

**Synonym**

Nucleocapsid protein, NP, Protein N

**Source**

SARS-CoV-2 Nucleocapsid protein, His Tag (BQ.1/Omicron) (NUN-C52Hx) is expressed from human 293 cells (HEK293). It contains AA Met 1 - Ala 419 (Accession # [QHO62115.1](#) (P13L, ERS31-33del, E136D, R203K, G204R, S413R)). The mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BQ.1; GISAID clade: GRA).

Predicted N-terminus: Met 1

**Molecular Characterization**

This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 47.1 kDa. The protein migrates as 55-60 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, 0.2M 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.*

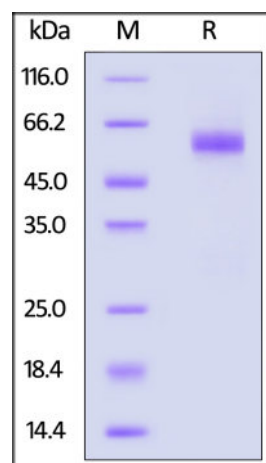
**Storage**

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

*Please avoid repeated freeze-thaw cycles.*

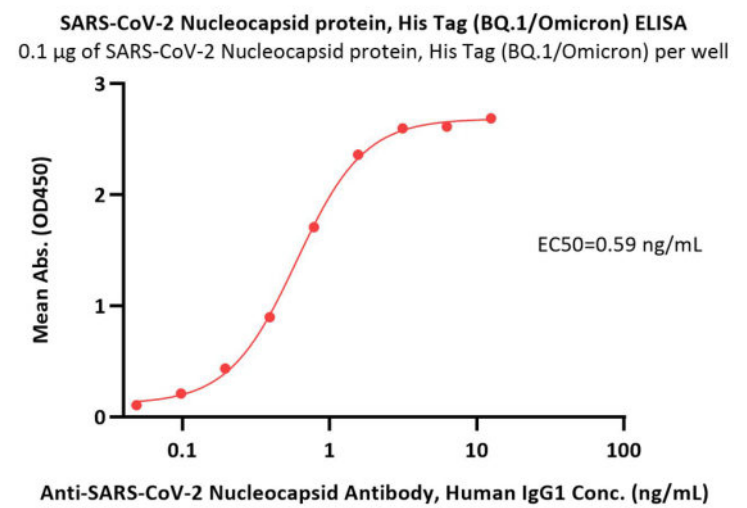
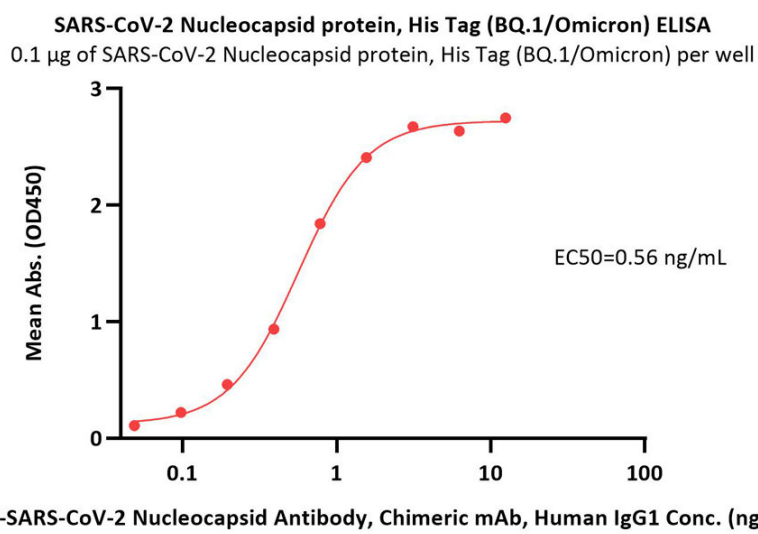
This product is stable after storage at:

- -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 Nucleocapsid protein, His Tag (BQ.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 Nucleocapsid protein, His Tag (BQ.1/Omicron) (Cat. No. NUN-C52Hx) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Nucleocapsid Antibody, Chimeric mAb, Human IgG1 (Cat. No. NUN-CH15) with a linear range of 0.1-2 ng/mL (QC tested).

Immobilized SARS-CoV-2 Nucleocapsid protein, His Tag (BQ.1/Omicron) (Cat. No. NUN-C52Hx) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Nucleocapsid Antibody, Human IgG1 (Cat. No. NUN-CH14) with a linear range of 0.1-2 ng/mL (Routinely tested).

## Background

Nucleocapsid (N) protein is the most abundant protein found in coronavirus. CoV N protein is a highly immunogenic phosphoprotein important for viral genome replication and modulation of cell signaling pathways. It was first identified by a research team while they were screening for ADP-ribosylated proteins during coronavirus (CoV) infection (Grunewald M. E., et al. 2017, Virology; 517: 62-68). The array of diverse functional activities accommodated in N protein makes it more than a structural protein but also an interesting target in the development of antiviral therapeutics. Because of the conservation of N protein sequence and its strong immunogenicity, N protein of coronavirus is chosen as a diagnostic tool.

## Clinical and Translational Updates

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