SARS-CoV-2 Nucleocapsid protein (R203M, D377Y), His Tag

Catalog # NUN-C52Hn

Synonym

Nucleocapsid protein,NP,Protein N

Source

SARS-CoV-2 Nucleocapsid protein (R203M, D377Y), His Tag (NUN-C52Hn) is expressed from human 293 cells (HEK293). It contains AA Met 1 - Ala 419 (Accession # QHO62115.1 (R203M, D377Y)). The mutations (R203M, D377Y) on nucleocapsid protein were identified in the SARS-CoV-2 Kappa variant (Pango lineage: B.1.617.1; other names: 21A/S:154K).
Predicted N-terminus: Met 1

Molecular Characterization

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

The protein has a calculated MW of 47.3 kDa. The protein migrates as 55-65 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

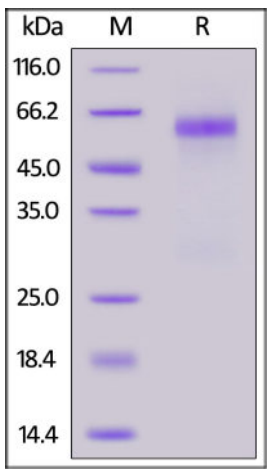
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

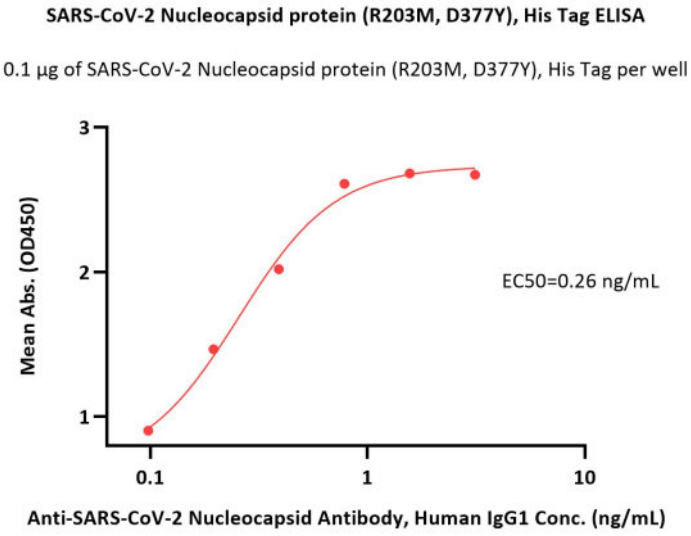
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

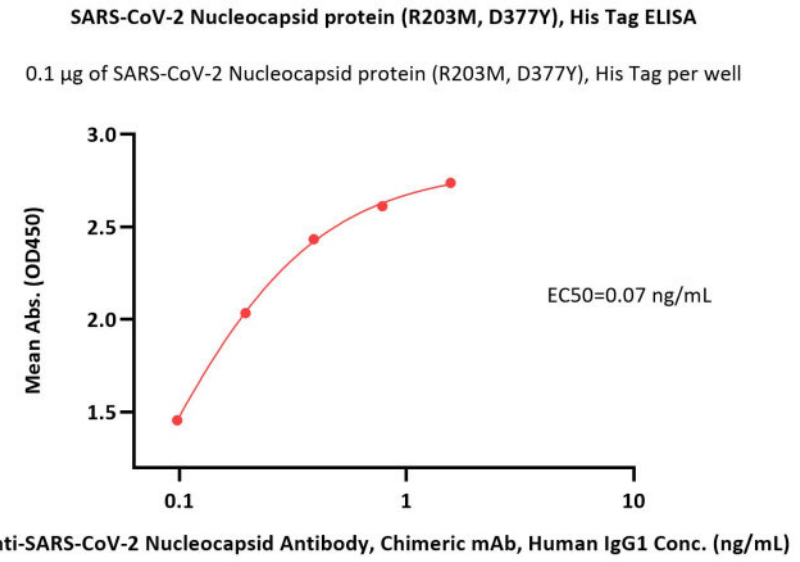


SARS-CoV-2 Nucleocapsid protein (R203M, D377Y), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA



Immobilized SARS-CoV-2 Nucleocapsid protein (R203M, D377Y), His Tag (Cat. No. NUN-C52Hn) at 1 μg/mL (100 μL/well) can bind Anti-SARS-CoV-2 Nucleocapsid Antibody, Human IgG1 with a linear range of 0.2-1 ng/mL (QC tested).



Immobilized SARS-CoV-2 Nucleocapsid protein (R203M, D377Y), His Tag (Cat. No. NUN-C52Hn) at 1 μg/mL (100 μL/well) can bind Anti-SARS-CoV-2 Nucleocapsid Antibody, Chimeric mAb, Human IgG1 with a linear range of 0.098-0.4 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