

# SARS-CoV-2 (2019-nCoV) Nucleocapsid (P80R) Protein (His Tag)

Catalog Number: 40588-V07E11



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## General Information

### Gene Name Synonym:

NP-CoV

### Protein Construction:

A DNA sequence encoding the SARS-CoV-2 (2019-nCoV) Nucleocapsid (YP\_009724397.2, with mutation P80R) (Met1-Ala419) was expressed with a polyhistidine tag at the N-terminus. The mutation were identified in the SARS-CoV-2 variant (known as variant P.1) which emerged in the Brazil.

**Source:** SARS-CoV-2

**Expression Host:** E. coli

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE.

### Endotoxin:

Please contact us for more information.

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant SARS-CoV-2 (2019-nCoV) Nucleocapsid consists of 426 amino acids and predicts a molecular mass of 46.7 kDa.

### Formulation:

Lyophilized from sterile 50 mM PB, 500 mM NaCl, pH 7.0.

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.

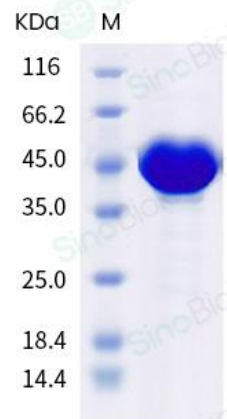
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## 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. The coronavirus N protein is required for coronavirus RNA synthesis and has RNA chaperone activity that may be involved in template switch. Nucleocapsid protein is the most abundant protein of coronavirus. During virion assembly, N protein binds to viral RNA and leads to the 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 the N protein sequence and its strong immunogenicity, the N protein of coronavirus is chosen as a diagnostic tool.

## References

1. Van Boheemen S, et al. (2012), MBio. 3(6):e00473-12.
2. Bisht H. et al., 2004, Proc Natl Acad Sci. 101 (17): 6641-6.
3. Li W. et al., 2005, Science. 309 (5742): 1864-8.