

Synonym

CTSL1,MEP,CATL,CTSL

Source

Human Cathepsin L, His Tag (CT1-H5222) is expressed from human 293 cells (HEK293). It contains AA Thr 18 - Val 333 (Accession # NP_001903.1).
Predicted N-terminus: Thr 18 & Ala 114

Molecular Characterization

Cathepsin L(Thr 18 - Val 333)
NP_001903.1

Poly-his

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 25.0 kDa. The protein migrates as 10 kDa and 34 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation, corresponding to the propeptide and the mature form respectively.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>98% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in 20 mM NaAc, 150 mM NaCl, pH5.0. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

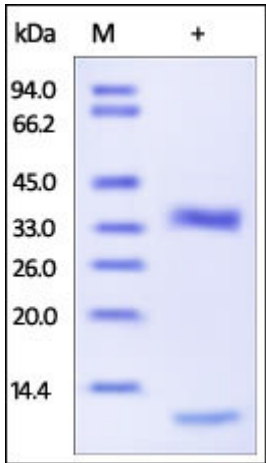
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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



Human Cathepsin L, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 98%.

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

References

- (1) [Fujishima A., et al., 1997, FEBS Lett. 407:47-50.](#)
- (2) [Goretzki L., et al., 1992, FEBS Lett, 297:112.](#)
- (3) [Cailhier JF., et al., 2008, J. Biol. Chem., 283: 27220-27229.](#)

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.