

DESCRIPTION

Source	<i>Spodoptera frugiperda</i> , Sf 21 (baculovirus)-derived sars-cov-2 Nucleocapsid protein Met1-Ala419, with a C-terminal 6-His tag Accession # YP_009724397.2
N-terminal Sequence Analysis	Ser2
Structure / Form	Biotinylated via amines
Predicted Molecular Mass	46 kDa

SPECIFICATIONS

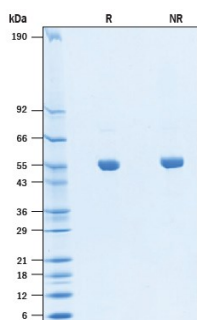
SDS-PAGE	49-59 kDa, under reducing conditions
Activity	Bioassay data are not available.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

SDS-PAGE



2 µg/lane of Biotinylated Recombinant SARS-CoV-2 Nucleocapsid His-tag Protein (Catalog # BT10474) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 49-59 kDa.

BACKGROUND

SARS-CoV-2, which causes the global pandemic coronavirus disease 2019 (Covid-19), belongs to a family of viruses known as coronaviruses that are commonly comprised of four structural proteins: Spike protein (S), Envelope protein (E), Membrane protein (M), and Nucleocapsid protein (N) (1). While the S, E and M proteins build up the viral envelope, the N protein is involved transcription, replication and packaging of the viral RNA genome into a helical ribonucleocapsid (RNP) (2, 3). The SARS-CoV-2 N protein is a ~45 kDa protein composed of two independent structural domains connected by a linker region. The N-terminal region contains an RNA binding domain, the linker region interacts with the M protein and the C-terminal region contains a self-association domain (2,3). The SARS-CoV2 N protein shares 91% and 47% amino acid sequence identity with SARS-CoV-1 and MERS N protein, respectively. The SARS-CoV-2 N protein displays VSR (viral suppressor of RNA interference) activity in mammalian cells (4). In addition, the N protein is an abundant protein during coronavirus infection and displays high immunogenic activity (5, 6), so it has been used to develop serological diagnostic kit for Covid-19 IgM and IgG antibody tests (7).

References:

1. Wu, F. *et al.* (2020) *Nature* **579**:265.
2. Chang, C. K. *et al.* (2006) *J. Biomed. Sci.* **13**:59.
3. Hurst, K. R. *et al.* (2009) *J. Virol.* **83**:7221.
4. Mu, J. *et al.* (2020) *Sci. China Life Sci.* doi: 10.1007/s11427-020-1692-1.
5. Che, X. Y. *et al.* (2004) *J. Clin. Microbiol.* **42**:2629.
6. Guan, M. *et al.* (2004) *Clin. Diagn. Lab. Immunol.* **11**:287.
7. Liu, W. *et al.* (2020) *J. Clin. Microbiol.* doi: 10.1128/JCM.00461-20.