

**Synonym**

3C-like Proteinase; M Proteinase; 3CL Proteinase

**Source**

SARS-CoV-2 3C-like Proteinase Protein, Tag Free(3CE-C5113) is expressed from E. coli cells. It contains AA Ser 3264 - Gln 3569 (Accession # [P0DTC1-1](#)).

Predicted N-terminus: Met

**Molecular Characterization**

3C-like Proteinase(Ser 3264 - Gln 3569)  
P0DTC1-1

This protein carries no "tag"

The protein has a calculated MW of 33.9 kDa. The protein migrates as 33-35 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

**Formulation**

Supplied as 0.2 µm filtered solution in 50 mM Tris, 1 mM EDTA, PH7.3 with glycerol as protectant.

Contact us for customized product form or formulation.

**Shipping**

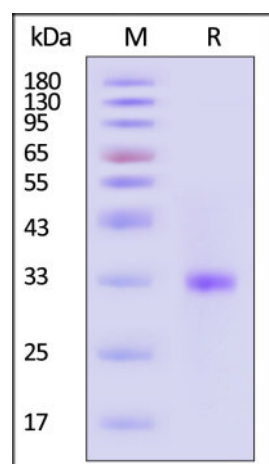
*This product is supplied and shipped with dry ice, please inquire the shipping cost.*

**Storage**

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

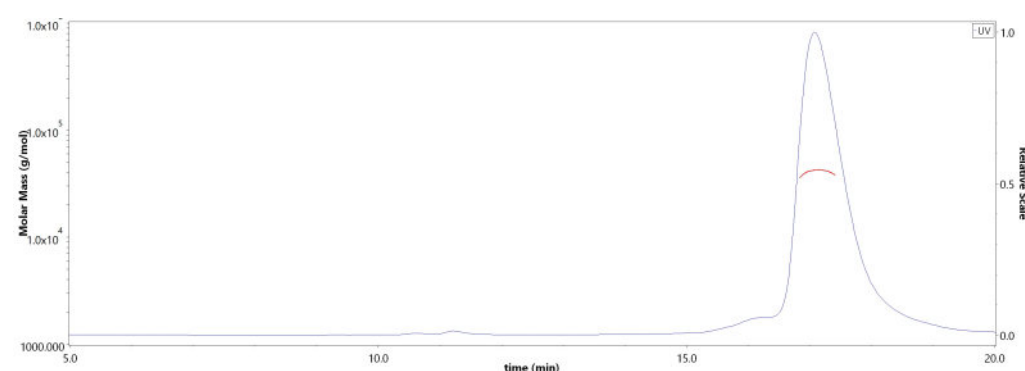
- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 3 months under sterile conditions.

**SDS-PAGE**

SARS-CoV-2 3C-like Proteinase Protein, Tag Free on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

**Bioactivity**

Measured by its ability to cleave a fluorogenic peptide substrate, Dabcyl-KTSAVLQSGFRKME-Edans. The specific activity is >3000 pmol/min/mg (QC tested).

**SEC-MALS**

The purity of SARS-CoV-2 3C-like Proteinase Protein, Tag Free (Cat. No. 3CE-C5113) is more than 90% and the molecular weight of this protein is around 33-48 kDa verified by SEC-MALS.

**Report****Background**

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped, positive-sense, single-stranded RNA virus that causes coronavirus disease 2019 (COVID-19). Virus particles include the RNA genetic material and structural proteins needed for invasion of host cells. Once inside the cell the infecting RNA is used to encode structural proteins that make up virus particles, nonstructural proteins that direct virus assembly, transcription, replication and host control and accessory proteins whose function has not been determined.~ ORF1ab, the largest gene, contains overlapping open reading frames that encode polyproteins PP1ab and PP1a. The polyproteins are cleaved to yield 16 nonstructural proteins, NSP1-16. Production of the longer (PP1ab) or shorter protein (PP1a) depends on a -1 ribosomal frameshifting event. The proteins, based on similarity to other coronaviruses, include the papain-like proteinase protein (NSP3), 3C-like proteinase (NSP5), RNA-dependent RNA polymerase (NSP12, RdRp), helicase (NSP13, HEL), endoRNAse (NSP15), 2'-O-Ribose-Methyltransferase (NSP16) and other nonstructural proteins. SARS-CoV-2 nonstructural proteins are responsible for viral transcription, replication, proteolytic processing, suppression of host immune responses and suppression of host gene expression. The RNA-dependent RNA polymerase is a target of antiviral therapies.

**Clinical and Translational Updates**

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.