

SARS-CoV-2 Papain-Like Protease Protein

General Information

Synonyms: PLpro;PL-PRO;pp1a;Replicase polyprotein 1a;Papain-like Protease

Protein Construction: Glu1564-Lys1878

Species: SARS-CoV-2

Expression Host: *E. coli*

Accession: QHD43415.1

Molecular Weight: 34 KDa (reducing condition)

AA Sequence: Glu1564-Lys1878

QC Testing

Biological Activity: Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.

Purity: Greater than 95% as determined by reducing SDS-PAGE. (QC verified)

Formulation: Supplied as a 0.2 µm filtered solution of 20 mM Tris-HCl, 10 mM 2-Mercaptoethanol, 20% Glycerol, pH 7.5.

Preparation and Storage

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Shipping:

Shipping with blue ice.

Protein Background

Replication of severe acute respiratory syndrome (SARS) coronavirus (SARS-CoV) requires proteolytic processing of the replicase polyprotein by two viral cysteine proteases, a chymotrypsin-like protease (3CLpro) and a papain-like protease (PLpro). These proteases are important targets for development of antiviral drugs that would inhibit viral replication and reduce mortality associated with outbreaks of SARS-CoV. PLpro is a cysteine protease located within the non-structural protein 3 (NS3) section of the viral polypeptide. PLpro activity is required to process the viral polyprotein into functional, mature subunits; specifically, PLpro cleaves a site at the amino-terminus of the viral replicase region. In addition to its role in viral protein maturation, PLpro possesses a deubiquitinating and deISGylating activity. *In vivo*, this protease antagonizes innate immunity by inhibiting IRF3-induced production of type I interferons.

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