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## MATERIAL DATA SHEET

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

#### Cat. # E-611

The Papain-like protease (PLPro) from the human SARS-CoV-2 coronavirus (Severe Acute Respiratory Syndrome coronavirus 2 or Wuhan 2019 coronavirus) 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  $\beta$  and NF- $\kappa$ B signaling pathways. When used in vitro with polyubiquitin substrates, the enzyme demonstrates a strong preference for K48 linkages. This protein contains an N-terminal GST tag.

#### Product Information

<b>Quantity:</b>	50 $\mu$ g
<b>MW:</b>	62 kDa
<b>Source:</b>	<i>E. coli</i> -derived sars-cov-2 Papain-like Protease protein Glu746 - Lys1060, with an N-terminal GST-tag Accession # YP_009725299.1
<b>Stock:</b>	X mg/ml (X $\mu$ M) in 50 mM HEPES pH 8.0, 300 mM NaCl, 10% (v/v) Glycerol, 1 mM TCEP
<b>Purity:</b>	>90%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

## Use & Storage

**Use:** 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.

**Storage:** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 60 months from date of receipt, -70 °C as supplied.
- 3 months, -70 °C under sterile conditions after opening.

## Literature

### 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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