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Recombinant SARS-CoV-2 (2019-nCoV) NSP3 / Papain-like Protease (His Tag)

Catalog No.	CSI99003	**Quantity:**	100 µg

Alternate Names: Non-structural protein 3, nsp3, PL2-PRO, Papain-like proteinase, PL-PRO

Description: Non-structural protein 3 is 1 of 15 chains cleaved from Replicase polyprotein 1ab. Responsible for the cleavages located at the N-terminus of the replicase polyprotein. In addition, PL-PRO possesses a deubiquitinating/deISGylating activity and processes both 'Lys-48'- and 'Lys-63'-linked polyubiquitin chains from cellular substrates. Participates together with nsp4 in the assembly of virally-induced cytoplasmic double-membrane vesicles necessary for viral replication. Antagonizes innate immune induction of type I interferon by blocking the phosphorylation, dimerization and subsequent nuclear translocation of host IRF3. Prevents also host NF-kappa-B signaling.
The coronaviral papain-like protease (PLpro) and 3C-like protease (3CLpro) are attractive antiviral drug targets because they are essential for coronaviral replication. PLpro has the additional function of stripping ubiquitin and ISG15 from host-cell proteins to aid coronaviruses in their evasion of the host innate immune responses. Targeting PLpro with antiviral drugs may have an advantage in not only inhibiting viral replication but also inhibiting the dysregulation of signaling cascades in infected cells that may lead to cell death in surrounding, uninfected cells.

UniProt ID: P0DTD1

Accession Number: YP_009725299.1

Protein Construction: A DNA sequence encoding the SARS-CoV-2 (2019-nCoV) NSP3/Papain-like protease (Glu1564-Val1880) was expressed with a polyhistidine tag at the N-terminus.

Source: E. coli

Formulation: Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4.
Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.

Molecular Weight: The recombinant SARS-CoV-2 (2019-nCoV) NSP3/Papain-like protease (His Tag) consists of 324 amino acids with a predicted molecular mass of 36.79 kDa.

Purity: > 90 % as determined by SDS-PAGE.

Biological Activity: Measured by its ability to cleave a fluorogenic peptide substrate, Arg-Leu-Arg-Gly-Gly-AMC (RLRGGAMC)

Specific Activity: >80pmols/min/µg

Predicted N-terminal: Met

Reconstitution: **Centrifuge vial prior to opening.** Add sterile distilled water to a concentration of 0.1 mg/mL and gently pipette the solution up and down the sides of the vial.
DO NOT VORTEX. Allow several minutes for complete reconstitution.

Cell Sciences®
65 Parker Street
Unit 11
Newburyport, MA 01950

Toll Free: 888-769-1246
Phone: 978-572-1070
Fax: 978-992-0298

E-mail: info@cellsciences.com
Website: www.cellsciences.com

Storage & Stability: Stable for up to 1 year from date of receipt at -20°C to -80°C
After reconstitution, store working aliquots at -20°C to -80°C.
Avoid repeated freeze-thaw cycles.

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