

**Synonym**

CTSL1,MEP,CATL,CTSL

**Source**

Human Cathepsin L Protein, His Tag(CAL-H52H3) is expressed from human 293 cells (HEK293). It contains AA Thr 18 - Val 333 (Accession # [P07711-1](#) ).  
 Predicted N-terminus: Thr 18

**Molecular Characterization**

Cathepsin L(Thr 18 - Val 333) P07711-1	Poly-his
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This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 37.8 kDa. The protein migrates as 31-33 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

>95% as determined by SDS-PAGE.

**Formulation**

Supplied as 0.2 µm filtered solution in 50 mM NaAc, 0.5 M NaCl, pH 4.5 with glycerol as protectant.

Contact us for customized product form or formulation.

**Shipping**

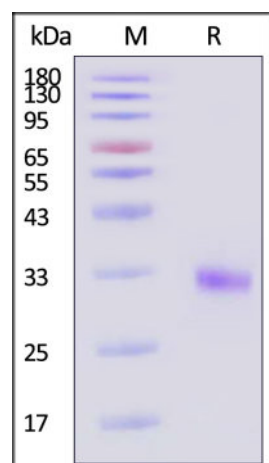
*This product is supplied and shipped with dry ice, please inquire the shipping cost.*

**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**

Human 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 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

**Bioactivity**

Measured by its ability to cleave the fluorogenic peptide substrate Z-LR-AMC, The specific activity is >35,000 pmol/ min/µg (QC tested).

**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. CTSL1 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. CTSL1 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

### Clinical and Translational Updates

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