

LPCAT2 (C-14): sc-164904

BACKGROUND

LPCAT2 (lysophosphatidylcholine acyltransferase 2), also known as Acetyl-CoA: lyso-PAF acetyltransferase (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

1. 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.
2. Talmud, P.J., et al. 2009. Gene-centric association signals for lipids and apolipoproteins identified via the HumanCVD BeadChip. *Am. J. Hum. Genet.* 85: 628-642.
3. 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.
4. Agarwal, A.K. and Garg, A. 2010. Enzymatic activity of the human 1-acylglycerol-3-phosphate-O-acyltransferase isoform 11: upregulated in breast and cervical cancers. *J. Lipid Res.* 51: 2143-2152.
5. Casabonne, D., et al. 2011. Single nucleotide polymorphisms of matrix metalloproteinase 9 (MMP9) and tumor protein 73 (TP73) interact with Epstein-Barr virus in chronic lymphocytic leukemia: results from the European case-control study EpiLymph. *Haematologica* 96: 323-327.

CHROMOSOMAL LOCATION

Genetic locus: LPCAT2 (human) mapping to 16q12.2; Lpcat2 (mouse) mapping to 8 C5.

SOURCE

LPCAT2 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LPCAT2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-164904 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

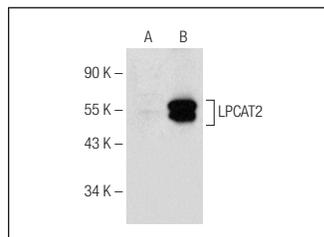
LPCAT2 (C-14) is recommended for detection of LPCAT2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with LPCAT1.

Suitable for use as control antibody for LPCAT2 siRNA (h): sc-93397, LPCAT2 siRNA (m): sc-149021, LPCAT2 shRNA Plasmid (h): sc-93397-SH, LPCAT2 shRNA Plasmid (m): sc-149021-SH, LPCAT2 shRNA (h) Lentiviral Particles: sc-93397-V and LPCAT2 shRNA (m) Lentiviral Particles: sc-149021-V.

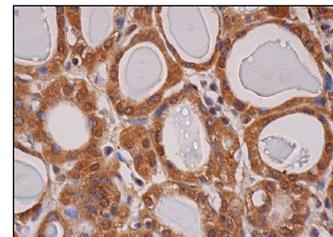
Molecular Weight of LPCAT2 isoforms: 60/31 kDa.

Positive Controls: LPCAT2 (h): 293T Lysate: sc-177480, RAW 264.7 + LPS/PMA cell lysate: sc-2212 or mouse pancreas extract: sc-364244.

DATA



LPCAT2 (C-14): sc-164904. Western blot analysis of LPCAT2 expression in non-transfected: sc-117752 (A) and human LPCAT2 transfected: sc-177480 (B) 293T whole cell lysates.



LPCAT2 (C-14): sc-164904. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic and nuclear staining of glandular cells.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **LPCAT2 (H-7): sc-514354**, our highly recommended monoclonal alternative to LPCAT2 (C-14).