

**Synonym**

Nucleocapsid protein,NP,Protein N

**Source**

SARS-CoV-2 Nucleocapsid protein, His Tag (NUN-C52Hp) is expressed from human 293 cells (HEK293). It contains AA Met 1 - Ala 419 (Accession # [QHO62115.1](#)). The mutations (D63G, R203M, D377Y, R385K) were identified in the SARS-CoV-2 Delta lineages (Pango lineage: B.1.617.2; GISAID clade: 21A, 21I, 21J; Nextstrain clade: G/478K.V1).  
Predicted N-terminus: Met 1

**Molecular Characterization**

Nucleocapsid protein(Met 1 - Ala 419) QHO62115.1	Poly-his
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This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 47.2 kDa. The protein migrates as 50-65 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

>90% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS 0.5 M Arginine,pH7.3 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.*

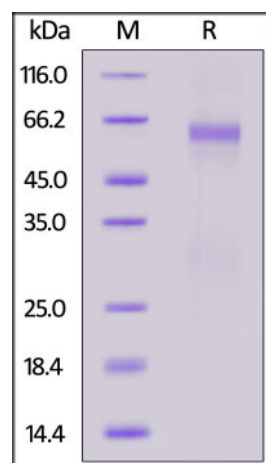
**Storage**

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

*Please avoid repeated freeze-thaw cycles.*

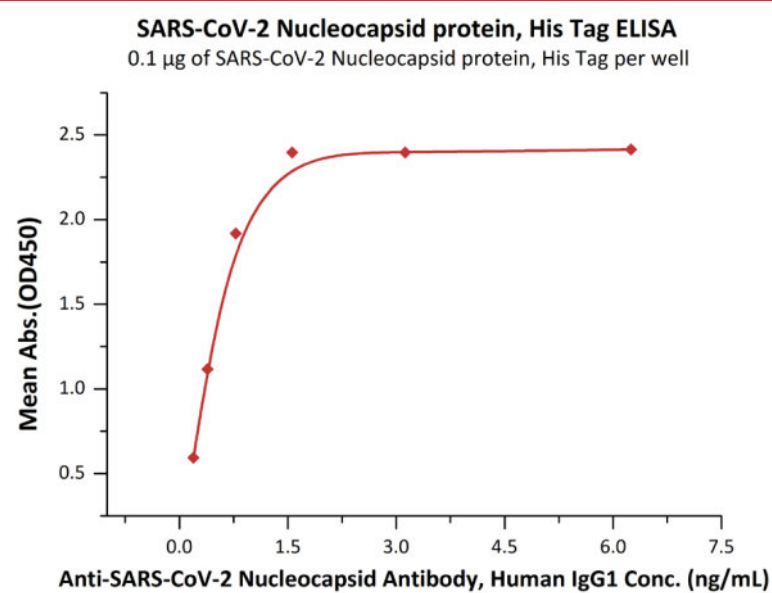
This product is stable after storage at:

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

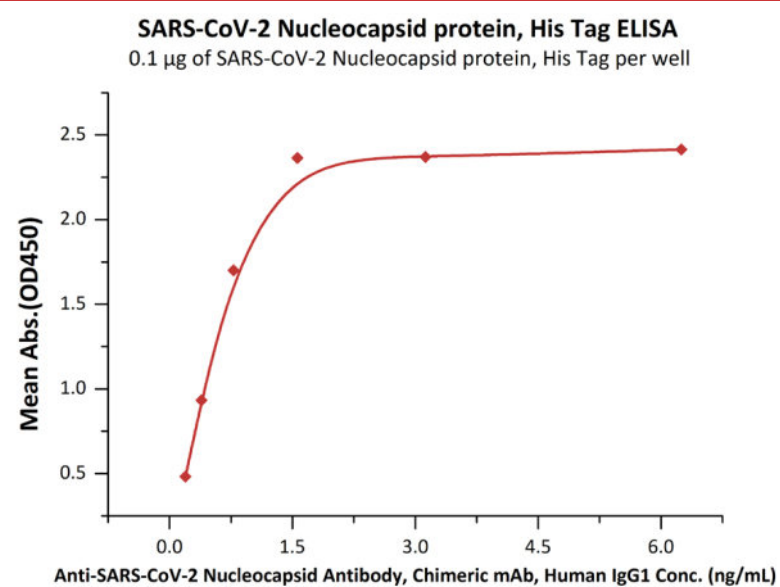
**SDS-PAGE**

SARS-CoV-2 Nucleocapsid protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

**Bioactivity-ELISA**



Immobilized SARS-CoV-2 Nucleocapsid protein, His Tag (Cat. No. NUN-C52Hp) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Nucleocapsid Antibody, Human IgG1 (Cat. No. NUN-S41A1) with a linear range of 0.2-1 ng/mL (QC tested).



Immobilized SARS-CoV-2 Nucleocapsid protein, His Tag (Cat. No. NUN-C52Hp) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Nucleocapsid Antibody, Chimeric mAb, Human IgG1 (AM223) (Cat. No. NUN-M223) with a linear range of 0.2-1 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.