

# LAMP-1 (H4A3): sc-20011

## 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., et al. 1990. Identification and characterization of LAMP-1 as an activation-dependent platelet surface glycoprotein. *J. Biol. Chem.* 265: 18531-18537.
2. Salopek, T.G., et al. 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.

## CHROMOSOMAL LOCATION

Genetic locus: LAMP1 (human) mapping to 13q34; Lamp1 (mouse) mapping to 8 A1.1.

## SOURCE

LAMP-1 (H4A3) is a mouse monoclonal antibody raised against adherent spleen cells of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LAMP-1 (H4A3) is available conjugated to agarose (sc-20011 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-20011 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20011 PE), fluorescein (sc-20011 FITC), Alexa Fluor® 488 (sc-20011 AF488), Alexa Fluor® 546 (sc-20011 AF546), Alexa Fluor® 594 (sc-20011 AF594) or Alexa Fluor® 647 (sc-20011 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-20011 AF680) or Alexa Fluor® 790 (sc-20011 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, LAMP-1 (H4A3) is available conjugated to Alexa Fluor® 405 (sc-20011 AF405, 200 µg/ml), 100 tests in 2 ml, for IF, IHC(P) and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

LAMP-1 (H4A3) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

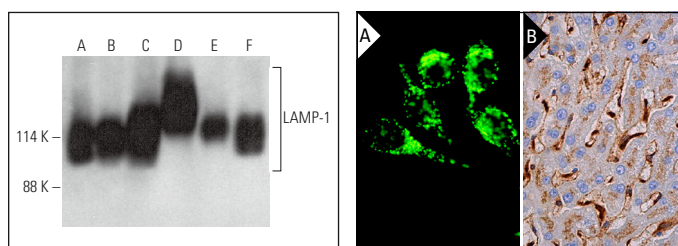
LAMP-1 (H4A3) is also recommended for detection of LAMP-1 in additional species, including monkey.

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: HeLa whole cell lysate: sc-2200, U-937 cell lysate: sc-2239 or ECV304 cell lysate: sc-2269.

## DATA



LAMP-1 (H4A3) HRP: sc-20011 HRP. Direct 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 (H4A3): sc-20011. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes and sinusoidal endothelial cells (B).

## SELECT PRODUCT CITATIONS

1. Lohi, O., et al. 1998. EAST, an epidermal growth factor receptor-and Eps15-associated protein with Src homology 3 and tyrosine-based activation motif domains. *J. Biol. Chem.* 273: 21408-21415.
2. Sultana, F., et al. 2020. Snx10 and PIKfyve are required for lysosome formation in osteoclasts. *J. Cell. Biochem.* 121: 2927-2937.
3. Geng, M.Y., et al. 2021. Sidt2 is a key protein in the autophagy-lysosomal degradation pathway and is essential for the maintenance of kidney structure and filtration function. *Cell Death Dis.* 13: 7.
4. Lee, C.C., et al. 2022. Blockage of autophagy increases timosaponin AIII-induced apoptosis of glioma cells *in vitro* and *in vivo*. *Cells* 12: 168.
5. Gutierrez-Ruiz, O.L., et al. 2023. Ectopic expression of DOCK8 regulates lysosome-mediated pancreatic tumor cell invasion. *Cell Rep.* 42: 113042.

## RESEARCH USE

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