SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin D (H-75): sc-10725

SANTA CRUZ BIOTECHNOLOGY

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. Cathepsins may also cleave some protein precursors, thereby releasing regulatory peptides. The promoter region of the cathepsin D gene contains five Sp1 binding sites and four AP-2 binding sites.

CHROMOSOMAL LOCATION

Genetic locus: CTSD (human) mapping to 11p15.5; Ctsd (mouse) mapping to 7 F5.

SOURCE

cathepsin D (H-75) is a rabbit polyclonal antibody raised against amino acids 1-75 mapping at the N-terminus of cathepsin D 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.

APPLICATIONS

cathepsin D (H-75) is recommended for detection of cathepsin D 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), immunohistochemistry (including paraffin-embedded sections) (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 D (H-75) is also recommended for detection of cathepsin D in additional species, including porcine.

Suitable for use as control antibody for cathepsin D siRNA (h): sc-29239, cathepsin D siRNA (m): sc-29934, cathepsin D shRNA Plasmid (h): sc-29239-SH, cathepsin D shRNA Plasmid (m): sc-29934-SH, cathepsin D shRNA (h) Lentiviral Particles: sc-29239-V and cathepsin D shRNA (m) Lentiviral Particles: sc-29934-V.

Molecular Weight of immature cathepsin D: 52-60 kDa.

Molecular Weight of intermediate cathepsin D: 46-48 kDa.

Molecular Weight of mature cathepsin D: 33 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, MCF7 whole cell lysate: sc-2206 or ZR-75-1 cell lysate: sc-2241.

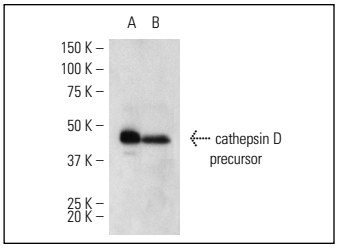
STORAGE

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

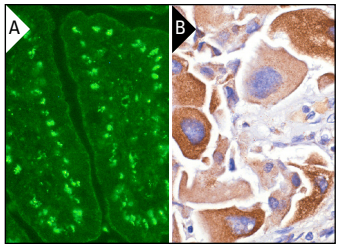
RESEARCH USE

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

DATA



cathepsin D (H-75): sc-10725. Western blot analysis of cathepsin D precursor expression in ZR-75-1 (**A**) and MCF7 (**B**) whole cell lysates.



cathepsin D (H-75): sc-10725. Immunofluorescence staining of normal mouse intestine frozen section (**A**) and immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor (**B**) showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Haeryfar, S.M., et al. 2003. Thy-1 signaling in the context of costimulation provided by dendritic cells provides signal 1 for T cell proliferation and cytotoxic effector molecule expression, but fails to trigger delivery of the lethal hit. J. Immunol. 171: 69-77.
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3. Oshikawa, M., et al. 2009. Characterization of the arylsulfatase I (ARSI) gene preferentially expressed in the human retinal pigment epithelium cell line ARPE-19. Mol. Vis. 15: 482-494.
4. Fan, X., et al. 2010. Critical role of lysosome and its associated protein cathepsin D in manganese-induced toxicity in cultured midbrain astrocyte. Neurochem. Int. 56: 291-300.
5. Roth, U., et al. 2010. Differential expression proteomics of human colorectal cancer based on a syngeneic cellular model for the progression of adenoma to carcinoma. Proteomics 10: 194-202.
6. Necchi, V., et al. 2011. Proteasome particle-rich structures are widely present in human epithelial neoplasms: correlative light, confocal and electron microscopy study. PLoS ONE 6: e21317.
7. Otomo, T., et al. 2011. Lysosomal storage causes cellular dysfunction in mucolipidosis II skin fibroblasts. J. Biol. Chem. 286: 35283-35290.
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10. De la Mata, M., et al. 2012. Recovery of MERRF fibroblasts and cybrids pathophysiology by Coenzyme Q_{10}. Neurotherapeutics 9: 446-463.