

**Synonym**

CTSL1,MEP,CATL,CTSL

**Source**

Mouse Cathepsin L Protein, His Tag(CAL-M52H3) is expressed from human 293 cells (HEK293). It contains AA Thr 18 - Asn 334 (Accession # [P06797-1](#)).

Predicted N-terminus: Thr 18

**Molecular Characterization**

Cathepsin L(Thr 18 - Asn 334)	Poly-his
P06797-1	

This protein carries a polyhistidine tag at the C-terminus. This protein contains an Activation peptide, and will be partially processed into Pro form with calculated MW of 35.8 kDa and proteolytic cleavage generate the single-chain activate form with calculated MW of 24.1 kDa and cleaved activation peptide with calculated MW of 5 kDa under reducing (R) condition. The protein migrates as 40 kDa, 30 kDa and 10 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**Less than 1.0 EU per  $\mu$ g by the LAL method / rFC method.**Purity**

&gt;90% as determined by SDS-PAGE.

&gt;90% as determined by SEC-MALS.

**Formulation**Supplied as 0.2  $\mu$ m filtered solution in 25 mM Tris, 150 mM NaCl, pH7.0 with glycerol as protectant.

Contact us for customized product form or formulation.

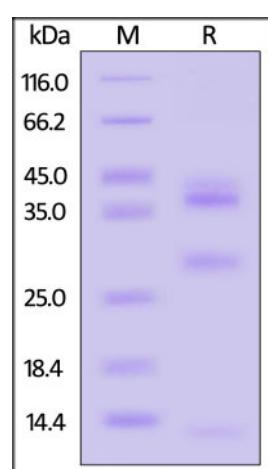
**Shipping***This product is supplied and shipped with dry ice, please inquire the shipping cost.***Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

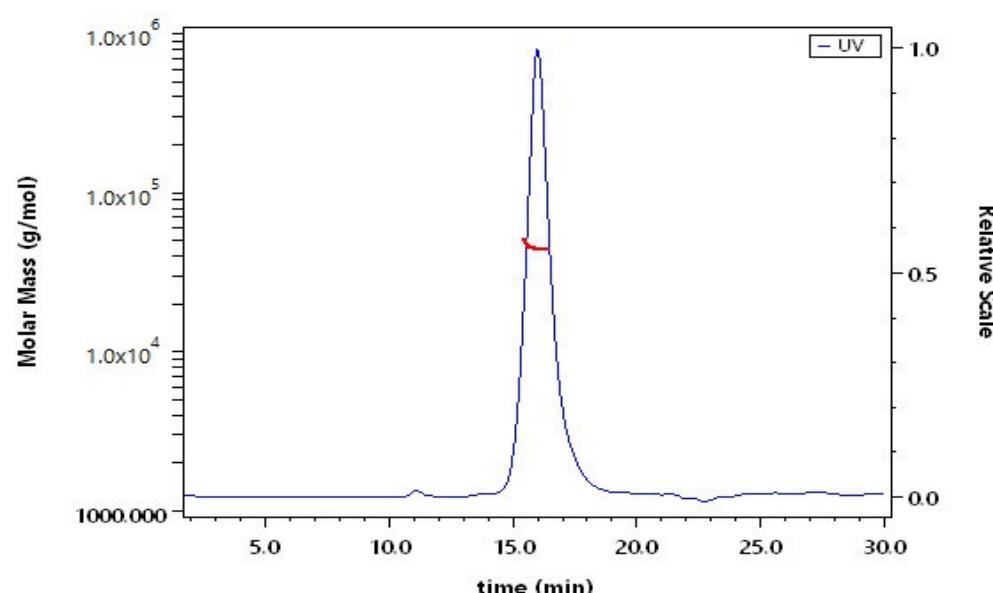
*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

Mouse Cathepsin L Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

**SEC-MALS**

The purity of Mouse Cathepsin L Protein, His Tag (Cat. No. CAL-M52H3) is more than 90% and the molecular weight of this protein is around 35-50 kDa verified by SEC-MALS.

[Report](#)**Bioactivity**

Measured by its ability to cleave the fluorogenic peptide substrate Z-LR-AMC, The specific activity is >5,000 pmol/ min/ $\mu$ g (QC tested).

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**Background**

Cathepsin L (CTSL1) is also known as major excreted protein (MEP), is a member of the peptidase C1 family, is a dimer composed of disulfide-linked heavy and light chains linked by disulfide bonds. CTS1 is a lysosomal cysteine proteinase that plays a major role in intracellular protein catabolism. Its substrates include collagen and elastin, as well as alpha-1 protease inhibitor, a major controlling element of neutrophil elastase activity. MEP has been implicated in several pathologic processes, including myofibril necrosis in myopathies and in myocardial ischemia, and in the renal tubular response to proteinuria. CTS1 is important for the overall degradation of proteins in lysosomes. The specificity of MEP is close to that of papain. As compared to cathepsin B, cathepsin L exhibits higher activity toward protein substrates, but has little activity on Z - Arg - Arg - NHMec, and no peptidyl - dipeptidase activity. Human Cathepsin L activity is greatest under mildly acidic conditions, from pH 4.5 - 6.5. The stability of the enzyme decreases at higher pH values.

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