Lot # XXXXX

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MATERIAL DATA SHEET

Papain-Like Protease, *SARS-CoV-2 virus recombinant*
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 deISGylating 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. This protein contains an N-terminal GST tag.

Product Information	
Quantity:	50 µg
Stock:	X mg/ml (X µM) in 50 mM HEPES pH 7.5, 100 mM NaCl, 2 mM TCEP.
MW:	62 kDa
Purity:	> 90% by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie Blue stain

Use & Storage	
Use:	Recombinant SARS-CoV-2 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 or Ubiquitin-Rh110 (**U-550**, **U-555**) substrates. Using polyubiquitin chains as a substrate, PLPro demonstrates a preference for K48 linkages.
Storage:	Store at -80°C. Avoid multiple freeze/thaw cycles.

Literature

References:

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

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