SANTA CRUZ BIOTECHNOLOGY, INC.

LAMP-1 (H5G11): sc-18821

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.

SOURCE

LAMP-1 (H5G11) is a mouse monoclonal antibody raised against adherent spleen cells of human origin.

PRODUCT

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

LAMP-1 (H5G11) is available conjugated to agarose (sc-18821 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-18821 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-18821 PE), fluorescein sc-18821 FITC), Alexa Fluor® 488 (sc-18821 AF488), Alexa Fluor® 546 (sc-18821 AF546), Alexa Fluor® 594 (sc-18821 AF594) or Alexa Fluor® 647 (sc-18821 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-18821 AF680) or Alexa Fluor® 790 (sc-18821 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

LAMP-1 (H5G11) is recommended for detection of LAMP-1 of 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 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 shRNA Plasmid (h): sc-29389-SH and LAMP-1 shRNA (h) Lentiviral Particles: sc-29389-V.

Molecular Weight of LAMP-1: 120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

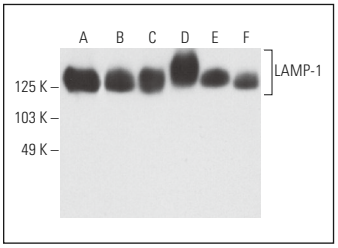
RESEARCH USE

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

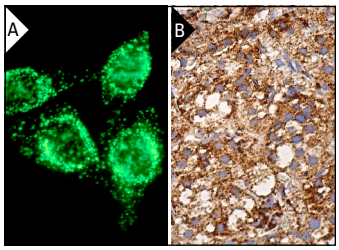
STORAGE

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

DATA



LAMP-1 (H5G11): sc-18821. Western blot analysis of LAMP-1 expression in HeLa (**A**), JAR (**B**), ECV304 (**C**), U-937 (**D**), Jurkat (**E**) and Ramos (**F**) whole cell lysates.



LAMP-1 (H5G11): sc-18821. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Taha, T., et al. 2005. Tumor necrosis factor induces the loss of sphingosine kinase-1 by a cathepsin B-dependent mechanism. J. Biol. Chem. 280: 17196-17202.
2. Skogberg, G., et al. 2015. Human thymic epithelial primary cells produce exosomes carrying tissue-restricted antigens. Immunol. Cell Biol. 93: 727-734.
3. Janer, A., et al. 2016. SLC25A46 is required for mitochondrial lipid homeostasis and cristae maintenance and is responsible for Leigh syndrome. EMBO Mol. Med. 8: 1019-1038.
4. Sugiura, A., et al. 2017. Newly born peroxisomes are a hybrid of mitochondrial and ER-derived pre-peroxisomes. Nature 542: 251-254.
5. Biswas, C., et al. 2018. Tyrosine 870 of TLR9 is critical for receptor maturation rather than phosphorylation-dependent ligand-induced signaling. PLoS ONE 13: e0200913.
6. Wang, H., et al. 2019. ORP2 delivers cholesterol to the plasma membrane in exchange for phosphatidylinositol 4, 5-bisphosphate (PI(4,5)P2). Mol. Cell 73: 458-473.e7.
7. Beigl, T.B., et al. 2020. N-terminal acetylation of actin by NAA80 is essential for structural integrity of the golgi apparatus. Exp. Cell Res. 390: 111961.
8. Kunz, T.C., et al. 2021. The expandables: cracking the staphylococcal cell wall for expansion microscopy. Front. Cell. Infect. Microbiol. 11: 644750.
9. Jung, J.U., et al. 2022. UBR5 is a novel regulator of WNK1 stability. Am. J. Physiol. Cell Physiol. 322: C1176-C1186.

PROTOCOLS

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