

LAL (9G7F12): sc-58374

BACKGROUND

The lipase gene family is part of one of the largest genetic superfamilies in living organisms. Members of the AB hydrolase subfamily all contain an enzyme core with an α/β sheet, not barrel, of eight β -sheets connected by α -helices. The AB hydrolase subfamily plays a crucial role in the metabolism of lipids. Members of this family include hepatic lipase (HL), endothelial lipase (EL), lipoprotein lipase (LPL), pancreatic lipase (PL), gastric lipase (GL), LCAT and lysosomal acid lipase (LAL). LAL is the important enzyme in the hydrolysis of triglycerides and cholesteryl esters in lysosomes. LAL has six potential N-glycosylation sites and one potential O-glycosylation site, and it is mediated by macrophage mannose receptors. Defects in the LAL gene have been linked to Wolman disease (WD) and CE storage disease (CESD), while overexpression of LAL leads to atherosclerosis.

CHROMOSOMAL LOCATION

Genetic locus: LIPA (human) mapping to 10q23.31; Lipa (mouse) mapping to 19 C1.

SOURCE

LAL (9G7F12) is a mouse monoclonal antibody raised against purified truncated recombinant LAL of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LAL (9G7F12) is available conjugated to agarose (sc-58374 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-58374 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58374 PE), fluorescein (sc-58374 FITC), Alexa Fluor[®] 488 (sc-58374 AF488), Alexa Fluor[®] 546 (sc-58374 AF546), Alexa Fluor[®] 594 (sc-58374 AF594) or Alexa Fluor[®] 647 (sc-58374 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-58374 AF680) or Alexa Fluor[®] 790 (sc-58374 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

LAL (9G7F12) is recommended for detection of Lipase A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 LAL siRNA (h): sc-72119, LAL siRNA (m): sc-72120, LAL shRNA Plasmid (h): sc-72119-SH, LAL shRNA Plasmid (m): sc-72120-SH, LAL shRNA (h) Lentiviral Particles: sc-72119-V and LAL shRNA (m) Lentiviral Particles: sc-72120-V.

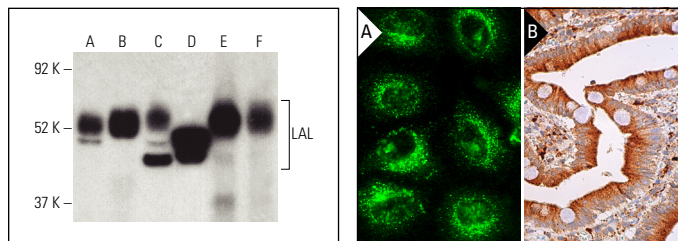
Molecular Weight of LAL: 45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HEK293 whole cell lysate: sc-45136 or sc-24662; AN3 CA Cell Lysate.

STORAGE

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

DATA



LAL (9G7F12) HRP: sc-58374 HRP. Direct western blot analysis of LAL expression in HEK293 (A), AN3 CA (B), HeLa (C) and c4 (D) whole cell lysates and human spleen (E) and human lung (F) tissue extracts.

LAL (9G7F12): sc-58374. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Xu, A., et al. 2016. IL-15 signaling promotes adoptive effector T-cell survival and memory formation in irradiation-induced lymphopenia. *Cell Biosci.* 6: 30.
- de Neergaard, R., et al. 2018. Positive association between cholesterol in human seminal plasma and sperm counts: results from a cross-sectional cohort study and immunohistochemical investigations. *Andrology* 6: 817-828.
- Viaud, M., et al. 2018. Lysosomal cholesterol hydrolysis couples efferocytosis to anti-inflammatory oxysterol production. *Circ. Res.* 122: 1369-1384.
- Cui, C., et al. 2021. A lysosome-targeted DNA nanodevice selectively targets macrophages to attenuate tumours. *Nat. Nanotechnol.* 16: 1394-1402.
- Ma, C., et al. 2022. Calycosin ameliorates atherosclerosis by enhancing autophagy via regulating the interaction between KLF2 and MLKL in apolipoprotein E gene-deleted mice. *Br. J. Pharmacol.* 179: 252-269.
- Liu, X., et al. 2022. Targeting LIPA independent of its lipase activity is a therapeutic strategy in solid tumors via induction of endoplasmic reticulum stress. *Nat. Cancer* 3: 866-884.

RESEARCH USE

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

PROTOCOLS

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