

DESCRIPTION

Source *Spodoptera frugiperda*, Sf 21 (baculovirus)-derived sars-cov Nucleocapsid protein
Met1-Ala422, with a C-terminal 6-His tag
Accession # NP_828858.1

N-terminal Sequence Analysis Ser2, determined by protein ID

Predicted Molecular Mass 47 kDa

SPECIFICATIONS

SDS-PAGE 41-55 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 >85%, 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 and EDTA with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 1 mg/mL in PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 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.

BACKGROUND

SARS-CoV was discovered in association with cases of severe acute respiratory syndrome (SARS) that infected more than 8,000 persons with over 900 fatalities worldwide in 2002-2003 (1). It belongs to a family of viruses known as coronaviruses that also include MERS and SARS-Cov2 that causes the global pandemic coronavirus disease 2019 (Covid-19). Coronavirus is 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 envelop, the N protein is involved in transcription, replication, and packaging of the viral RNA genome into a helical ribonucleocapsid (RNP) (2, 3). The SARS-CoV N protein is a ~45 kDa protein composed of two independent structural domains connected by a linker region. Both the N-terminal and the linker regions contain RNA binding domains, while the C-terminal region is responsible for the oligomerization of the N protein (2, 3). The SARS-CoV N protein shares 90% amino acid sequence identity with SARS-CoV-2 N protein. The N protein is an abundant protein during coronavirus infection and displays high immunogenic activity (4, 5), so it has been used to develop serological diagnostic kit for SARS IgM and IgG antibody tests.

References:

1. Rota, P.A. *et al.* (2003) *Science* **300**:1394.
2. Chang, C.K. *et al.* (2006) *J.Biomed. Sci.* **13**:59.
3. Hurst, K. R. *et al.* (2009) *J. Virol.* **83**:7221.
4. Che, X. Y. *et al.* (2004) *J. Clin. Microbiol.* **42**:2629.
5. Guan, M. *et al.* (2004) *Clin. Diagn. Lab. Immunol.* **11**:287.