Recombinant SARS-CoV-2 NSP8_NSP7 and NSP12 Complex Protein, N-14×His tagged

Cat. No. NSP8/NSP7/NSP12-13S **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant complex of three SARS-CoV-2 proteins NSP7 (nonstructural protein 7), NSP8 (nonstructural protein 8) and NSP12 (nonstructural protein 12). The NSP8_NSP7 construct contains an N-terminal His-tag (14×His) followed by a TEV protease target sequence that allows cleavage of His-tag. The recombinant NSP12 construct is full length encompassing amino acids 1-932 (end). These recombinant proteins are co-expressed in an E. coli expression system and affinity purified.
Species	SARS-CoV-2
Source	E.coli
ProteinLength	NSP8_NSP7: 1-242(end) NSP12: 1-932(end)
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.

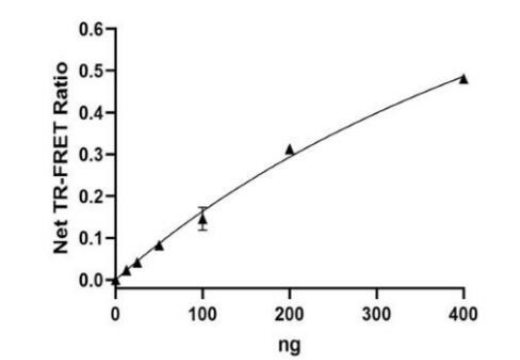
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	Production of the longer (PP1ab) or shorter protein (PP1a) depends on a -1 ribosomal frameshifting event. The proteins, based on similarity to other coronaviruses, include the papain-like proteinase protein (NSP3), 3C-like proteinase (NSP5), RNA-dependent 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, proteolytic processing, suppression of host immune responses and suppression of host gene expression. The RNA-dependent RNA polymerase is a target of antiviral therapies.
Tag	N-14×His
Form	Aqueous buffer solution
Bio-activity	Activity was measured using the RdRp (SARS-CoV-2) TR-FRET Assay Kit with Nsp8_ Nsp7/Nsp 12 (Sars-CoV-2) complex titrated at various concentrations.
Molecular Mass	NSP12: 108 kDa; NSP8: 23 kDa; NSP7: 10 kDa
Purity	≥90%
Applications	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.
Notes	Avoid freeze/thaw cycles
Usage	Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.
Storage	At least 6 months at -80 centigrade.

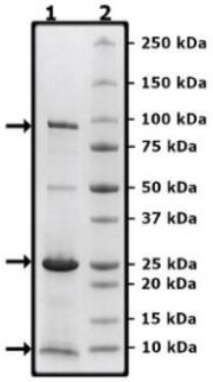
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Storage Buffer	20 mM HEPES, pH 8.0, 300 mM NaCl, 10% glycerol, and 3 mM DTT
Shipping	At -80 centigrade.

GENE INFORMATION

Gene Name	ORF1ab ORF1a polyprotein;ORF1ab polyprotein [Severe acute respiratory syndrome coronavirus 2]
Official Symbol	ORF1ab
Synonyms	ORF1ab; ORF1a polyprotein;ORF1ab polyprotein; 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_009742614
Activity	

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SDS-PAGE	 4-20% SDS-PAGE Coomassie Staining

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