

# Human Cathepsin D / CTSD Protein (His Tag)

Catalog Number: 12517-H08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

CLN10; CPSD; HEL-S-130P

### Protein Construction:

A DNA sequence encoding the pro form of human CTSD (P07339) (Met 1-Leu 412) was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Ser 19

### Molecular Mass:

The secreted recombinant human CTSD (pro form) consists of 405 amino acids and has a predicted molecular mass of 44 kDa. As a result of different glycosylation, the apparent molecular mass of rhCTSD is approximately 40-110 kDa in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile 25mM MES, 150mM NaCl, pH 6.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

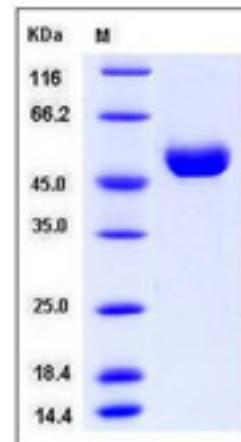
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Cathepsin D (CTSD), a well known lysosomal aspartyl protease and belongs to the peptidase C1 family, which is a normal and major component of lysosomes, and is found in almost all cells and tissues of mammals. Its mostly described function is intracellular catabolism in lysosomal compartments, other physiological effect include hormone and antigen processing. Cathepsin D has a specificity similar to but narrower than that of pepsin A. Cathepsin D plays an important role in the degradation of proteins, the generation of bioactive proteins, antigen processing, etc. Among different role in cell physiology, a new function of this enzyme is examined. Cathepsin D is an important regulator of apoptotic pathways in cells. It acts at different stage of intrinsic and extrinsic pathway of apoptosis. In addition, CTSD secreted from human prostate carcinoma cells are responsible for the generation of angiostatin, a potent endogenous inhibitor of angiogenesis, suggesting its contribution to the prevention of tumor growth and angiogenesis-dependent growth of metastases.

## References

- 1.Fusek M, *et al.* (2005) Dual role of cathepsin D: ligand and protease. Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. 149(1): 43-50.
- 2.Minarowska A, *et al.* (2007) Regulatory role of cathepsin D in apoptosis. Folia Histochem Cytobiol. 45(3): 159-63.
- 3.Zaidi N, *et al.* (2008) Cathepsin D: a cellular roadmap. Biochem Biophys Res Commun. 376(1): 5-9.

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For US Customer: Fax: 267-657-0217 • Tel: 215-583-7898

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