SANTA CRUZ BIOTECHNOLOGY, INC.

LAMP-1 (1D4B): sc-19992

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 (1D4B) is a rat monoclonal antibody raised against NIH/3T3 mouse embryo fibroblast tissue culture cell membranes.

PRODUCT

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

LAMP-1 (1D4B) is available conjugated to agarose (sc-19992 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-19992 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19992 PE), fluorescein (sc-19992 FITC), Alexa Fluor® 488 (sc-19992 AF488), Alexa Fluor® 546 (sc-19992 AF546), Alexa Fluor® 594 (sc-19992 AF594) or Alexa Fluor® 647 (sc-19992 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19992 AF680) or Alexa Fluor® 790 (sc-19992 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, LAMP-1 (1D4B) is available conjugated to Alexa Fluor® 405 (sc-19992 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

APPLICATIONS

LAMP-1 (1D4B) is recommended for detection of LAMP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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) and flow cytometry (1 µg per 1 x 10^6 cells).

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.

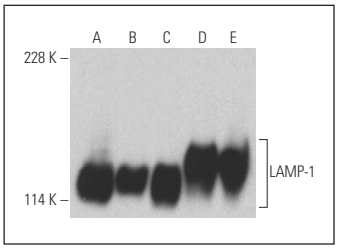
Molecular Weight of LAMP-1: 120 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Sol8 cell lysate: sc-2249 or RAW 264.7 whole cell lysate: sc-2211.

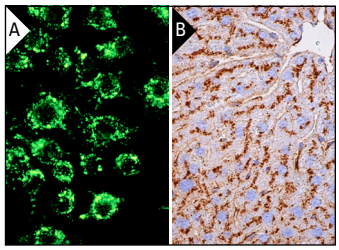
STORAGE

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

DATA



LAMP-1 (1D4B) HRP: sc-19992 HRP. Direct western blot analysis of LAMP-1 expression in Sol8 (**A**), NIH/3T3 (**B**), c4 (**C**), RAW 264.7 (**D**) and J774.A1 (**E**) whole cell lysates.



LAMP-1 (1D4B): sc-19992. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver tissue showing cytoplasmic staining of hepatocytes (**B**).

SELECT PRODUCT CITATIONS

1. Aarts. L.H., et al. 2004. Receptor activation and 2 distinct COOH-terminal motifs control G-CSF receptor distribution and internalization kinetics. Blood 103: 571-579.
2. Sag, D., et al. 2014. IL-10-producing NKT10 cells are a distinct regulatory invariant NKT cell subset. J. Clin. Invest. 124: 3725-3740.
3. Chandra, G., et al. 2015. Cln1 gene disruption in mice reveals a common pathogenic link between two of the most lethal childhood neurodegenerative lysosomal storage disorders. Hum. Mol. Genet. 24: 5416-5432.
4. Bambouskova, M., et al. 2016. New regulatory roles of galectin-3 in high-affinity IgE receptor signaling. Mol. Cell. Biol. 36: 1366-1382.
5. Solanas, G., et al. 2017. Aged stem cells reprogram their daily rhythmic functions to adapt to stress. Cell 170: 678-692.e20.
6. Causevic, M., et al. 2018. BACE1-cleavage of Sez6 and Sez6L is elevated in Niemann-Pick type C disease mouse brains. PLoS ONE 13: e0200344.
7. Wang, R., et al. 2019. ATP13A2 facilitates HDAC6 recruitment to lysosome to promote autophagosome-lysosome fusion. J. Cell Biol. 218: 267-284.
8. Jiang, J., et al. 2020. Regorafenib induces lethal autophagy arrest by stabilizing PSAT1 in glioblastoma. Autophagy 16: 106-122.
9. Heller, G.J., et al. 2021. Waning efficacy in a long-term AAV-mediated gene therapy study in the murine model of Krabbe disease. Mol. Ther. 29: 1883-1902.
10. Spix, B., et al. 2022. Lung emphysema and impaired macrophage elastase clearance in mucolipin 3 deficient mice. Nat. Commun. 13: 318.

RESEARCH USE

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