

Product Specification Sheet

Human Liver Cathepsin B

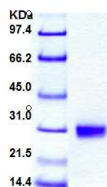
□ Cat. # CTHB15-N-25

Human Liver Cathepsin B

SIZE: 25 ug

Cathepsins (Union of two Greek words, kata:down and hepsin: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 B (CatB) is an enzymatic protein belonging to the peptidase (or protease) families. In humans, it is coded by the *CTSB* gene. The protein encoded by this gene is a lysosomal cysteine protease composed of a dimer of disulfide-linked heavy and light chains, both produced from a single protein precursor. It is also known as amyloid precursor protein secretase and is involved in the proteolytic processing of amyloid precursor protein (APP). Incomplete proteolytic processing of APP has been suggested to be a causative factor in Alzheimer disease, the most common cause of dementia. Overexpression of the encoded protein, which is a member of the peptidase C1 family, has been associated with esophageal adenocarcinoma and other tumors. Experimental and clinical evidence has linked cathepsin B with tumour invasion and metastasis. At least five transcript variants encoding the same protein have been found for this gene.



Source of Antigen

Human cathepsin B purified from liver using proprietary biochemical methods (Mol wt 27.5 Kda). It is supplied in a buffer (50 mM Na acetate, pH 5.0 with 1 mM EDTA) or lyophilized in the same buffer. Lot sp. concn are specified on the vial.

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: 2.0

Activity: Greater than 200 units per mg protein. One unit is defined as the amount of enzyme that hydrolyzes one umole of Z-Arg-Arg-beta-naphthylamide per minute at 40oC, using 100 mM Na/K phosphate, pH 6.0, with 1.33 mM EDTA and 2 mM DTT as the activation buffer.

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* 16, no. 1 (2014): 150-160.

*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 (CTS1) (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)
CTHB15-N-25-Human-Cathepsin-B	150911SV