SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin B (N-19): sc-6491

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The Power to Question

BACKGROUND

The cathepsin family of proteolytic enzymes contains several diverse classes of proteases. The cysteine protease class comprises cathepsins B, L, H, K, S, and O. The aspartyl protease class is composed of cathepsins D and E. Cathepsin G is in the serine protease class. Most cathepsins are lysosomal and each is involved in cellular metabolism, participating in various events such as peptide biosynthesis and protein degradation. Cathepsin B is expressed in luminal epithelial cells, indicating that cathepsin B is a marker for secretory cell death.

REFERENCES

1. Ishidoh, K., et al. 1987. Molecular cloning and sequencing of cDNA for rat cathepsin L. FEBS Lett. 223: 69-73.
2. Ishidoh, K., et al. 1987. Molecular cloning and sequencing of cDNA for rat cathepsin H. Homology in pro-peptide regions of cysteine proteases. FEBS Lett. 226: 33-37.
3. Redecker, B., et al. 1991. Molecular organization of the human cathepsin D gene. DNA Cell Biol. 10: 423-431.
4. Shi, G.P., et al. 1992. Molecular cloning and expression of human alveolar macrophage cathepsin S, an elastinolytic cysteine protease. J. Biol. Chem. 267: 7258-7262.
5. Heusel, J.W., et al. 1993. Molecular cloning, chromosomal location, and tissue-specific expression of the murine cathepsin G gene. Blood 81: 1614-1623.
6. Guenette, R.S., et al. 1994. Cathepsin B, a cysteine protease implicated in metastatic progression, is also expressed during regression of the rat prostate and mammary glands. Eur. J. Biochem. 226: 311-321.
7. Okamoto, K., et al. 1995. Isolation and sequencing of two cDNA clones encoding rat spleen cathepsin E and analysis of the activation of purified procathepsin E. Arch. Biochem. Biophys. 322: 103-111.

CHROMOSOMAL LOCATION

Genetic locus: CTSB (human) mapping to 8p23.1.

SOURCE

cathepsin B (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of cathepsin B 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.

Blocking peptide available for competition studies, sc-6491 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

cathepsin B (N-19) is recommended for detection of cathepsin B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 B (N-19) is also recommended for detection of cathepsin B in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cathepsin B siRNA (h): sc-29238, cathepsin B shRNA Plasmid (h): sc-29238-SH and cathepsin B shRNA (h) Lentiviral Particles: sc-29238-V.

Molecular Weight of cathepsin B proenzyme: 37 kDa.

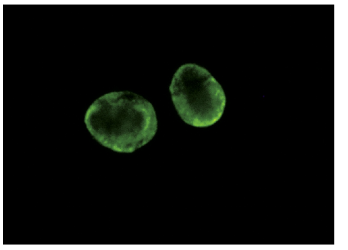
Molecular Weight of activated cathepsin B: 25 kDa.

Positive Controls: LS 1034 whole cell lysate or WI 38 whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



cathepsin B (N-19): sc-6491. Immunofluorescence staining of methanol-fixed LS1034 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Grigolo, B., et al. 2005. Molecular and immunohistological characterization of human cartilage two years following autologous cell transplantation. J. Bone Joint Surg. Am. 87: 46-57.

RESEARCH USE

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