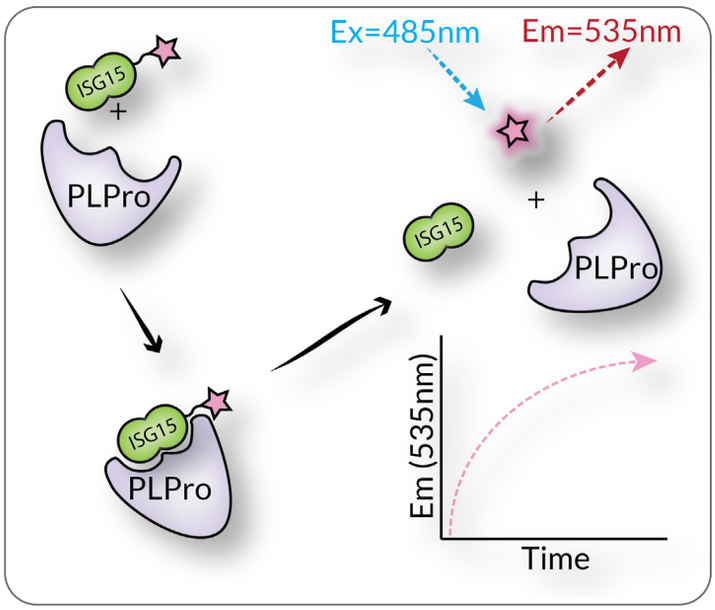
His_{10}-SARS-CoV-2 (PLpro)

Cat. No. SBB-DE0127
Lot. No. 220230127

South Bay Bío

SARS-CoV-2 (PLpro)

The severe acute respiratory syndrome coronavirus papain-like protease (SARS-CoV-2 PLpro) is involved in the processing of the viral polyprotein. Proteolytic processing of the coronavirus replicase poly-protein is essential for generating a functional virus replication complex. PLpro possesses both deubiquitinating or deISGylating activity and can process Lys-48 and Lys-63 linked polyubiquitin chains (free chains or from cellular substrates). It works in concert together with nsp4 in the assembly of virally-induced cytoplasmic double-membrane vesicles necessary for viral replication. It strongly antagonizes the innate immune induction of type I interferon by blocking the phosphorylation, dimerization and therefore the nuclear translocation of host IRF3. In addition, it prevents also host NF-kappa-B signaling. SARS Cov-2 PLpro is very active hydrolyzing both ISG15-Rhodamine110 (SBB-PS0002) or di-ubiquitin/tetra-ubiquitin substrates (Lys48 or Lys63 linked), but is very inefficient when processing mono-Ub conjugates e.g. Ub-AMC or synthetic peptide substrates e.g. RLRGG-AMC. This SARS Coronavirus recombinant PLpro is N-terminally His_{10}-tagged and expressed in *E.coli*.



Product Information

Quantity: 50 µg Molecular Weight: 37.6 kDa

Concentration: 69 µM, 2.3 mg/mL

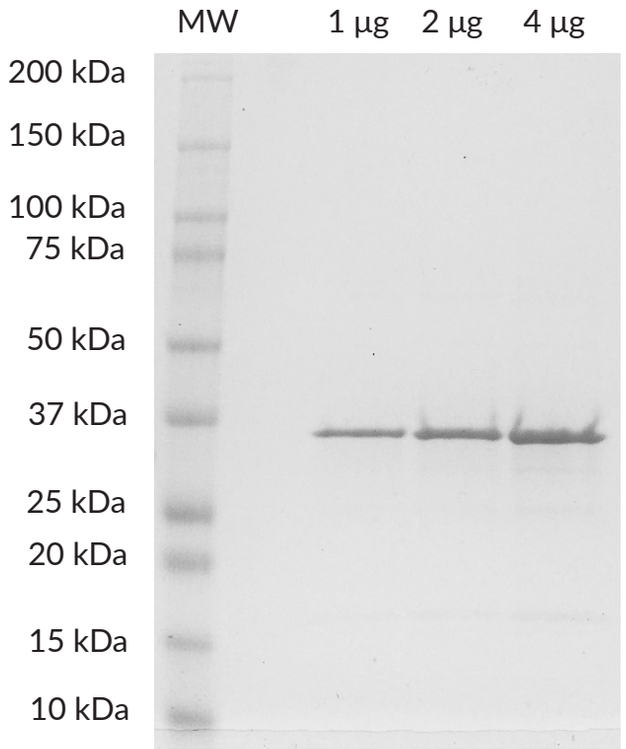
Purity: >95% by SDS-PAGE

Storage Buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 1 mM TCEP

Storage: -80C, Avoid multiple freeze / thaw

Usage: Working concentrations of this enzyme range from 1 to 5 nM using ISG15-Rh110 (SBB-PS0002) or di-ubiquitin/tetra-ubiquitin substrates (Lys48 or Lys63 linked)

Quality Control and Performance Data



His_6-PLpro CoV-2 SDS-PAGE. From left to right, increasing amounts of His_{10}-PLpro loaded onto a 4-20% SDS-PAGE gel, stained with Coomassie brillant blue. Purity is > 95%.

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References

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3) Rota, P. A. "Characterization Of A Novel Coronavirus Associated With Severe Acute Respiratory Syndrome". Science, vol 300, no. 5624, 2003, pp. 1394-1399. American Association For The Advancement Of Science (AAAS), doi:10.1126/science.1085952.

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