

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

**Cat. No.** ORF1ab-392S    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>Product Overview</b> | Recombinant 2019-nCoV RNA-dependent RNA polymerase (RdRp) was expressed in E. coli cells using a C-terminal His tag.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Species</b>          | SARS-CoV-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Description</b>      | <p>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, proteolytic processing, suppression of host immune responses and suppression of host gene expression. The RNA-dependent RNA polymerase is a target of antiviral</p> |

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|                       |                                                                                                                                                                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | therapies.                                                                                                                                                                                                                                       |
| <b>Molecular Mass</b> | ~100 kDa                                                                                                                                                                                                                                         |
| <b>Purity</b>         | > 85%                                                                                                                                                                                                                                            |
| <b>Stability</b>      | One at -70 centigrade from date of shipment.                                                                                                                                                                                                     |
| <b>Storage</b>        | Store product at –70 centigrade. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles. |
| <b>Concentration</b>  | 0.05µg/µL                                                                                                                                                                                                                                        |
| <b>Storage Buffer</b> | 50 mM sodium phosphate, pH 7.5, 300 mM NaCl, 150 mM IMIDAZOLE, 1 mM DTT, 10% glycerol.                                                                                                                                                           |
| <b>Shipping</b>       | Dry ice                                                                                                                                                                                                                                          |

## GENE INFORMATION

|                        |                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | ORF1ab ORF1a polyprotein;ORF1ab polyprotein [ Severe acute respiratory syndrome coronavirus 2 ]                                                                                                                                                                                                                                                                                           |
| <b>Official Symbol</b> | ORF1ab                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Synonyms</b>        | ORF1a; polyprotein;ORF1ab polyprotein; Names; 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 |

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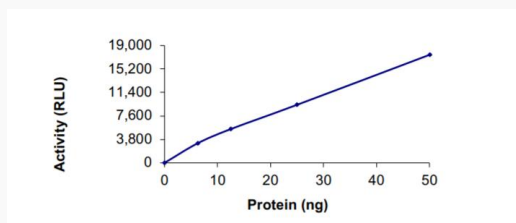
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**Gene ID** 43740578

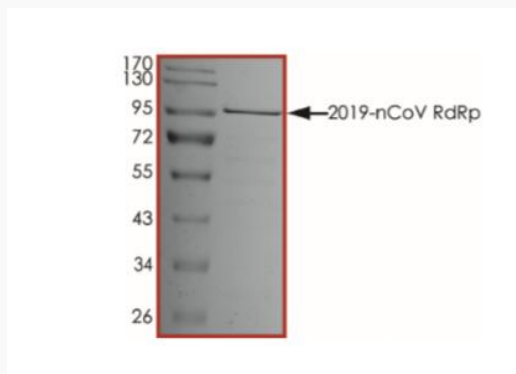
**Protein Refseq** YP\_009725307

### Activity



Determined by detection of pyrophosphate (PPi) generated during nascent strand synthesis by a chemiluminescent coupled assay method using ATP sulfurylase and luciferase.

### Purity



> 85%

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