

Product Specification Sheet
Human Liver Cathepsin H

□ Cat. # CTHH21-N-25

Human Liver Cathepsin H

SIZE: 25 ug

Cathepsins (Union of two Greek words, kata:down and hepsein: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 H belongs to the superfamily of papain-like cysteine proteases. It is synthesized as a proenzyme of 335 amino acid residues and then proteolytically processed to an active single chain. A unique feature of this enzyme is that it acts as both an aminopeptidase and an endopeptidase although the latter activity is much lower than the former activity. Cathepsin H expression is ubiquitous, with very high expression in the kidney. Cathepsin H is overexpressed in different tumour cells. There is growing evidence that the expression of cathepsin H is increased in diseases including breast, colorectal and prostate carcinoma, melanoma and gliomas. In contrast, decreased cathepsin H expression has been reported in squamous cell carcinoma of the head and neck. The gene for human cathepsin H is located on chromosome 15q24-q25 and contains 12 exons spanning over 23 kb of genomic sequences. The junctions between the exons and 11 introns conform to the GT-AG rule. The proenzyme transcript length is 1005 bp.

Source of Antigen



Human cathepsin H purified from liver using proprietary biochemical methods (Mol wt 28 Kda). It is supplied in a buffer (20 mM Na Acetate, pH 4.5 with 1 mM EDTA and 100 mM NaCl) 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 -20°C 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: 1.22

Activity: greater than 1 unit per mg protein. One unit is defined as the amount of enzyme that hydrolyzes one umole of L-arginine-beta-naphthylamide per minute at 40°C using 75 mM potassium phosphate, pH 6.8, with 1 mM EDTA and 3 mM cysteine as the activation buffer

Recommended Usage

ELISA, Western

References: Douglas Lu, Weiya, Lydiane Funkelstein, Thomas Toneff, Thomas Reinheckel, Christoph Peters, and Vivian Hook. "Cathepsin H functions as an aminopeptidase in secretory vesicles for production of enkephalin and galanin peptide neurotransmitters." Journal of neurochemistry 122, no. 3 (2012): 512-522.

*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 ow endotoxins)
- CTHB16-N-10 Recombinant (HEK) Cathepsin B (CTSB/APPS/CPSB) (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 (CTSI1 (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)

CTHH21-N-25-Human-Cathepsin-H

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