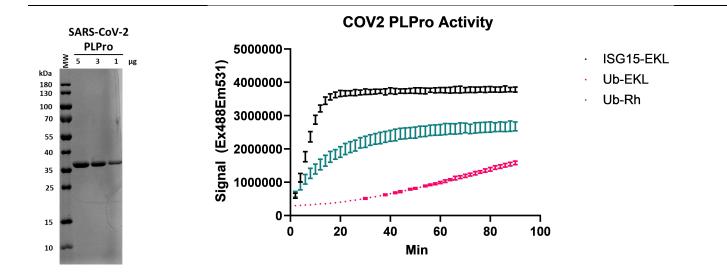
## SARS-CoV PLPro (Papain-like Protease)

## Cat. # DB602

Background:	Within the last two decades, SARS and MERS coronaviruses emerged as global health concerns causing severe acute respiratory syndromes. In December 2019, a novel coronavirus (SARS-CoV-2) was identified in Wuhan, Hubei province in China. The SARS-CoV genome encodes several proteases including papain-like protease (PL2PRO; PLPro); this key enzyme along with 3CL-protease drives the early stage of infection by processing a large viral polypeptide into functional enzymes. SARS-CoV-2 PLPro shares 82% in protein sequence identity with PLPro from SARS-CoV. SARS-CoV-2 PLPro was shown to have a deubiquitinating activity in addition to being a delSGylase. PLPro cleaves ISG15-CHOP2 and Ub-CHOP2 substrates with high and low efficiency, respectively. PLPro represents an antiviral drug target for counteracting SARS-CoV-2 infections.
Alternate names:	PL-PRO, PL2-PRO, nsp3
Product Information	
Molecular Weight:	62 kDa
Quantity:	100 μg
Physical State:	Liquid
Species:	SARS-CoV-2
Tag:	None
Activity:	This enzyme is active in the Ub-CHOP and ISG15- CHOP assays.
Storage:	-80º C. Avoid repeated freeze/thaw cycles.



All products are for research use only 

Not intended for human or animal diagnostic or therapeutic uses
Copyright © 2009 LifeSensors, Inc. All Rights Reserved

CONTACT: | LifeSensors, Inc. | 271 Great Valley Parkway | Malvern, PA 19355 | 610.644.8845 | www.lifesensors.com



## References

- 1. Wang D, Hu B, Hu C, et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus– Infected Pneumonia in Wuhan, China. JAMA. 2020;323(11):1061.
- 2. Zhou P, Yang X-L, Wang X-G, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature*. 2020;579(7798):270–273.
- 3. Zhu N, Zhang D, Wang W, et al. A Novel Coronavirus from Patients with Pneumonia in China, 2019. N. Engl. J. Med. 2020;382(8):727–733.
- 4. Hilgenfeld R. From SARS to MERS: crystallographic studies on coronaviral proteases enable antiviral drug design. FEBS J. 2014;281(18):4085–4096.
- 5. Lindner HA, Fotouhi-Ardakani N, Lytvyn V, et al. The Papain-Like Protease from the Severe Acute Respiratory Syndrome Coronavirus Is a Deubiquitinating Enzyme. J. Virol. 2005;79(24):15199–15208.
- 6. Lindner HA, Lytvyn V, Qi H, et al. Selectivity in ISG15 and ubiquitin recognition by the SARS coronavirus papainlike protease. Arch. Biochem. Biophys. 2007;466(1):8–14.
- 7. Békés M, van der Heden van Noort GJ, Ekkebus R, et al. Recognition of Lys48-Linked Di-ubiquitin and Deubiquitinating Activities of the SARS Coronavirus Papain-like Protease. Mol. Cell. 2016;62(4):572–585.
- 8. Ratia K, Kilianski A, Baez-Santos YM, Baker SC, Mesecar A. Structural Basis for the Ubiquitin-Linkage Specificity and delSGylating Activity of SARS-CoV Papain-Like Protease. PLoS Pathog. 2014;10(5):e1004113.
- 9. Nicholson B, Leach CA, Goldenberg SJ, et al. Characterization of ubiquitin and ubiquitin-like-protein isopeptidase activities. Protein Sci. 2008;17(6):1035–1043.

All products are for research use only • Not intended for human or animal diagnostic or therapeutic uses Copyright © 2009 LifeSensors, Inc. All Rights Reserved

