SARS-CoV-2 PLpro Protein

Cat. No.:	HY-P70122
Synonyms:	rReplicase polyprotein 1ab/2019-nCoV Papain-Like Protease; Papain-like Protease; PLpro; PL-PRO; pp1a; Replicase polyprotein 1a
Species:	Virus
Source:	E. coli
Accession:	P0DTD1-1 (E1564-K1878)
Gene ID:	43740578
Molecular Weight:	Approximately 34.0 kDa

PROPERTIES

AA Sequence	E V R T I K V F T T V D N I N L H T Q V V D M S M T Y G Q Q F G P T Y L D G A D V T K I K P H N S H E G K T F Y V L P N D D T L R V E A F E Y Y H T T D P S F L G R Y M S A L N H T K K W K Y P Q V N G L T S I K W A D N N C Y L A T A L L T L Q Q I E L K F N P P A L Q D A Y Y R A R A G E A A N F C A L I L A Y C N K T V G E L G D V R E T M S Y L F Q H A N L D S C K R V L N V V C K T C G Q Q Q T T L K G V E A V M Y M G T L S Y E Q F K K G V Q I P C T C G K Q A T K Y L V Q Q E S P F V M M S A P P A Q Y E L K H G T F T C A S E Y T G N Y Q C G H Y K H I T S K E T L Y C I D G A L L T K S S E Y K G P I T D V F Y K E N S Y T T T I K
Biological Activity	Measured by its ability to cleave a fluorogenic peptide substrate, Arg-Leu-Arg-Gly-Gly-AMC (RLRGGAMC).The Specific Activity is 449 pmol/min/μg, as measured under the described conditions.
Appearance	Solution
Formulation	Supplied as a 0.2 μm filtered solution of 20 mM Tris-HCl, 10 mM 2-Mercaptoethanol, 20% Glycerol, pH 7.5.
Endotoxin Level	N/A
Reconsititution	N/A
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	The SARS-CoV-2 PP1ab protein is a multifunctional component crucial for the transcription and replication of viral RNAs, housing the proteinases responsible for polyprotein cleavages. This protein plays a pivotal role in inhibiting host translation

by associating with the open head conformation of the 40S subunit, and its C-terminus obstructs the ribosomal mRNA entry tunnel, thereby impeding the antiviral response triggered by innate immunity or interferons. The formation of the nsp1-40S ribosome complex leads to an endonucleolytic cleavage near the 5'UTR of host mRNAs, facilitating their degradation. Notably, viral mRNAs exhibit greater resistance to the nsp1-mediated inhibition of translation due to their 5'-end leader sequence. This multifaceted functionality underscores the strategic role of SARS-CoV-2 PP1ab in manipulating host cellular processes for the benefit of viral replication and evasion of host defenses.

Caution: Product has not been fully validated for medical applications. For research use only.

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