

Product Specification Sheet
Human Liver Cathepsin D

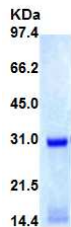
□ Cat. # CTHD17-N-25

Human Liver Cathepsin D

SIZE: 25 ug

Cathepsins (Union of two Greek words, kata-:down and hepeisin:boil) are proteases: proteins that break apart other proteins, found in many types of cells including those in all animals. There are approximately a dozen members of this family (designated Cathepsin A-E, G, H, K, L, S, V etc), which are distinguished by their structure, catalytic mechanism, and which proteins they cleave. Most of the members become activated at the low pH found in lysosomes. Thus, the activity of this family lies almost entirely within those organelles. Cathepsins have a vital role in mammalian cellular turnover, e.g. bone resorption. They degrade polypeptides and are distinguished by their substrate specificities.

Cathepsin D is a protein that in humans is encoded by the CTSD gene. This gene encodes a lysosomal aspartyl protease composed of a protein dimer of disulfide-linked heavy and light chains, both produced from a single protein precursor. It has been used as a breast cancer tumor marker. It is an estrogen-regulated protein associated with tissue breakdown. Levels of cathepsin D have been positively correlated with recurring breast cancers of both node-negative and node-positive types. Additionally cathepsin D has been associated with amyloid formation in Alzheimer's plaques. As cathepsin D activity is increased by cigarette smoke, the enzyme may contribute to lung tissue damage in smokers.



Source of Antigen

Human cathepsin D purified from liver using proprietary biochemical methods (MW 42 Kda). It is supplied in a buffer 2 mM Na Phosphate, pH 6.5) or lyophilized in the same buffer. Lot sp. concn are specified on the vial. Reconstitute powder in water at 100 ug/ml and store at -20oC or below.

All human derived material has been tested negative for HIV, HCV, and HbSag. Nevertheless, all precautions should be taken and samples be treated as potentially hazardous.

Extinction Coefficient: 1.0

Activity: Greater than 300 units per mg protein. One unit is defined as the amount of enzyme which digests hemoglobin-releasing peptides which are soluble in 10% TCA. The reaction is measured by an increase of an A280 of 1.0 per 60 minutes at 37oC. Substrate: acid denatured hemoglobin (0.2% in reaction mixture). Buffer: 0.1 M formate, pH 3.3.

Recommended Usage

ELISA, Western

References Armstrong, Andrea, Niklas Mattsson, Hanna Appelqvist, Camilla Janefjord, Linnea Sandin, Lotta Agholme, Bob Olsson et al. "Lysosomal Network Proteins as Potential Novel CSF Biomarkers for Alzheimer's Disease." *Neuromolecular medicine* (2013): 1-11.

*This product is for In vitro research use only.

Related material available from ADI

| Catalog# | Prod. Description |
|-------------|--|
| CTHB11-A | Anti-Human Liver Cathepsin B IgG |
| CTHB11-C | Human Liver Cathepsin B protein control for Western blot |
| CTHB15-N-25 | Cathepsin B, Human Liver |
| CTHD11-A | Anti-Human Liver Cathepsin D IgG |
| CTHD17-N-25 | Cathepsin D, Human Liver |
| CTHG11-A | Anti-Human Neutrophil Cathepsin G IgG |
| CTHG20-N-25 | Cathepsin G, Human Neutrophil |
| CTHH11-A | Anti-Human Liver Cathepsin H IgG |
| CTHH21-N-25 | Cathepsin H, Human Liver |
| CTHL11-A | Anti-Human Liver Cathepsin L IgG |
| CTHL22-N-25 | Cathepsin L, Human Liver |
| CTHS23-A | Anti-human Cathepsin S IgG |
| CTHS23-N-25 | Cathepsin S, Human Spleen |
| RP-759 | Recombinant (E.Coli) Human Cathepsin-D |
| RP-870 | Recombinant Human Procathepsin K |
| RP-928 | Recombinant (E.Coli) Human Cathepsin-L |
| SP-100801-5 | Cathepsin G (77 - 83) (AA: His-Pro-Gln-Tyr-Asn-Gln-Arg) |
| SP-100802-2 | Cathepsin S substrate (AA: Ac-Lys-Gln-Lys-Leu-Arg-AMC) |
| CTHS24-N-10 | Recombinant (HEK) Human Cathepsin S protein (>95%, his-tag, low endotoxins) |
| CTHB16-N-10 | Recombinant (HEK) Cathepsin B (CTSB/APPS/CPSP) (18-339aa; >95%, his-tag, low endotoxins) |
| CTSD18-N-10 | Recombinant (HEK) Cathepsin D (CTSD) (full length, >95%, his-tag, low endotoxins) |
| CTHL23-N-10 | Recombinant (HEK) Cathepsin L1 (CTSL1 (18-333, length, >95%, his-tag, low endotoxins) |
| CTHL24-N-10 | Recombinant (HEK) Cathepsin L2 (CathepsinV) (18-384, full length, >95%, his-tag, low endotoxins) |
| CTS231-N-10 | Recombinant (HEK) Cathepsin Z/P (CTS2) (24-303, full length, >95%, his-tag, low endotoxins) |

CTHD17-N-25-Human-Cathepsin-D

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