

PRODUCT INFORMATION

SARS-CoV-2 nsp8 (recombinant)

Item No. 40882

Overview and Properties

Synonyms:	Severe Acute Respiratory Syndrome Coronavirus 2 nsp8, SARS-CoV-2 Non-structural Protein 8
Source:	Recombinant SARS-CoV-2 N-terminal His- and DYKDDK-tagged nsp8 expressed in <i>E. coli</i>
Amino Acids:	1-198
Uniprot No.:	P0DTD1
Storage:	-80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein
Stability:	≥1 year
Purity:	≥90%
Supplied in:	50 mM Tris-HCl, pH 7.5, with 200 mM sodium chloride and 20% glycerol
Endotoxin Testing:	< 1.0 EU/μg, determined by the LAL endotoxin assay
Protein	
Concentration:	<i>batch specific</i> mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped positive-stranded RNA virus and the causative agent of COVID-19, a primarily respiratory illness characterized by fever, cough, and shortness of breath that can lead to life-threatening complications.¹⁻⁵ The SARS-CoV-2 genome contains approximately 30 kilobases and 14 open reading frames (ORFs) that encode four structural proteins: spike, envelope, membrane, and nucleocapsid, as well as 16 non-structural proteins and 9 accessory factors.⁶ SARS-CoV-2 non-structural protein 8 (nsp8) is encoded within *ORF1ab* and is a cofactor and component of the SARS-CoV-2 decameric RNA replication transcriptional complex. It functions as an anchoring scaffold for the RNA transcription complex, with its N-terminal domain (NTD) binding to the RNA-dependent polymerase (RdRp) nsp12, the helicase nsp13, and RNA.⁷ SARS-CoV-2 nsp8 also functions as a virulence factor, binding to the host 7SL RNA component of the signal recognition particle to suppress membrane protein trafficking and impair host antiviral responses.⁸

References

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3. Meo, S.A., Alhowikan, A.M., Al-Khlaiwi, T., *et al.* Novel coronavirus 2019-nCoV: Prevalence, biological and clinical characteristics comparison with SARS-CoV and MERS-CoV. *Eur. Rev. Med. Pharmacol. Sci.* **24**(4), 2012-2019 (2020).
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5. Yang, F., Shi, S., Zhu, J., *et al.* Analysis of 92 deceased patients with COVID-19. *J. Med. Virol.* **92**(11), 2511-2515 (2020).
6. Romano, M., Ruggiero, A., Squeglia, F., *et al.* A structural view of SARS-CoV-2 RNA replication machinery: RNA synthesis, proofreading and final capping. *Cells* **9**(5), 1267 (2020).
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8. Banerjee, A.K., Blanco, M.R., Bruce, E.A., *et al.* SARS-CoV-2 disrupts splicing, translation, and protein trafficking to suppress host defenses. *Cell* **183**(5), 1325-1339.e21 (2020).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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