

LAMP-1 (4E151): sc-71489

BACKGROUND

Lysosome-associated membrane proteins (LAMP) are glycosylated type I membrane proteins that play a role in the biogenesis of the pigment melanin. LAMP-1 (also designated CD107a) and LAMP-2 (also designated CD107b) are involved in a variety of functions including cellular adhesion, and are thought to participate in the process of tumor invasion and metastasis. Newly synthesized LAMP-1 and LAMP-2 proteins are sorted at the *trans*-Golgi network and are transported intracellularly via a pathway that is distinct from the clathrin-coated vesicles used for the mannose 6-phosphate receptor. LAMP-1 is expressed on the surface of Thrombin-activated but not resting platelets, and it is thought to be involved in the adhesive, prothrombic properties of these cells. Both LAMP-1 and LAMP-2 are involved in maintaining lysosome acidity and protecting the lysosomal membranes from autodigestion, and their expression is increased in patients with lysosomal storage disorders.

CHROMOSOMAL LOCATION

Genetic locus: Lamp1 (mouse) mapping to 8 A1.1.

SOURCE

LAMP-1 (4E151) is a mouse monoclonal antibody raised against LAMP-1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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

LAMP-1 (4E151) is recommended for detection of LAMP-1 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

LAMP-1 (4E151) is also recommended for detection of LAMP-1 in additional species, including hamster.

Suitable for use as control antibody for LAMP-1 siRNA (m): sc-35790, LAMP-1 shRNA Plasmid (m): sc-35790-SH and LAMP-1 shRNA (m) Lentiviral Particles: sc-35790-V.

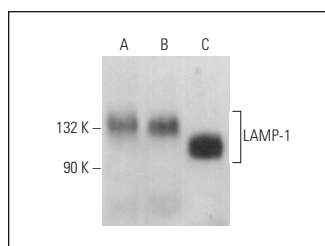
Molecular Weight of LAMP-1: 120 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, 3611-RF whole cell lysate: sc-2215 or KNRK whole cell lysate: sc-2214.

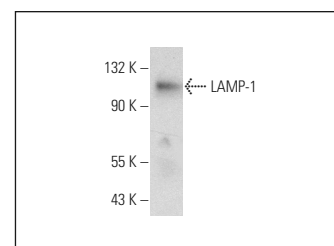
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LAMP-1 (4E151): sc-71489. Western blot analysis of LAMP-1 expression in PC-12 (A), 3611-RF (B) and Sol8 (C) whole cell lysates.



LAMP-1 (4E151): sc-71489. Western blot analysis of LAMP-1 expression in KNRK whole cell lysate.

SELECT PRODUCT CITATIONS

- Gao, Y., et al. 2014. Activation of lysosomal degradative pathway in spinal cord tissues of carbon disulfide-treated rats. *Chem. Biol. Interact.* 219: 76-82.
- Jung, J., et al. 2016. Increase of transcription factor EB (TFEB) and lysosomes in rat DRG neurons and their transportation to the central nerve terminal in dorsal horn after nerve injury. *Neuroscience* 313: 10-22.
- Peña-Altamira, L.E., et al. 2018. Release of soluble and vesicular purine nucleoside phosphorylase from rat astrocytes and microglia induced by pro-inflammatory stimulation with extracellular ATP via P2X₇ receptors. *Neurochem. Int.* 115: 37-49.
- Zhang, J., et al. 2018. Midazolam enhances mutant huntingtin protein accumulation via impairment of autophagic degradation *in vitro*. *Cell. Physiol. Biochem.* 48: 683-691.
- Chen, L., et al. 2019. Exosomes derived from T regulatory cells suppress CD8⁺ cytotoxic T lymphocyte proliferation and prolong liver allograft survival. *Med. Sci. Monit.* 25: 4877-4884.
- Zhang, J., et al. 2020. Combination therapy with ropivacaine-loaded liposomes and nutrient deprivation for simultaneous cancer therapy and cancer pain relief. *Theranostics* 10: 4885-4899.

CONJUGATES

See **LAMP-1 (H4A3): sc-20011** for LAMP-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.