

# SARS-CoV-2 Nucleocapsid protein (nCoV-S2 nucleocapsid Protein, NP)

Synonyms: Novel Coronavirus 2019 nucleoprotein NP, recombinant

*PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING*

Size	Order #	Lot #	Expiry Date
100 µg	2014.V20.100		

Please enquire for bulk quantities and other vial sizes

## Description

Recombinant SARS-CoV-2 Nucleocapsid protein derived from *E. Coli*, with a molecular weight of ca. 45,5 kDa. Coronaviruses (CoVs) belong to the order of Nidovirales. They are enveloped, single stranded, positive sense RNA viruses. They contain at least four structural proteins Spike (S) protein, Envelope (E) protein, Membrane (M) protein and nucleocapsid (N) protein. SARS-CoV-2, formerly termed 2019-nCoV, causes the pandemic COVID-19 disease, a viral pneumonia. The SARS-CoV-2 shares an 87% identity to two bat-derived severe acute respiratory syndrome 2018 (SARS-like) coronaviruses found in Zhoushan of eastern China. It is more distant from SARS-CoV (79%) identity and MERS-CoV (50%) identity. SARS-CoV-2 has an analogous receptor-binding domain-structure to that of 2018 SARS-CoV, even though there is a.a. diversity so thus the 2019-nCoV might bind to ACE2 receptor protein (angiotensin-converting enzyme 2) in humans. While bats are possibly the host of SARS-CoV, researchers suspect that animal from the ocean sold at the seafood market was an intermediate host. RSCU analysis proposes that the SARS-CoV-2 is a recombinant within the viral spike glycoprotein between the bat coronavirus and an unknown coronavirus.

- **Source** *E. Coli*
- **Purity** ≥ 95% (SDS-PAGE)
- **Stabilizer** None
- **Buffer** Tris (50mM), NaCl (300mM), Glycerol (10%), pH=8.0\*
- **Physical state** Sterile filtered, liquid (1.0mg/ml)

## Biological Activity

Antigenicity Test: Validated in 16 patient serum samples via ELISA by coating SARS-CoV-2 NP as capture antigen, with a detection rate of 93,75. Strong antigenetic response even in 70000-fold diluted patient serum.

## Stability

The protein is stable for at least 2 weeks at 0°C - 4°C, and therefore can be shipped on ice packs. Upon arrival it should be stored at -20 °C. **Please avoid repeated freeze-thaw cycles**, Defrost at ambient Temperatures.

## Amino Acid Sequence

SDNGPQNQRN APRITFGGPS DSTGSNQNGE RSGARSKQRR PQGLPNNTAS WFTALTQHGK EDLKFPRGQG  
 VPINTNSSPD DQIGYRRAT RRIRGGDGKM KDLSRWYFY YLGTGPEAGL PYGANKDGLI WVATEGALNT  
 PKDHIGTRNP ANNAIVLQL PQGTTLPKGF YAEGSRGGSQ ASSRSSRSR NSSRNSTPGS SRGTSPARMA  
 GNGGDAALAL LLLDRLNQL SKMSGKGQQQ QGQTVTKKSA AEASKKPRQK RTATKAYNVT QAFGRRGPEQ  
 TQGNFGDQEL IRQGTDYKHW PQIAQFAPSA SAFFGMSRIG MEVTPSGTWL TYTAAIKLDD KDPNFKDQVI  
 LLNKHIDAYK TFPPTPKKD KKKKADETQA LPQRQKKQQT VTLLPAADLD DFSKQLQQSM SSADSTQA

**Usage:** For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

\*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

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