Recombinant SARS-CoV-2 GST- Papain-like Protease

Catalog Number: E-611

DESCRIPTION

Source	*E. coli*-derived sars-cov-2 Papain-like Protease protein Glu746 - Lys1060, with an N-terminal GST-tag Accession # YP_009725299.1
Predicted Molecular Mass	62 kDa

SPECIFICATIONS

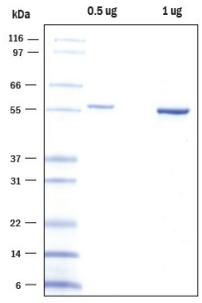
Activity	Recombinant SARS-CoV-2 virus Papain-like protease (PLPro) is a Ubiquitin- and ISG15-deconjugating enzyme. Reaction conditions will need to be optimized for each specific application. We recommend an initial PLPro concentration of 20-100 nM when using Ubiquitin-Rhodamine 110 (U-555) substrate. When using polyubiquitin chain substrate(s), this enzyme demonstrates a preference for K48 linkages.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.
Formulation	Supplied as a solution in HEPES, NaCl, Glycerol and TCEP. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 6 months from date of receipt, -70 °C as supplied. • 3 months, -70 °C under sterile conditions after opening.

DATA

SDS-PAGE



Recombinant SARS-CoV-2 GST-Papain-like Protease SDS-PAGE 0.5 µg and 1 µg of Recombinant SARS-CoV-2 GST-Papain-like Protease (Catalog # E-611) was resolved with SDS-PAGE under reducing conditions and visualized by colloidal Coomassie Blue staining, showing a band at 57 kDa.

BACKGROUND

The Papain-like protease (PLPro) from the human SARS-CoV-2 coronavirus (Severe Acute Respiratory Syndrome coronavirus 2 is a cysteine protease located within the non-structural protein 3 (NS3) section of the viral polypeptide. In other coronaviruses, PLPro activity is required to process the viral polyprotein into functional, mature subunits; specifically, PLPro cleaves a site at the amino-terminal end of the viral replicase region. In addition to its role in viral protein maturation, PLPro possesses a deubiquitinating and deISG15ylating activity. In vivo, this protease antagonizes innate immunity by acting on IFN β and NF- κB signaling pathways. When used in vitro with polyubiquitin substrates, the enzyme demonstrates a strong preference for K48 linkages.

References:

1. Clasman J.R., *et al.* (2020) Antiviral Res. **174**: 104661.
2. Frieman M., *et al.* (2009) J. Virol. **83**: 6689.
3. Lindner H.A., *et al.* (2007) Arch. Biochem. Biophys. **466**: 8.
4. Ratia K., *et al.* (2014) PLoS Pathog. doi: 10.1371/journal.ppat.1004113.

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