**General Information**

**Gene Name Synonym:**
coronavirus NP; coronavirus Nucleocapsid; coronavirus Nucleoprotein; cov np; ncov NP; NCP-CoV Nucleocapsid; novel coronavirus NP; novel coronavirus Nucleocapsid; novel coronavirus Nucleoprotein; np; nuleocapsid; Nucleoprotein

**Protein Construction:**
A DNA sequence encoding the SARS-CoV-2 (2019-nCoV) Nucleocapsid Protein (YP_009724397.2(335Gly/Ala)) (Met1-Ala419) was expressed with a c-terminal polyhistidine tagged AVI tag at the C-terminus. The purified protein was biotinylated in vitro.

**Source:** 2019-nCoV

**Expression Host:** Baculovirus-Insect Cells

**QC Testing**

**Biotin/Protein Ratio:**
0.7-1 as determined by the HABA assay.

**Purity:** > 85 % as determined by SDS-PAGE.

**Endotoxin:**
< 1.0 EU per μg protein as determined by the LAL method.

**Predicted N terminal:** Met1

**Molecular Mass:**
The recombinant SARS-CoV-2 (2019-nCoV) Nucleocapsid Protein consists of 430 amino acids and predicts a molecular mass of 47.08 kDa.

**Formulation:**
Lyophilized from sterile 20mM Tris, 500mM NaCl, pH8.0, 10% glycerol

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

**Usage Guide**

**Stability & Storage:**
Samples are stable for twelve months from date of receipt at -20°C to -80°C.

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

**Reconstitution:**
Detailed reconstitution instructions are sent along with the products.

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**SDS-PAGE:**

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**Protein Description**

Coronaviruses are enveloped viruses with a positive-sense RNA genome and with a nucleocapsid of helical symmetry. Coronavirus nucleoproteins localize to the cytoplasm and the nucleolus, a subnuclear structure, in both virus-infected primary cells and in cells transfected with plasmids that express N protein. Coronavirus N protein is required for coronavirus RNA synthesis, and has RNA chaperone activity that may be involved in template switch. Nucleocapsid protein is a most abundant protein of coronavirus. During virion assembly, N protein binds to viral RNA and leads to formation of the helical nucleocapsid. Nucleocapsid protein is a highly immunogenic phosphoprotein also implicated in viral genome replication and in modulating cell signaling pathways. Because of the conservation of N protein sequence and its strong immunogenicity, the N protein of coronavirus is chosen as a diagnostic tool.

**References**