

cathepsin H (H-130): sc-13988

BACKGROUND

Cathepsin H (also designated N-benzoylarginine- β -naphthylamide hydrolase, aleurain, cathepsin B3 or cathepsin BA) is a lysosomal cysteine proteinase that mediates degradation of lysosomal proteins. Cathepsin H is a disulfide-linked heavy and light chain dimer produced from a single precursor protein. The encoded protein, which belongs to the peptidase C1 protein family, can act both as an aminopeptidase and as an endopeptidase. Elevated levels of cathepsin H correlates with malignant progression of prostate tumors. Two transcript variants encoding different isoforms have been found for this gene. Full-length and truncated cathepsin H [12-amino acid deletion in the signal peptide region (CTSHDelta10-21)] are expressed in prostate tissues, LNCaP, PC-3 and DU-145 prostate cancer cell lines. Cathepsin H mediates maturation of the biologically active surfactant protein-B (SP-B) peptide.

REFERENCES

1. Lafuse, W.P., et al. 1995. IFN- γ increases cathepsin H mRNA levels in mouse macrophages. *J. Leukoc. Biol.* 57: 663-669.
2. Claus, V., et al. 1998. Lysosomal enzyme trafficking between phagosomes, endosomes and lysosomes in J774 macrophages. Enrichment of cathepsin H in early endosomes. *J. Biol. Chem.* 273: 9842-9851.
3. Waghray, A., et al. 2002. Analysis of a truncated form of cathepsin H in human prostate tumor cells. *J. Biol. Chem.* 277: 11533-11538.
4. Dodt, J., et al. 2003. Human cathepsin H: deletion of the mini-chain switches substrate specificity from aminopeptidase to endopeptidase. *Biol. Chem.* 384: 1327-1332.
5. Brguljan, P.M., et al. 2003. Human brain cathepsin H as a neuropeptide and bradykinin metabolizing enzyme. *Peptides* 24: 1977-1984.
6. Ueno, T., et al. 2004. Processing of pulmonary surfactant protein B by napsin and cathepsin H. *J. Biol. Chem.* 279: 16178-16184.
7. Horn, M., et al. 2005. Activation processing of cathepsin H impairs recognition by its propeptide. *Biol. Chem.* 386: 941-947.

CHROMOSOMAL LOCATION

Genetic locus: CTSB (human) mapping to 15q25.1; Ctsh (mouse) mapping to 9 E3.1.

SOURCE

cathepsin H (H-130) is a rabbit polyclonal antibody raised against amino acids 151-280 of cathepsin H of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

cathepsin H (H-130) is recommended for detection of cathepsin H of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

cathepsin H (H-130) is also recommended for detection of cathepsin H in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cathepsin H siRNA (h): sc-29240, cathepsin H siRNA (m): sc-29935, cathepsin H shRNA Plasmid (h): sc-29240-SH, cathepsin H shRNA Plasmid (m): sc-29935-SH, cathepsin H shRNA (h) Lentiviral Particles: sc-29240-V and cathepsin H shRNA (m) Lentiviral Particles: sc-29935-V.

Molecular Weight of cathepsin H: 28 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Hudelist, G., et al. 2006. Proteomic analysis in human breast cancer: identification of a characteristic protein expression profile of malignant breast epithelium. *Proteomics* 6: 1989-2002.
2. Husmann, K., et al. 2008. Cathepsins and osteosarcoma: Expression analysis identifies cathepsin K as an indicator of metastasis. *Mol. Carcinog.* 47: 66-73.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **cathepsin H (F-7): sc-398527** or **cathepsin H (5): sc-130310**, our highly recommended monoclonal alternatives to cathepsin H (H-130).