

cathepsin L (G-11): sc-390367

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.

REFERENCES

1. Ishidoh, K., et al. 1987. Molecular cloning and sequencing of cDNA for rat cathepsin L. *FEBS Lett.* 223: 69-73.
2. Joseph, L.J., et al. 1988. Complete nucleotide and deduced amino acid sequences of human and murine preprocathepsin L. An abundant transcript induced by transformation of fibroblasts. *J. Clin. Invest.* 81: 1621-1629.
3. Soderstrom, M., et al. 1999. Cathepsin expression during skeletal development. *Biochim. Biophys. Acta* 1446: 35-46.

CHROMOSOMAL LOCATION

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

SOURCE

cathepsin L (G-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 263-291 at the C-terminus of cathepsin L of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cathepsin L (G-11) is available conjugated to agarose (sc-390367 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390367 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390367 PE), fluorescein (sc-390367 FITC), Alexa Fluor® 488 (sc-390367 AF488), Alexa Fluor® 546 (sc-390367 AF546), Alexa Fluor® 594 (sc-390367 AF594) or Alexa Fluor® 647 (sc-390367 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390367 AF680) or Alexa Fluor® 790 (sc-390367 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390367 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

cathepsin L (G-11) is recommended for detection of cathepsin L of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

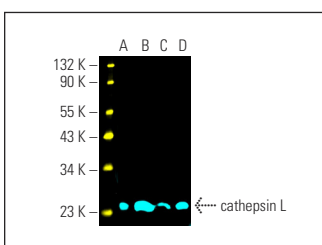
Suitable for use as control antibody for cathepsin L siRNA (m): sc-29939, cathepsin L shRNA Plasmid (m): sc-29939-SH and cathepsin L shRNA (m) Lentiviral Particles: sc-29939-V.

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

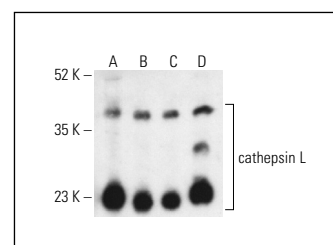
Molecular Weight of mature cathepsin L: 25-35 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, NIH/3T3 whole cell lysate: sc-2210 or KNRK whole cell lysate: sc-2214.

DATA



cathepsin L (G-11) Alexa Fluor® 647: sc-390367 AF647. Direct fluorescent western blot analysis of cathepsin L expression in NIH/3T3 (A), RAW 264.7 (B), KNRK (C) and RPE-J (D) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 488: sc-516790.



cathepsin L (G-11) HRP: sc-390367 HRP. Direct western blot analysis of cathepsin L expression in RPE-J (A), RAW 264.7 (B), NIH/3T3 (C) and KNRK (D) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bhattacharyya, R., et al. 2018. Coralyne, a protoberberine alkaloid, causes robust photosensitization of cancer cells through ATR-p38 MAPK-Bax and JAK2-Stat1-Bax pathways. *Chem. Biol. Interact.* 285: 27-39.
2. Marchi, P.M., et al. 2022. C9ORF72-derived poly-GA DPRs undergo endocytic uptake in iAstrocytes and spread to motor neurons. *Life Sci. Alliance* 5: e202101276.
3. Zhong, Y., et al. 2023. Myosin light-chain 4 gene-transfer attenuates atrial fibrosis while correcting autophagic flux dysregulation. *Redox Biol.* 60: 102606.
4. Hirunsai, M. and Sriksuea, R. 2024. Differential effects of cholecalciferol and calcitriol on muscle proteolysis and oxidative stress in angiotensin II-induced C2C12 myotube atrophy. *Physiol. Rep.* 12: e16011.

STORAGE

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

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