Overview

Synonyms	Cathepsin D; CTSD
Description	**Cathepsin D**, also known as CTSD and CPSD, belongs to the peptidase A1 family. Cathepsin D is an aspartic protease that becomes activated at a pH of 5 in hepatocyte endosomes where it degrades insulin. In addition to low pH, activation of cathepsin D depends critically on protonation of its Asp active site residue. .Asp-protonation and low pH leads to a conformational switch in cathepsin-D where the N terminal segment of the protease moves out of the active site. Cathepsin D can be cleaved into the following 2 chains: cathepsin D light chain and cathepsin D heavy chain, which is expressed in the aorta extracellular space. Cathepsin D plays a role in antigen processing, cell proliferation and tissue renewal, and prohormone activation. Recombinant Human **Cathepsin D** produced in CHO cells is a polypeptide chain containing 402 amino acids. A fully biologically active molecule, rh Cathepsin D has a molecular mass of 44 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques.
Accession No	P07339
Source	*CHO*
Biological Activity	The Specific Activity is > 200 pmol/min/µg, measured by Cathepsin D's ability to cleave the fluorogenic peptide substrate Mca-GKPILFFRLK(Dnp)-D-R-NH2 (Enzo, Catalog: P145). **Assay Buffer:** 0.1 M NaOAc, 0.1 M NaCl, pH 3.5, 10 mM DTT.
Sequence	LVRIPLHKFT SIRRTMSEVG GSVEDLIAKG PVSKYSQAVP AVTEGPIPEV LKNYMDAQYY GEIGIGTPPQ CFTVVFDTGS SNLWVPSIHC KLLDIACWIH HKYNSDKSST YVKNGTSFDI HYGSGSLSGY LSQDTVSVPC QSASSASALG GVKVERQVFG EATKQPGITF IAAKFDGILG MAYPRISVNN VLPVFDNLMQ QKLVDQNIFS FYLSRDPDAQ PGGELMLGGT DSKYYKGSLS YLNVTRKAYW QVHLDQVEVA SGLTLCKEGC EAIVDTGTSL MVGPVDEVRE LQKAIGAVPL IQGEYMIPCE KVSTLPAITL KLGGKGYKLS PEDYTLKVSQ AGKTLCLSGF MGMDIPPPSG PLWILGDVFI GRYYTVFDRD NNRVGFAEAA RLHHHHHHHH HH

Properties

Measured Molecular Weight	44 kDa, observed by reducing SDS-PAGE.
Purity	> 95% as analyzed by SDS-PAGE.
Formulation	Liquid after a 0.2 µm filtered solution in 50 mM NaOAc, 150 mM NaCl, pH 6.5.
Endotoxin Level	< 0.2 EU/µg, determined by LAL method.
Storage	Recombinant **Human Cathepsin D** remains stable up to 6 months at lower than -70°C from date of receipt under sterile conditions. Up to 3 months at lower than -70°C under sterile conditions after opening. Avoid repeated freeze-thaw cycles.
Note	For research use only

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