SANTA CRUZ BIOTECHNOLOGY, INC.

LPL (5D2): sc-73646

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The lipase gene family belongs to one of the most robust genetic superfamilies found in living organisms, which includes esterases and thioesterases. Lipase gene products are related by tertiary structure rather than primary amino acid sequence. Members of the AB hydrolase subfamily include hepatic lipase (HL), endothelial lipase (EL), lipoprotein lipase (LPL) and pancreatic lipase (PL). HL balances the composition and transport of lipoproteins in human plasma. Synthesized in endothelial cells, EL hydrolyzes high density lipoproteins. LPL, a homodimer attached to the membrane by a GPI-anchor, mediates the hydrolysis of triglycerides of very low density lipoproteins and circulating chylomicrons. Defects in LPL may cause chylomicronemia syndrome or a form of lipoprotein lipase deficiency characterized by hypertriglyceridemia.

CHROMOSOMAL LOCATION

Genetic locus: LPL (human) mapping to 8p21.3; Lpl (mouse) mapping to 8 B3.3.

SOURCE

LPL (5D2) is a mouse monoclonal antibody raised against purified LPL from milk of bovine 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.

LPL (5D2) is available conjugated to agarose (sc-73646 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-73646 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-73646 PE), fluorescein (sc-73646 FITC), Alexa Fluor® 488 (sc-73646 AF488), Alexa Fluor® 546 (sc-73646 AF546), Alexa Fluor® 594 (sc-73646 AF594) or Alexa Fluor® 647 (sc-73646 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-73646 AF680) or Alexa Fluor® 790 (sc-73646 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

LPL (5D2) is recommended for detection of LPL of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

LPL (5D2) is also recommended for detection of LPL in additional species, including bovine and feline.

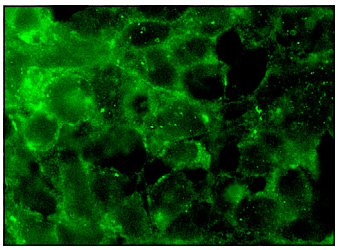
Suitable for use as control antibody for LPL siRNA (h): sc-44900, LPL siRNA (m): sc-44901, LPL siRNA (r): sc-156043, LPL shRNA Plasmid (h): sc-44900-SH, LPL shRNA Plasmid (m): sc-44901-SH, LPL shRNA Plasmid (r): sc-156043-SH, LPL shRNA (h) Lentiviral Particles: sc-44900-V, LPL shRNA (m) Lentiviral Particles: sc-44901-V and LPL shRNA (r) Lentiviral Particles: sc-156043-V.

Molecular Weight of LPL: 56 kDa.

STORAGE

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

DATA



goat anti-mouse IgG_1-FITC: sc-2078. Immunofluorescence staining of methanol-fixed Hep G2 cells showing membrane localization. Antibody tested: LPL (5D2): sc-73646.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2011. Over-expression of human lipoprotein lipase in mouse mammary glands leads to reduction of milk triglyceride and delayed growth of suckling pups. PLoS ONE 6: e20895.
2. Yamazaki, T., et al. 2012. The ddY mouse: a model of postprandial hypertriglyceridemia in response to dietary fat. J. Lipid Res. 53: 2024-2037.
3. Cereijo, R., et al. 2015. The molecular signature of HIV-1-associated lipomatosis reveals differential involvement of brown and beige/brite adipocyte cell lineages. PLoS ONE 10: e0136571.
4. Chi, X., et al. 2015. Angiopoietin-like 4 modifies the interactions between lipoprotein lipase and its endothelial cell transporter GPIHBP1. J. Biol. Chem. 290: 11865-11877.
5. Chiu, A.P., et al. 2018. Dual effects of hyperglycemia on endothelial cells and cardiomyocytes to enhance coronary LPL activity. Am. J. Physiol. Heart Circ. Physiol. 314: H82-H94.
6. Li, X.Y., et al. 2020. Identification of a novel LPL nonsense variant and further insights into the complex etiology and expression of hypertriglyceridemia-induced acute pancreatitis. Lipids Health Dis. 19: 63.
7. Yang, Q., et al. 2021. Digenic inheritance and gene-environment interaction in a patient with hypertriglyceridemia and acute pancreatitis. Front. Genet. 12: 640859.
8. Sylvers-Davie, K.L., et al. 2021. Angiopoietin-like 3 inhibition of endothelial lipase is not modulated by angiopoietin-like 8. J. Lipid Res. 62: 100112.
9. Wu, H., et al. 2021. microRNA-27a-3p but not -5p is a crucial mediator of human adipogenesis. Cells 10: 3205.
10. Hu, Y., et al. 2024. Significant but partial lipoprotein lipase functional loss caused by a novel occurrence of rare LPL biallelic variants. Lipids Health Dis. 23: 92.

RESEARCH USE

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