PLPro (Papain like protease 1)

Cat. # DB602

Background

Within the last two decades, SARS and MERS coronaviruses emerged as global health concerns causing severe acute respiratory syndromes. The SARS-CoV genome encodes several proteases including papain-like protease 1 (PLP1; PLPro); this key enzyme along with 3CL-protease and PLP2 (PLPro2) drives the early stage of infection by processing a large viral polypeptide into functional enzymes. SARS-CoV PLPro shares 82% in protein sequence identity with PLPro from SARS-CoV-2. Initially, it was reported that SARS PLPro was a deubiquitinase, however subsequent work has shown that PLPro is preferentially a deISGylase. PLPro cleaves ISG15-PLA2 and Ub-PLA2 with high and low efficiency, respectively. The PLPro represents an antiviral drug target for counteracting of SARS-CoV and MERS-CoV infections.

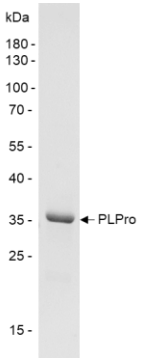
Alternate names

PLP1

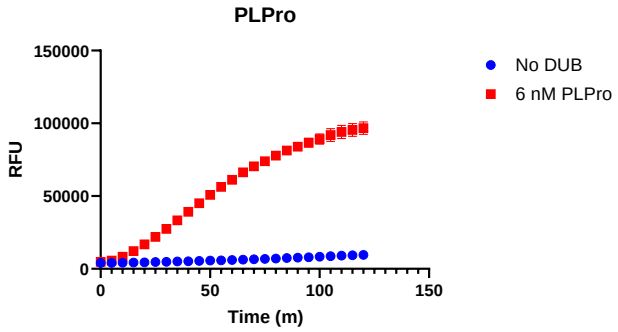
Product Information

Purity	≥ 95% by SDS-PAGE
Molecular Weight	35 kDa
Quantity	25 µg
Physical State	Liquid
Source	SARS-CoV Recombinant
Tag	His6
Activity	This enzyme is active in the Ub-Rh110 and ISG15-CHOP assay.
Storage	-80° C. Avoid repeated freeze/thaw cycles

Product QC



SDS-Page Analysis of purified PLPro. Two µg of the enzyme was loaded on a 10-20% SDS-PAGE gel and stained with Coomassie brilliant blue.



Activity Assay of PLPro. 6 nM PLPro was tested in a ISG15-CHOP assay showing robust DUB activity.

References

1. Gold, IM., et al., Semin Cell Dev Biol., 2022. 132:16-26.
2. Moustaqil, M., et al., Emerg Microbes Infec., 2021. 10(1):178-195.