

**Synonym**

Spike,S2 protein,Spike glycoprotein Subunit2,S glycoprotein Subunit2,Spike protein S2

**Source**

SARS-CoV-2 S2 protein, His Tag (BA.1/Omicron) (S2N-C52Hf) is expressed from human 293 cells (HEK293). It contains AA Ser 686 - Pro 1213 (Accession # [QHD43416.1](#) (N764K, D796Y, N856K, Q954H, N969K, L981F, F817P, A892P, A899P, A942P, K986P, V987P)). The mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BA.1; GISAID clade: GRA; Nextstrain clade: 21K). Proline substitutions (F817P, A892P, A899P, A942P, K986P, V987P) are introduced to prevent the formation of aggregates in the course of protein production.

Predicted N-terminus: Ser 686

**Molecular Characterization**

This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 59.9 kDa. The protein migrates as 70-80 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, 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.*

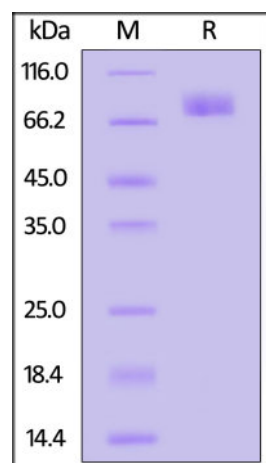
**Storage**

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:

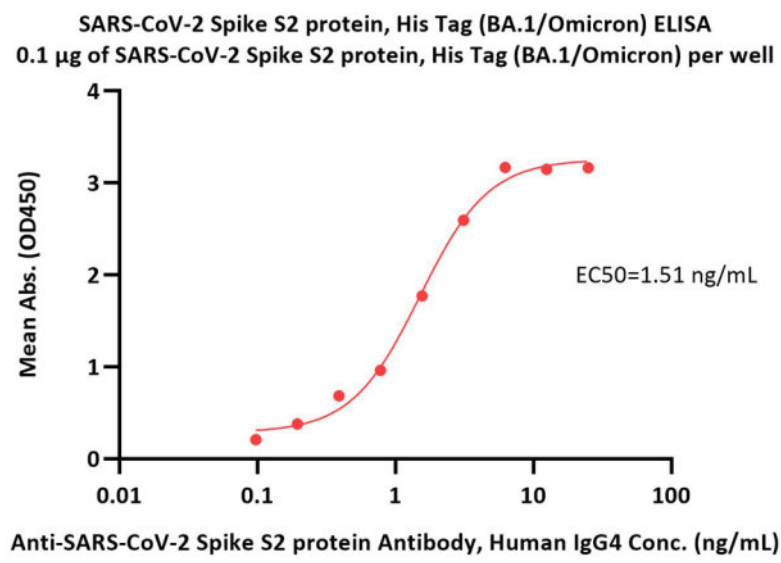
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

SARS-CoV-2 Spike S2 protein, His Tag (BA.1/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**



Immobilized SARS-CoV-2 Spike S2 protein, His Tag (BA.1/Omicron) (Cat. No. S2N-C52Hf) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Spike S2 protein Antibody, Human IgG4 (Cat. No. S2N-S86) with a linear range of 0.01-1.6 ng/mL (QC 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.