routinely tested).



Immobilized SARS-CoV-2 Spike S1, His Tag (BA.2.12.1/Omicron) (Cat. No. S1N-C52Hx) at 2 μg/mL (100 μL/well) can bind Anti-SARS-CoV-2 Spike RBD Broadly Neutralizing Antibody, Human IgG1 (Cat. No. SPD-M265) with a linear range of 0.1-2 ng/mL (Routinely tested).

Background

It's been reported that Coronavirus 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