

PRODUCT INFORMATION



SARS-CoV-2 M^{pro} Protein

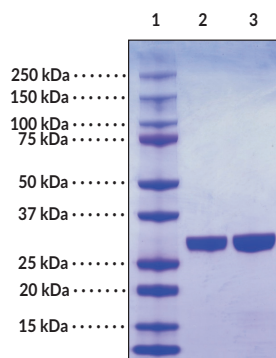
Item No. 30588

Overview and Properties

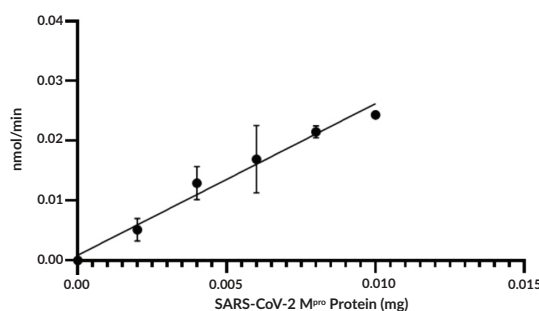
Synonyms:	3C-like Proteinase, Coronavirus Endopeptidase C30, Peptidase C30, Severe Acute Respiratory Syndrome Coronavirus 2 M ^{pro}
Source:	Active recombinant SARS-CoV-2 M ^{pro} expressed in <i>E. coli</i>
Amino Acids:	1-306; Location on PODTD1 3,264-3,569
Uniprot No.:	PODTD1
Molecular Weight:	33.9 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	<i>batch specific</i> (≥95% estimated by SDS-PAGE)
Supplied in:	20 mM HEPES, pH 7.5, with 2.5 mM DTT and 10% glycerol
Protein	
Concentration:	<i>batch specific</i> mg/ml
Activity:	<i>batch specific</i> U/ml
Specific Activity:	<i>batch specific</i> U/mg
Unit Definition:	One unit is defined as the amount of enzyme required to produce 1 nmol of EDANS at 25°C in 25 mM HEPES, pH 7.0, containing 150 mM NaCl, 0.5 mM EDTA, 25% glycerol, 4 mM DTT, and 260 μM SARS-CoV-2 M ^{pro} Substrate.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: 2 μg SARS-CoV-2 M^{pro} Protein
Lane 3: 4 μg SARS-CoV-2 M^{pro} Protein



SARS-CoV-2 M^{pro} Protein activity was determined using a SARS-CoV-2 Main Protease Inhibitor Screening Assay.

Representative data shown; actual activity may vary between batches.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped positive-stranded RNA virus and the causative agent of COVID-19, a primarily respiratory illness characterized by fever, cough, and shortness of breath that can lead to life-threatening complications.¹⁻⁵ The SARS-CoV-2 genome contains approximately 30 kilobases and 14 open reading frames (ORFs) that encode four structural proteins: spike, envelope, membrane, and nucleocapsid, as well as 16 non-structural proteins and 9 accessory factors.⁶ The SARS-CoV-2 main protease (M^{pro}), also known as 3C-like protease (3CL^{pro}), is encoded within the non-structural protein 5 (nsp5) region of ORF1ab.⁶ Auto-activation of SARS-CoV-2 M^{pro} cleaves nsp5-16, which, together with the nsp1-4, form the SARS-CoV-2 replication and transcription complex (RTC), which is critical for the viral replication cycle.⁶ Inhibition of SARS-CoV-2 M^{pro} activity reduces SARS-CoV-2 replication in infected cells *in vitro*, as well as decreases lung viral loads and pulmonary lesions in ACE2 transgenic mice infected with SARS-CoV-2.^{7,8} Cayman's SARS-CoV-2 M^{pro} protein can be used for enzyme activity assays.

References

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1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM