SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin L (H-80): sc-10778

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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 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: CTSL1 (human) mapping to 9q21.33; Ctsl (mouse) mapping to 13 B3.

SOURCE

cathepsin L (H-80) is a rabbit polyclonal antibody raised against amino acids 1-80 mapping at the N-terminus 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

cathepsin L (H-80) is recommended for detection of precursor cathepsin L 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); may cross-react with precursor cathepsin L2.

Suitable for use as control antibody for cathepsin L siRNA (h): sc-29938, cathepsin L siRNA (m): sc-29939, cathepsin L shRNA Plasmid (h): sc-29938-SH, cathepsin L shRNA Plasmid (m): sc-29939-SH, cathepsin L shRNA (h) Lentiviral Particles: sc-29938-V and cathepsin L shRNA (m) Lentiviral Particles: sc-29939-V.

Molecular Weight of pro cathepsin L: 38-42 kDa.

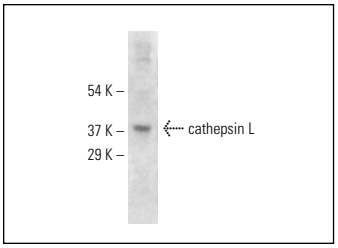
Molecular Weight of mature cathepsin L: 25-35 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, A549 cell lysate: sc-2413 or rat kidney extract: sc-2394.

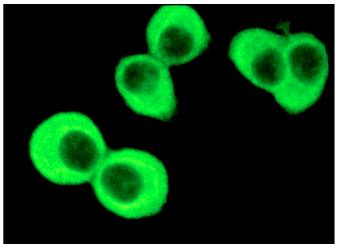
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



cathepsin L (H-80): sc-10778. Western blot analysis of cathepsin L expression in rat kidney tissue extract.



cathepsin L (H-80): sc-10778. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Gye, M.C., et al. 2004. Expression of cathepsin L in human testis under diverse infertility conditions. Arch. Androl. 50: 187-191.
2. Puchi, M., et al. 2010. A new nuclear protease with cathepsin L properties is present in HeLa and Caco-2 cells. J. Cell. Biochem. 111: 1099-1106.
3. Bien, S., et al. 2010. Doxorubicin-induced cell death requires cathepsin B in HeLa cells. Biochem. Pharmacol. 80: 1466-1477.
4. Goncalves, D.A., et al. 2012. Clenbuterol suppresses proteasomal and lysosomal proteolysis and atrophy-related genes in denervated rat soleus muscles independently of Akt. Am. J. Physiol. Endocrinol. Metab. 302: E123-E133.
5. Bao, H., et al. 2015. Fine-tuning of NFκB by glycogen synthase kinase 3β directs the fate of glomerular podocytes upon injury. Kidney Int. 87: 1176-1190.

RESEARCH USE

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