Recombinant SARS-CoV-2 NSP9 His-tag

Catalog Number: 10631-CV

DESCRIPTION

Source	*E. coli*-derived sars-cov-2 NSP9 protein Asn1-Gln113 Accession # YP_009725305.1 with N-terminal Met and C-terminal 6-His tag
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	13 kDa

SPECIFICATIONS

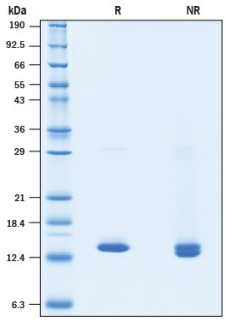
SDS-PAGE	13 kDa, under reducing conditions
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Supplied as a 0.2 µm filtered solution in HEPES and NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 6 months from date of receipt, -20 to -70 °C as supplied. • 3 months, -20 to -70 °C under sterile conditions after opening.

DATA

SDS-PAGE



2 µg/lane of Recombinant SARS-CoV-2 NSP9 His-tag (Catalog # 10631-CV) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing a band at 13 kDa under reducing conditions.

BACKGROUND

Non-structural protein 9 (NSP9) is one of several functional proteins released by ORF1a-encoded protease cleavage of the pp1a and pp1ab replicase polyproteins expressed from the coronavirus (CoV) genome (1). The NSPs are involved in the replication and transcription of the viral RNA and not incorporated within the virion particles. Coronaviruses include various highly pathogenic strains such as SARS-CoV, MERS-CoV and SARS-CoV2 that have had significant impact on humans as well as strains that have negatively impacted livestock. NSP9 is a small 113 amino acid protein that forms a biologically active homodimer where each monomer consists of a beta barrel and C-terminal helical domain motif that promotes obligate dimerization (2,3). NSP9 is capable of binding nucleic acids in a nonsequence-specific manner with a preference of a single stranded RNA (4,5) although disruption of the dimeric interface appears to impact RNA binding (6). The NSP9 sequence is conserved across coronaviruses (3). NSP9 was shown to interact with other viral NSP proteins including NSP7, NSP8, and NSP12 (5,7,8). In addition, NSP9 has been shown to bind host cell proteins including DEAD-box RNA helicase 5 (DDX5), the ubiquitin E3 ubiquitin ligase MIB1, and elongation factor eIF4H in SARS-CoV2 and related viruses (9,10). The interactions of NSP9 with these host cell proteins promote viral replication (9,10) supporting the conclusion that NSP9 is important for virulence (2,3).

References:

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