Biotinylated SARS-CoV-2 Nucleocapsid protein, His,Avitag™ (BA.2*&BA.3*/Omicron)

Catalog # NUN-C82E9

Synonym

Nucleocapsid protein, NP, Protein N

Source

Biotinylated SARS-CoV-2 Nucleocapsid protein, His,Avitag (BA.2*&BA.3*/Omicron) (NUN-C82E9) is expressed from human 293 cells (HEK293). It contains AA Met 1 - Ala 419 (Accession # QHO62115.1 (P13L, ERS31-33del, R203K, G204R, S413R)). The nucleocapsid mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BA.2; GISAID clade: GRA; Nextstrain clade: 21L & Pango lineage: BA.3; GISAID clade: GRA; Nextstrain clade: 21M).

Predicted N-terminus: Met 1

Molecular Characterization

This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag (Avitag™).

The protein has a calculated MW of 48.8 kDa. The protein migrates as 33 kDa and 50-60 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Labeling

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Purity

>90% 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.

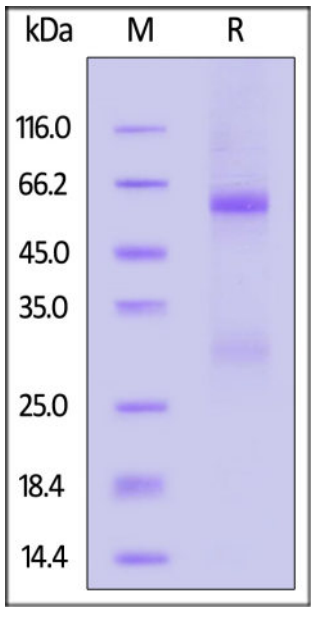
This product is stable after storage at:

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

ACRO Quality Management System

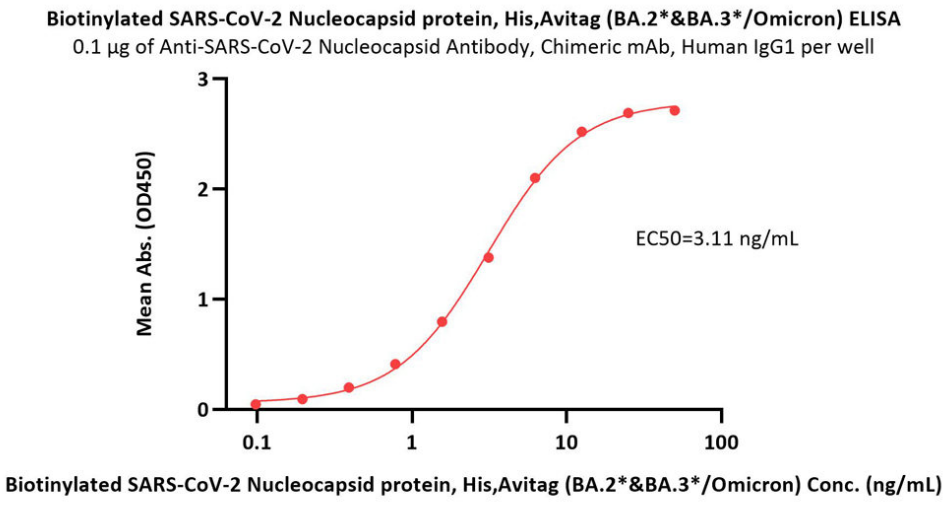
- QMS(ISO, GMP)
- Quality Advantages
- Quality Control Process

SDS-PAGE

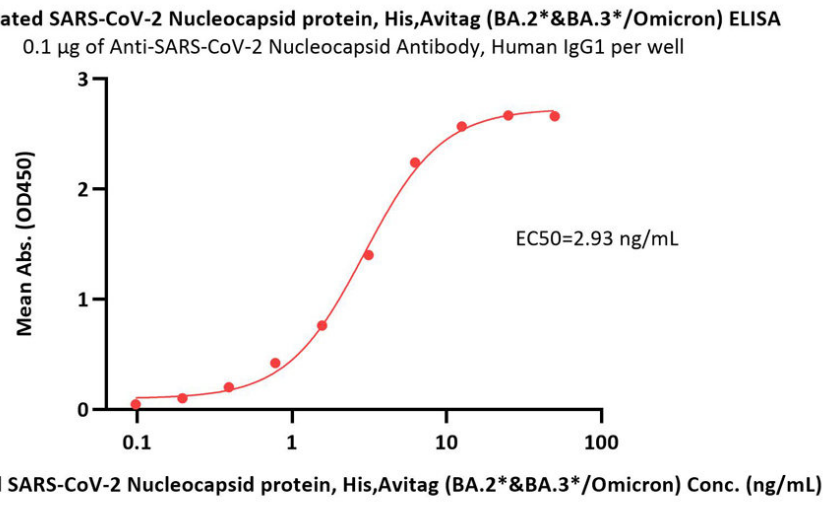


Biotinylated SARS-CoV-2 Nucleocapsid protein, His,Avitag (BA.2*&BA.3*/Omicron) on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

Bioactivity-ELISA



Immobilized Anti-SARS-CoV-2 Nucleocapsid Antibody, Chimeric mAb, Human IgG1 at 1 μg/mL (100 μL/well) can bind Biotinylated SARS-CoV-2 Nucleocapsid protein, His,Avitag (BA.2*&BA.3*/Omicron) (Cat. No. NUN-C82E9) with a linear range of 0.1-6 ng/mL (QC tested).



Immobilized Anti-SARS-CoV-2 Nucleocapsid Antibody, Human IgG1 at 1 μg/mL (100 μL/well) can bind Biotinylated SARS-CoV-2 Nucleocapsid protein, His,Avitag (BA.2*&BA.3*/Omicron) (Cat. No. NUN-C82E9) with a linear range of 0.1-6 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.