

MBOAT5 (D-19): sc-161831

BACKGROUND

MBOAT5 (membrane-bound O-acyltransferase domain-containing protein 5), also known as lysophosphatidylcholine acyltransferase 3 (LPCAT3), lysophospholipid acyltransferase 5 (LPLAT 5), 1-acylglycerophosphocholine O-acyltransferase, C3F, OACT5 or nesy, is a 487 amino acid multi-pass membrane protein of the endoplasmic reticulum that belongs to the membrane-bound acyltransferase family. As an acyltransferase, MBOAT5 aids in the conversion of lysophosphatidylcholine into phosphatidylcholine, lysophosphatidylserine into phosphatidylserine, and participates in the Lands cycle by catalyzing reacylation of phospholipid remodeling. Encoded by a gene located on human chromosome 12, MBOAT5 is highly expressed in liver, adipose tissue and pancreas, with lower levels found in skeletal muscle and heart.

REFERENCES

1. Maurel-Zaffran, C., et al. 1999. Nesy, an evolutionary conserved gene controlled by Hox proteins during *Drosophila* embryogenesis. *Mech. Dev.* 86: 159-163.
2. Matsuda, S., et al. 2008. Member of the membrane-bound O-acyltransferase (MBOAT) family encodes a lysophospholipid acyltransferase with broad substrate specificity. *Genes Cells* 13: 879-888.
3. Kazachkov, M., et al. 2008. Substrate preferences of a lysophosphatidylcholine acyltransferase highlight its role in phospholipid remodeling. *Lipids* 43: 895-902.
4. Hishikawa, D., et al. 2008. Discovery of a lysophospholipid acyltransferase family essential for membrane asymmetry and diversity. *Proc. Natl. Acad. Sci. USA* 105: 2830-2835.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611950. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Jain, S., et al. 2009. Characterization of human lysophospholipid acyltransferase 3. *J. Lipid Res.* 50: 1563-1570.
7. Perez-Chacón, G., et al. 2010. Signaling role for lysophosphatidylcholine acyltransferase 3 in receptor-regulated arachidonic acid reacylation reactions in human monocytes. *J. Immunol.* 184: 1071-1078.

CHROMOSOMAL LOCATION

Genetic locus: LPCAT3 (human) mapping to 12p13.31; *Lpcat3* (mouse) mapping to 6 F2.

SOURCE

MBOAT5 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MBOAT5 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-161831 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MBOAT5 (D-19) is recommended for detection of MBOAT5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with MBOAT1, MBOAT2 or MBOAT4.

MBOAT5 (D-19) is also recommended for detection of MBOAT5 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for MBOAT5 siRNA (h): sc-95749, MBOAT5 siRNA (m): sc-149310, MBOAT5 shRNA Plasmid (h): sc-95749-SH, MBOAT5 shRNA Plasmid (m): sc-149310-SH, MBOAT5 shRNA (h) Lentiviral Particles: sc-95749-V and MBOAT5 shRNA (m) Lentiviral Particles: sc-149310-V.

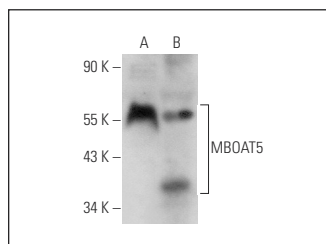
Molecular Weight of MBOAT5: 56 kDa.

Positive Controls: mouse adipose tissue extract: sc-395042 or NIH/3T3 whole cell lysate: sc-2210.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



MBOAT5 (D-19): sc-161831. Western blot analysis of MBOAT5 expression in NIH/3T3 whole cell lysate (A) and mouse adipose tissue extract (B).

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.