SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin L (D-20): sc-6501

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. Cathepsin L (also designated major excreted protein, MEP or CATL) is a member of the peptidase C1 family and has been identified as a protein that is most closely related to cathepsin H. It is a lysosomal cysteine proteinase that mediates intracellular protein catabolism for collagen, elastin and α-1 protease inhibitor. Cathepsin L is a dimer composed of disulfide-linked heavy and light chains, both produced from a single protein precursor. At least two transcript variants encoding the same protein have been found for this gene. Transformed mouse fibroblasts stimulated by growth factors or tumor promoters secrete a form of cathepsin L.

CHROMOSOMAL LOCATION

Genetic locus: Ctsl (mouse) mapping to 13 B3.

SOURCE

cathepsin L (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of cathepsin L of mouse 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-6501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cathepsin L (D-20) is recommended for detection of cathepsin L of mouse and rat 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 L (D-20) is also recommended for detection of cathepsin L in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for cathepsin L siRNA (m): sc-29939, cathepsin L shRNA Plasmid (m): sc-29939-SH and cathepsin L shRNA (m) Lentiviral Particles: sc-29939-V.

Molecular Weight of mature cathepsin L: 25-35 kDa.

Molecular Weight of procathepsin L: 38-42 kDa.

Positive Controls: rat kidney extract: sc-2394, KNRK whole cell lysate: sc-2214 or NIH/3T3 whole cell lysate: sc-2210.

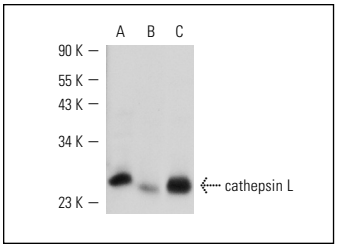
STORAGE

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 L (D-20): sc-6501. Western blot analysis of cathepsin L expression in KNRK (**A**) and NIH/3T3 (**B**) whole cell lysates and rat kidney tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Goulet, B., et al. 2004. A cathepsin L isoform that is devoid of a signal peptide localizes to the nucleus in S phase and processes the CDP/Cux transcription factor. Mol. Cell 14: 207-219.
2. Ravanko, K., et al. 2004. Cysteine cathepsins are central contributors of invasion by cultured adenosylmethionine decarboxylase-transformed rodent fibroblasts. Cancer Res. 64: 8831-8838.
3. Blander, J.M., et al. 2006. Toll-dependent selection of microbial antigens for presentation by dendritic cells. Nature 7085: 808-812.
4. Alizadeh, P., et al. 2006. Regulation of cysteine cathepsin expression by oxidative stress in the retinal pigment epithelium/choroid of the mouse. Exp. Eye Res. 83: 679-687.
5. Franke, J.C., et al. 2010. New caspase-independent but ROS-dependent apoptosis pathways are targeted in melanoma cells by an iron-containing cytosine analogue. Biochem. Pharmacol. 79: 575-586.
6. Xiang, B., et al. 2011. Cathepsin L is involved in 6-hydroxydopamine induced apoptosis of SH-SY5Y neuroblastoma cells. Brain Res. 1387: 29-38.
7. van Beers, J.J., et al. 2013. The rheumatoid arthritis synovial fluid citrullinome reveals novel citrullinated epitopes in apolipoprotein E, myeloid nuclear differentiation antigen, and β-actin. Arthritis Rheum. 65: 69-80.