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## MATERIAL DATA SHEET

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### Recombinant His6-SARS Virus Papain-like Protease

#### Cat. # E-610

The Papain-like protease ("PLPro") from the human SARS coronavirus (Severe Acute Respiratory Syndrome coronavirus) 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. PLPro has been reported to hydrolyze both K48- and K63 linked poly-Ubiquitin chains *in vitro*. When used at low concentrations, the enzyme demonstrates a strong preference for K48-linked tetra-Ubiquitin chains which are primarily converted to di-Ubiquitin species. This protein contains an N-terminal 6-His tag.

#### Product Information

<b>Quantity:</b>	50 µg
<b>MW:</b>	37 kDa
<b>Source:</b>	<i>E. coli</i> -derived viral SARS Virus Papain-like Protease protein MHHHHHHGGENLYFQSG, Glu1541 - Lys1855 Accession # P0C6U8
<b>Stock:</b>	X mg/ml (X µM) in 50 mM HEPES pH 7.5, 100 mM NaCl, 2 mM TCEP
<b>Purity:</b>	>95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

## Use & Storage

**Use:** Recombinant SARS virus 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-AMC (U-550) or Ubiquitin-Rhodamine 110 (U-555) as a substrate. Using tetra-Ubiquitin chains as a substrate, PLPro demonstrates a preference for K48 linkages when using a 100 nM enzyme concentration--at higher enzyme concentration other linkages are cleaved as well.

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

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

## Literature

### References:

1. Frieman M., *et al.* (2009) *J.Virol.* **83**: 6689
2. Lindner H.A.,*et al.* (2007) *Archv. Biochem. Biophys.* **466**: 8
3. Ratia K., *et al.* (2014) *PLoS Pathog* doi: 10.1371/journal.ppat.1004113
4. Russell N., *et al.* (2016) FASEB Ubiquitin & Cell Reg. (poster)

***For research use only. Not for use in humans.***