SANTA CRUZ BIOTECHNOLOGY, INC.

LAMP-2 (M3/84.6.34): sc-81729

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. Febbraio, M. and Silverstein, R.L. 1990. Identification and characterization of LAMP-1 as an activation-dependent platelet surface glycoprotein. J. Biol. Chem. 265: 18531-18537.
2. Salopek, T.G. and Jimbow, K. 1996. Induction of melanogenesis during the various melanoma growth phases and the role of tyrosinase, lysosome-associated membrane proteins, and p90 calnexin in the melanogenesis cascade. J. Investig. Dermatol. Symp. Proc. 1: 195-202.
3. Kannan, K., et al. 1996. Lysosome-associated membrane proteins h-LAMP1 (CD107a) and h-LAMP2 (CD107b) are activation-dependent cell surface glycoproteins in human peripheral blood mononuclear cells which mediate cell adhesion to vascular endothelium. Cell. Immunol. 171: 10-19.
4. Sarafian, V., et al. 1998. Expression of LAMP-1 and LAMP-2 and their interactions with galectin-3 in human tumor cells. Int. J. Cancer 75: 105-111.

CHROMOSOMAL LOCATION

Genetic locus: LAMP2 (human) mapping to Xq24; Lamp2 (mouse) mapping to X A3.3.

SOURCE

LAMP-2 (M3/84.6.34) is a rat monoclonal antibody epitope mapping to immunoadsorbent purified mouse macrophage glycoprotien fraction.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LAMP-2 (M3/84.6.34) is available conjugated to either phycoerythrin (sc-81729 PE), fluorescein (sc-81729 FITC) or Alexa Fluor® 488 (sc-81729 AF488) or Alexa Fluor® 647 (sc-81729 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

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RESEARCH USE

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

APPLICATIONS

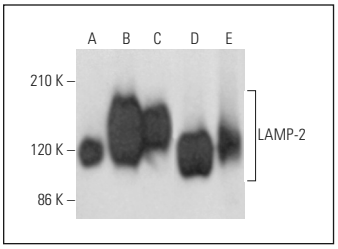
LAMP-2 (M3/84.6.34) is recommended for detection of LAMP-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for LAMP-2 siRNA (h): sc-29390, LAMP-2 siRNA (m): sc-35791, LAMP-2 shRNA Plasmid (h): sc-29390-SH, LAMP-2 shRNA Plasmid (m): sc-35791-SH, LAMP-2 shRNA (h) Lentiviral Particles: sc-29390-V and LAMP-2 shRNA (m) Lentiviral Particles: sc-35791-V.

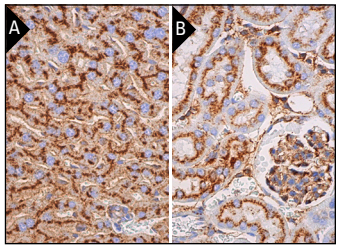
Molecular Weight of LAMP-2: 120 kDa.

Positive Controls: J774.A1 cell lysate: sc-3802, C2C12 whole cell lysate: sc-364188 or mouse kidney extract: sc-2255.

DATA



LAMP-2 (M3/84.6.34): sc-81729. Western blot analysis of LAMP-2 expression in C3H/10T1/2 (**A**), RAW 309 Cr.1 (**B**), J774.A1 (**C**) and C2C12 (**D**) whole cell lysates and mouse kidney tissue extract (**E**).



LAMP-2 (M3/84.6.34): sc-81729. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver tissue showing membrane and cytoplasmic staining of hepatocytes and cytoplasmic staining of bile duct cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kindey tissue showing cytoplasmic staining of cells in glomeruli and apical membrane staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Schilling, J.D., et al. 2012. Macrophages modulate cardiac function in lipotoxic cardiomyopathy. Am. J. Physiol. Heart Circ. Physiol. 303: H1366-H1373.
2. Lu, Y., et al. 2017. Modified citrus pectin inhibits galectin-3 function to reduce atherosclerotic lesions in apoE-deficient mice. Mol. Med. Rep. 16: 647-653.
3. Eroglu, B., et al. 2020. HSF1-mediated control of cellular energy metabolism and mTORC1 activation drive acute T cell lymphoblastic leukemia progression. Mol. Cancer Res. 18: 463-476.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.