

**Product Data Sheet**

Cat # RP-1651  
Cat # RP-1651-1-

Recombinant SARS-CoV-2 3C-like Protease  
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Size: 100 ug  
Size: 1 mg

SARS-CoV-2 virus (SARS-CoV-2), is a novel coronavirus emerged as a human respiratory pathogen and causing the 2020 pandemic named COVID-19. The SARS-CoV-2 genome is closely related to 2 bat-derived severe acute respiratory syndrome (SARS)-like coronaviruses (88% identity) and more distantly from 2 other human pathogenic coronaviruses, SARS-CoV (~79% identity) and MERS-CoV (~50% identity).

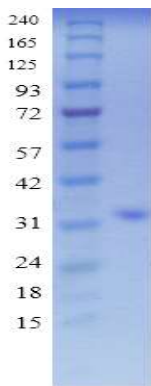
The genome of the coronavirus encodes 23 putative proteins including 4 major structural proteins: nucleocapsid [N protein], spike [S protein], membrane [M] and small envelope proteins [E].

The S protein is a glycoprotein essential for viral attachment to the host cell surface receptors and translocation into the infected cells; trimers of the S protein make up the spikes of the virus. The S protein is cleaved in host cells into S1 and S2 subunits; S1 protein binds the host receptor, while S2 mediates membrane fusion. A minimal receptor-binding domain [RBD] located in the S1 protein (aa. 318-510) can combine with the ACE2 receptor on host epithelial cells. While the S1 subunit of SARS-CoV-2 shares around 70% identity to that of the 2 bat SARS-like CoVs and human SARS-CoV, the core domains of RBD (excluding the external subdomain) are highly conserved.

3C-like protease (3CLpro) is the main protease of Human Coronavirus. 3C-like protease (3CLpro) is a key enzyme, as it cleaves several sites to produce non-structural proteins that are essential for genome replication and Coronavirus virion production, such as an RNA-dependent RNA polymerase, a helicase, ribonucleases and 3CLpro itself, from two types of polyproteins (pp1a and pp1ab).

**Source and Forms of Protein**

Recombinant 3C-like Protease was expressed in *E. coli*. It was expressed as a full-length protein containing an N-terminal His-tag. The protein migrates as a band of approximately 35 kDa by SDS-PAGE in reducing/denaturing conditions at a purity of >95%. Purified 3C-like Protease is supplied in a buffer containing 50 mM Tris-HCL [pH 8.0] with 500 mM NaCl. It is supplied at a concentration of 1 mg/ml.



**Storage**

**Short-term:** 1-2 weeks at 4°C.

**Long-term:** at -20°C or below in suitable aliquots after reconstitution. Can be frozen, but avoid multiple freeze/thaw cycles

**Stability:** 6-12 months at -20°C or below.

**Shipping:** 4°C for liquid solution and room temperature for lyophilized powder

This product is for in vitro research use only.

**Related Material available for ADI**

Catalog#	Description
NCOV15-R-1	"Recombinant COVID-19 Nucleocapsid protein"
NCOVP11-A	Anti SARS-CoV-2/COVID-19 Nucleocapsid protein antibody
NCOVP21-A	Anti SARS-CoV-2/COVID-19 Nucleocapsid protein antibody
NCOVPC-S	Human anti SARS-CoV-2 positive control serum
NCOVSP-1	Synthetic COVID-19 antigen (For Lateral Flow & ELISA serology assays)
RP-1651	Recombinant SARS-CoV-2 3C-like Protease
RP-1652	Recombinant SARS-CoV-2 Papain-like Protease
RP-1653	Recombinant SARS-CoV-2 Envelop Protein
RP-1654	Recombinant SARS-CoV-2 Membrane Protein
RV-405000	SARS-COV-2 Neutralizing antibody/Inhibitor Compound screening ELISA Kit
RV-405100	Recombivirus Human anti SARS-CoV-2 (COVID-19) Nucleocapsid IgG ELISA Kit
RV-405110	Recombivirus Human anti SARS-CoV-2 (COVID-19) Nucleocapsid IgM ELISA Kit
RV-405120	Recombivirus Mouse anti SARS-CoV-2 (COVID-19) Nucleocapsid IgG ELISA Kit
RV-405140	Recombivirus Rabbit anti SARS-CoV-2 (COVID-19) Nucleocapsid IgG ELISA Kit
RV-405150	Recombivirus Monkey anti SARS-CoV-2 (COVID-19) Nucleocapsid IgG ELISA Kit
RV-405200	Recombivirus Human Anti SARS-CoV-2 (COVID-19) Spike protein 1(S1) IgG ELISA Kit
RV-405205	Recombivirus Human Anti SARS-CoV-2 (COVID) Spike protein 1 (S1) IgA ELISA Kit
RV-405210	Recombivirus Human Anti SARS-CoV-2 (COVID) Spike protein 1 (S1) IgM ELISA Kit
RV-405220	Recombivirus Mouse Anti SARS-CoV-2 (COVID) Spike protein 1(S1) IgG ELISA Kit
RV-405240	Recombivirus Rabbit anti SARS-CoV-2 (COVID-19) Spike protein 1(S1) IgG ELISA Kit
RV-405250	Recombivirus Monkey anti SARS-CoV-2 (COVID-19) Spike protein 1(S1) IgG ELISA Kit
RV-405260	Recombivirus Monkey anti SARS-CoV-2 (COVID-19) Spike protein 1 (S1) IgM ELISA Kit
RV-405400	Recombivirus Human Anti SARS-CoV-2 (COVID-19) RBD IgG ELISA Kit
RV-405405	Recombivirus Human Anti SARS-CoV-2 (COVID-19) RBD IgA ELISA Kit
RV-405410	Recombivirus Human Anti SARS-CoV-2 (COVID-19) RBD IgM ELISA Kit
RV-405420	Recombivirus Mouse Anti SARS-CoV-2 (COVID-19) RBD IgG ELISA Kit
RV-405430	Recombivirus Mouse Anti SARS-CoV-2 (COVID-19) RBD IgM ELISA Kit
RV-405440	Recombivirus Rabbit anti SARS-CoV-2 (COVID-19) RBD IgG ELISA Kit
RV-405450	Recombivirus Monkey anti SARS-CoV-2 (COVID-19) RBD IgG ELISA Kit
RV-405460	Recombivirus Monkey anti SARS-CoV-2 (COVID-19) RBD IgM ELISA Kit
RV-405470	Recombivirus Rabbit anti SARS-CoV-2 (COVID-19) RBD IgM ELISA Kit
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