

## LPCAT2 (S-14): sc-164905

### 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 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LPCAT2 of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-164905 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

LPCAT2 (S-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), 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); non cross-reactive with LPCAT1.

LPCAT2 (S-14) is also recommended for detection of LPCAT2 in additional species, including equine, canine, bovine and porcine.

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: RAW 264.7 + LPS/PMA cell lysate: sc-2212 or mouse pancreas extract: sc-364244.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



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