SANTA CRUZ BIOTECHNOLOGY, INC.

LAMP-2 (4E152): sc-71491

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., Stewart, R.M., Bounds, W., Carlsson, S.R., Fukuda, M., Betzing, K.W. and Holcombe, R.F. 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. Karlsson, K. and Carlsson, S.R. 1998. Sorting of lysosomal membrane glycoproteins LAMP-1 and LAMP-2 into vesicles distinct from mannose 6-phosphate receptor/γ-adaptin vesicles at the *trans*-Golgi network. J. Biol. Chem. 273: 18966-18973.
5. Sarafian, V., Jadot, M., Foidart, J.M., Letesson, J.J., Van den Brule, F., Castronovo, V., Wattiaux, R. and Coninck, S.W. 1998. Expression of LAMP-1 and LAMP-2 and their interactions with galectin-3 in human tumor cells. Int. J. Cancer 75: 105-111.
6. Hua, C.T., Hopwood, J.J., Carlsson, S.R., Harris, R.J. and Meikle, P.J. 1998. Evaluation of the lysosome-associated membrane protein LAMP-2 as a marker for lysosomal storage disorders. Clin. Chem. 44: 2094-2102.

CHROMOSOMAL LOCATION

Genetic locus: Lamp2 (mouse) mapping to X A3.3.

SOURCE

LAMP-2 (4E152) is a rat monoclonal antibody raised against purified liver lysosomal membranes of mouse origin.

RESEARCH USE

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

PRODUCT

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

APPLICATIONS

LAMP-2 (4E152) is recommended for detection of LAMP-2 of mouse origin by 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).

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

Molecular Weight of LAMP-2: 120 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, RAW 264.7 whole cell lysate: sc-2211 or J774.A1 cell lysate: sc-3802.

SELECT PRODUCT CITATIONS

1. Yang, X.L., Qi, L.G., Lin, F.J. and Ou, Z.L. 2017. The role of the chemokine receptor XCR1 in breast cancer cells. Breast Cancer 9: 227-236.
2. Chen, Y., Jian, J., Hettinghouse, A., Zhao, X., Setchell, K.D.R., Sun, Y. and Liu, C.J. 2018. Progranulin associates with hexosaminidase A and ameliorates GM2 ganglioside accumulation and lysosomal storage in Tay-Sachs disease. J. Mol. Med. 96: 1359-1373.

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.