SANTA CRUZ BIOTECHNOLOGY, INC.

pan cathepsin (H-300): sc-25537

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cathepsin family of proteolytic enzymes contains several diverse classes of proteases. The cysteine protease class includes cathepsins B, C, L, H, K, S, W and O. The aspartyl protease class consists of cathepsins D, E and F. Most cathepsins are lysosomal and each is involved in normal cellular metabolism, participating in various events such as peptide biosynthesis and protein degradation. Cathepsin J is a murine cysteine protease of the papain family expressed exclusively in the placenta, which may indicate a role in embryo implantation and/or placental function. Cathepsin L is a lysosomal cysteine protease that is most closely related to cathepsin H. Mouse cathepsin M is closely related to cathepsins P and L and is highly expressed in placenta. Cathepsins M, P, Q, and R, are conserved in mice and rats but not found in human or rabbit placenta, showing that this family of proteases are probably restricted to rodents. Cathepsin V, also known as cathepsin U or cathepsin L2, is mostly expressed in the thymus and testis and may be involved in tumor processes.

REFERENCES

1. Ishidoh, K., et al. 1987. Molecular cloning and sequencing of cDNA for rat cathepsin L. FEBS Lett. 223: 69-73.
2. Santamaria, I., et al. 1998. Cathepsin L2, a novel human cysteine proteinase produced by breast and colorectal carcinomas. Cancer Res. 58: 1624-1630.
3. Tisljar, K., et al. 1999. Cathepsin J, a novel murine cysteine protease of the papain family with a placenta-restricted expression. FEBS Lett. 459: 299-304.
4. Sol-Church, K., et al. 2000. Mouse cathepsin M, a placenta-specific lysosomal cysteine protease related to cathepsins L and P. Biochim. Biophys. Acta 1491: 289-294.
5. Sol-Church, K., et al. 2000. Characterization of mouse cathepsin R, a new member of a family of placentally expressed cysteine proteases. Biochim. Biophys. Acta 1492: 488-492.
6. Sol-Church, K., et al. 2002. Evolution of placentally expressed cathepsins. Biochem. Biophys. Res. Commun. 293: 23-29.
7. Collette J., et al. 2004. Biosynthesis and alternate targeting of the lysosomal cysteine protease cathepsin L. Int. Rev. Cytol. 241: 1-51.

SOURCE

pan cathepsin (H-300) is a rabbit polyclonal antibody raised against amino acids 34-333 of cathepsin L of human origin.

PRODUCT

Each vial contains 200 µg 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

pan cathepsin (H-300) is recommended for detection of cathepsin J, L, M, P, Q, R, U and V of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

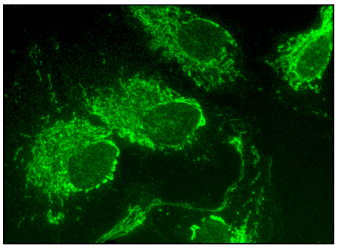
Molecular Weight of pan cathepsin: 38 kDa.

Positive Controls: A549 cell lysate: sc-2413.

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.

DATA



pan cathepsin (H-300): sc-25537. Immunofluorescence staining of formalin-fixed HepG2 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Tetu, B., et al. 2008. Immunohistochemical analysis of possible chemoresistance markers identified by micro-arrays on serous ovarian carcinomas. Mod. Pathol. 21: 1002-1010.

RESEARCH USE

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