Recombinant SARS-CoV-2 ORF1ab Protein, His-tagged

Cat. No. ORF1ab-184S **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active recombinant SARS-CoV-2 ORF1ab Protein (5325-5925) with a N-terminal His tag was expressed in E. coli.
Species	SARS-CoV-2
Source	E.coli
ProteinLength	5325-5925
Description	Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped, positive-sense, single-stranded RNA virus that causes coronavirus disease 2019 (COVID-19). Virus particles include the RNA genetic material and structural proteins needed for invasion of host cells. Once inside the cell the infecting RNA is used to encode structural proteins that make up virus particles, nonstructural proteins that direct virus assembly, transcription, replication and host control and accessory proteins whose function has not been determined.~ ORF1ab, the largest gene, contains overlapping open reading frames that encode polyproteins PP1ab and PP1a. The polyproteins are cleaved to yield 16 nonstructural proteins, NSP1-16. Production of the longer (PP1ab) or shorter protein (PP1a) depends on a -1 ribosomal frameshifting event. The proteins, based on similarity to other coronaviruses, include the papain-like proteinase protein (NSP3), 3C-like proteinase (NSP5), RNA-dependent RNA polymerase (NSP12, RdRp), helicase (NSP13, HEL), endoRNAse (NSP15), 2'-O-Ribose-Methyltransferase (NSP16) and other nonstructural proteins. SARS-CoV-2 nonstructural proteins are responsible for viral transcription, replication,

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	proteolytic processing, suppression of host immune responses and suppression of host gene expression. The RNA-dependent RNA polymerase is a target of antiviral therapies.
Molecular Mass	69.1 kDa
Endotoxin	<1.0 EU/μg, determined by the LAL endotoxin assay
Purity	≥80% estimated by SDS-PAGE
Unit Definition	One unit is defined as the amount of enzyme required to release 1 pmol of fluorescein-labeled ssDNA from a fork DNA substrate containing a quencher on the complimentary strand per minute at 25 centigrade under the following conditions: 20 mM HEPES, pH7.5, 20 mM NaCl, 5% glycerol, 5 mM MgCl2, 0.01% BSA, 2 mM DTT, 2 μM unlabeled complementary ssDNA, 1 mM ATP, and 200 nM forked DNA substrate.
Stability	≥ 1 year
Storage	At 4 centigrade.
Storage Buffer	50 mM Tris-HCl, pH 7.5, with 5 μM zinc chloride, 1 mM DTT, 1 mM EDTA, and 10% glycerol

GENE INFORMATION

Gene Name	ORF1ab ORF1a polyprotein;ORF1ab polyprotein [Severe acute respiratory syndrome coronavirus 2]
Official Symbol	ORF1ab

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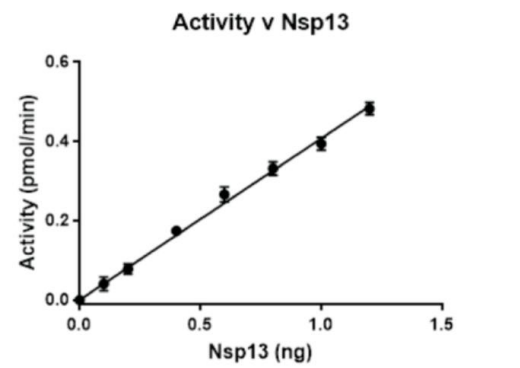
Synonyms	ORF1ab; ORF1a polyprotein; ORF1ab polyprotein; leader protein; nsp2; nsp3; nsp4; 3C-like proteinase; nsp6; nsp7; nsp8; nsp9; nsp10; RNA-dependent RNA polymerase; helicase; 3'-to-5' exonuclease; endoRNAse; 2'-O-ribose methyltransferase; leader protein; nsp2; nsp3; nsp4; 3C-like proteinase; nsp6; nsp7; nsp8; nsp9; nsp10; nsp11; pp1ab; translated by -1 ribosomal frameshift; pp1a
Gene ID	43740578
Protein Refseq	YP_009724389
UniProt ID	P0DTD1
Activity of Nsp13	

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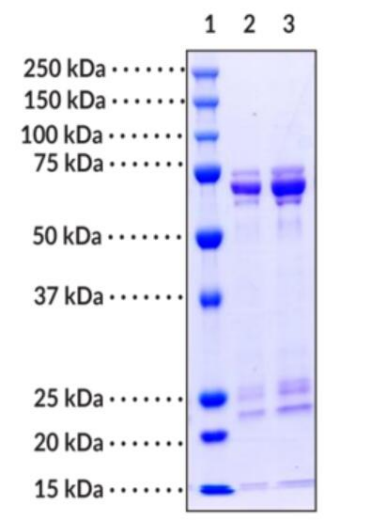
SDS-PAGE Analysis of SARS-CoV-2 nsp13 Helicase



Lane 1: MW Markers

Lane 2: SARS-CoV-2 nsp13 Helicase (2 μg)

Lane 3: SARS-CoV-2 nsp13 Helicase (4 μg)

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