

LAMP-1 (E-5): sc-17768

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 (human) mapping to 13q34; Lamp1 (mouse) mapping to 8 A1.1.

SOURCE

LAMP-1 (E-5) is a mouse monoclonal antibody raised against amino acids 1-228 of LAMP-1 of human origin.

PRODUCT

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

LAMP-1 (E-5) is available conjugated to agarose (sc-17768 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17768 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17768 PE), fluorescein (sc-17768 FITC), Alexa Fluor® 488 (sc-17768 AF488), Alexa Fluor® 546 (sc-17768 AF546), Alexa Fluor® 594 (sc-17768 AF594) or Alexa Fluor® 647 (sc-17768 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17768 AF680) or Alexa Fluor® 790 (sc-17768 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

LAMP-1 (E-5) is recommended for detection of LAMP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1,000), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for LAMP-1 siRNA (h): sc-29389, LAMP-1 siRNA (m): sc-35790, LAMP-1 shRNA Plasmid (h): sc-29389-SH, LAMP-1 shRNA Plasmid (m): sc-35790-SH, LAMP-1 shRNA (h) Lentiviral Particles: sc-29389-V and LAMP-1 shRNA (m) Lentiviral Particles: sc-35790-V.

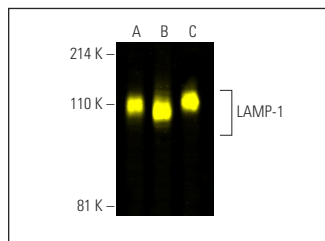
Molecular Weight of LAMP-1: 120 kDa.

Positive Controls: ECV304 cell lysate: sc-2269 or T24 cell lysate: sc-2292.

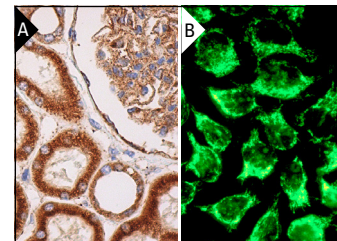
STORAGE

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

DATA



LAMP-1 (E-5): sc-17768. Fluorescent western blot analysis of LAMP-1 expression in ECV304 (A), T24 (B) and HT-1080 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 488: sc-542735.



LAMP-1 (E-5): sc-17768. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli and cells in tubules (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

- Ramirez-Montealegre, D., et al. 2005. Defective lysosomal arginine transport in juvenile Batten disease. *Hum. Mol. Genet.* 14: 3759-3773.
- Boddu, R., et al. 2015. Leucine-rich repeat kinase 2 deficiency is protective in rhabdomyolysis-induced kidney injury. *Hum. Mol. Genet.* 24: 4078-4093.
- Lin, C.L., et al. 2016. Amyloid-β suppresses AMP-activated protein kinase (AMPK) signaling and contributes to α-synuclein-induced cytotoxicity. *Exp. Neurol.* 275: 84-98.
- Smith, V.L., et al. 2017. Exosomes function in antigen presentation during an *in vivo Mycobacterium tuberculosis* infection. *Sci. Rep.* 7: 43578.
- Chang, L.C., et al. 2018. Heme oxygenase-1 mediates BAY 11-7085 induced ferroptosis. *Cancer Lett.* 416: 124-137.
- Hernández-Ortega, S., et al. 2019. Phosphoregulation of the oncogenic protein regulator of cytokinesis 1 (PRC1) by the atypical CDK16/CCNY complex. *Exp. Mol. Med.* 51: 1-17.
- Wang, Y., et al. 2020. Acetyltransferase GCN5 regulates autophagy and lysosome biogenesis by targeting TFEB. *EMBO Rep.* 21: e48335.
- Chen, C., et al. 2021. Legumain promotes tubular ferroptosis by facilitating chaperone-mediated autophagy of GPX4 in AKI. *Cell Death Dis.* 12: 65.
- Jung, S.E., et al. 2022. Autophagy modulation alleviates cryoinjury in murine spermatogonial stem cell cryopreservation. *Andrology* 10: 340-353.
- Bi, Y., et al. 2023. Chronic high-salt intake induces cardiomyocyte autophagic vacuolization during left ventricular maladaptive remodeling in spontaneously hypertensive rats. *Exp. Ther. Med.* 25: 148.
- Liu, S., et al. 2024. MLKL polymerization-induced lysosomal membrane permeabilization promotes necroptosis. *Cell Death Differ.* 31: 40-52.

RESEARCH USE

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