SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin C (H-144): sc-13986

BACKGROUND

Cathepsin C, known also as dipeptidyl aminopeptidase I (DPPI), is a tetrameric lysosomal cysteine peptidase belonging to the papain family. Cathepsin C is involved in intracellular protein degradation and the processing of protein precursors, where it participates in cell growth, neuraminidase activation and platelet factor XIII activation. Cathepsin C is largely related to other lysosomal cysteine proteinases, including cathepsin B, H and L. Enzymatically, cathepsin C is capable of sequentially removing dipeptides from the amino-terminus, and it requires halide ions, namely chloride ions and thiols for complete enzymatic activity. Protein levels of cathepsin C are detected in a variety of tissues, and it is most highly expressed in spleen, kidney, cytotoxic lymphocytes and myeloid cells, where it localizes to the secretory granule compartment. Cathepsin C is initially synthesized as a proenzyme that is rapidly processed to generate two distinct chains that function together as the mature form of the enzyme.

REFERENCES

1. Ishidoh, K., et al. 1991. Molecular cloning of cDNA for rat cathepsin C. Cathepsin C, a cysteine proteinase with an extremely long propeptide. J. Biol. Chem. 266: 16312-16317.
2. Karrer, K.M., et al. 1993. Two distinct gene subfamilies within the family of cysteine protease genes. Proc. Natl. Acad. Sci. USA 90: 3063-3067.
3. Nauland, U., et al. 1994. Activation of thrombin-inactivated single-chain urokinase-type plasminogen activator by dipeptidyl peptidase I (cathepsin C). Eur. J. Biochem. 223: 497-501.
4. Paris, A., et al. 1995. Molecular cloning and sequence analysis of human preprocathepsin C. FEBS Lett. 369: 326-330.
5. Pham, C.T., et al. 1997. Molecular cloning, chromosomal localization, and expression of murine dipeptidyl peptidase I. J. Biol. Chem. 272: 10695-10703.

CHROMOSOMAL LOCATION

Genetic locus: CTSC (human) mapping to 11q14.2; Ctsc (mouse) mapping to 7 E1.

SOURCE

cathepsin C (H-144) is a rabbit polyclonal antibody raised against amino acids 251-394 mapping to the heavy chain cathepsin C 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.

RESEARCH USE

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

APPLICATIONS

cathepsin C (H-144) is recommended for detection of cathepsin C 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).

cathepsin C (H-144) is also recommended for detection of cathepsin C in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cathepsin C siRNA (h): sc-41471, cathepsin C siRNA (m): sc-41472, cathepsin C shRNA Plasmid (h): sc-41471-SH, cathepsin C shRNA Plasmid (m): sc-41472-SH, cathepsin C shRNA (h) Lentiviral Particles: sc-41471-V and cathepsin C shRNA (m) Lentiviral Particles: sc-41472-V.

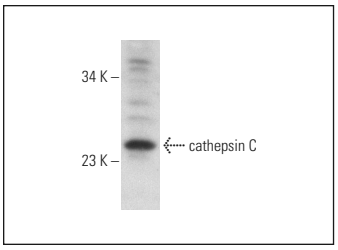
Molecular Weight of cathepsin C: 55/25/7.8 kDa.

Positive Controls: M1 whole cell lysate: sc-364782 or HISM cell lysate: sc-2229.

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



cathepsin C (H-144): sc-13986. Western blot analysis of cathepsin C expression in M1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Agudo, M., et al 2009. Immediate upregulation of proteins belonging to different branches of the apoptotic cascade in the retina after optic nerve transection and optic nerve crush. Invest. Ophthalmol. Vis. Sci. 50: 424-431.

PROTOCOLS

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