

LPCAT2 (H-7): sc-514354

BACKGROUND

LPCAT2 (lysophosphatidylcholine acyltransferase 2), also known as Acetyl-CoA:lyso-PAF acyltransferase (lysoPAFAT) or acyltransferase-like 1 (AYTL1), is a 544 amino acid protein that belongs to the 1-acyl-sn-glycerol-3-phosphate acyltransferase family. As a single-pass type II endoplasmic reticulum and Golgi apparatus membrane protein, LPCAT2 is involved in lipid and phospholipid metabolism. LPCAT2 has both acyltransferase and acetyltransferase activities that are calcium-dependent. LPCAT2 is known to play a role in PAF biosynthesis by catalyzing the conversion of the PAF precursor, lyso-PAF into PAF. LPCAT2 also has the ability to convert lyso-PAF to 1-alkyl-phosphatidylcholine (PC), which is a major component of cell membranes and a PAF precursor. During a resting state, LPCAT2 acyltransferase activity is preferred. Following acute inflammatory stimulus by LPS, acetyltransferase activity is enhanced and PAF synthesis increases.

REFERENCES

- Shindou, H., et al. 2007. A single enzyme catalyzes both platelet-activating factor production and membrane biogenesis of inflammatory cells. Cloning and characterization of acetyl-CoA:LYSO-PAF acyltransferase. *J. Biol. Chem.* 282: 6532-6539.
- Talmud, P.J., et al. 2009. Gene-centric association signals for lipids and apolipoproteins identified via the human CVD BeadChip. *Am. J. Hum. Genet.* 85: 628-642.
- Bailey, S.D., et al. 2010. Variation at the NFATC2 locus increases the risk of thiazolidinedione-induced edema in the diabetes REduction assessment with ramipril and rosiglitazone Medication (DREAM) study. *Diabetes Care* 33: 2250-2253.

CHROMOSOMAL LOCATION

Genetic locus: LPCAT2 (human) mapping to 16q12.2.

SOURCE

LPCAT2 (H-7) is a mouse monoclonal antibody raised against amino acids 376-449 mapping near the C-terminus of LPCAT2 of human origin.

PRODUCT

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

LPCAT2 (H-7) is available conjugated to agarose (sc-514354 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514354 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514354 PE), fluorescein (sc-514354 FITC), Alexa Fluor® 488 (sc-514354 AF488), Alexa Fluor® 546 (sc-514354 AF546), Alexa Fluor® 594 (sc-514354 AF594) or Alexa Fluor® 647 (sc-514354 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514354 AF680) or Alexa Fluor® 790 (sc-514354 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

RESEARCH USE

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

APPLICATIONS

LPCAT2 (H-7) is recommended for detection of LPCAT2 of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LPCAT2 siRNA (h): sc-93397, LPCAT2 shRNA Plasmid (h): sc-93397-SH and LPCAT2 shRNA (h) Lentiviral Particles: sc-93397-V.

Molecular Weight of LPCAT2 isoforms: 60/31 kDa.

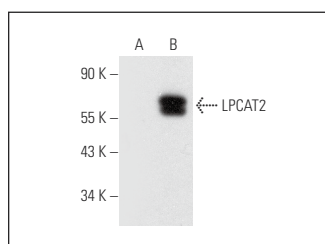
Positive Controls: LPCAT2 (h): 293T Lysate: sc-177480.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LPCAT2 (H-7): sc-514354. Western blot analysis of LPCAT2 expression in non-transfected: sc-117752 (A) and human LPCAT2 transfected: sc-177480 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Janikiewicz, J., et al. 2023. Stearoyl-CoA desaturase 1 deficiency exacerbates palmitate-induced lipotoxicity by the formation of small lipid droplets in pancreatic β-cells. *Biochim. Biophys. Acta Mol. Basis Dis.* 1869: 166711.

STORAGE

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