

# LPAAT- $\zeta$ (E-20): sc-68594

## BACKGROUND

Phosphatidic acid and lysophosphatidic acid are phospholipids involved in lipid biosynthesis and signal transduction. LPAAT- $\zeta$  (lysophosphatidic acid acyltransferase  $\zeta$ ), also designated 1-acylglycerol-3-phosphate O-acyltransferase 6 (AGPAT6) or Glycerol-3-phosphate acyltransferase 4 (GPAT4), esterifies the acyl-group from acyl-ACP to the sn-1 position of glycerol-3-phosphate, an essential step in glycerolipid biosynthesis. LPAAT- $\zeta$  is a membrane-bound protein belonging to the LPAAT family. Members of the LPAAT family have a well-known role in lipid biosynthesis and may also play a role in tumor progression. LPAAT- $\zeta$  is ubiquitously expressed with highest expression in skeletal muscle, heart and testis. LPAAT- $\zeta$  also plays a role in the production of triglycerides in adipose tissue, liver and mammary glands.

## REFERENCES

- West, J., et al. 1997. Cloning and expression of two human lysophosphatidic acid acyltransferase cDNAs that enhance cytokine-induced signaling responses in cells. *DNA Cell Biol.* 16: 691-701.
- Aguado, B. and Campbell, R.D. 1998. Characterization of a human lysophosphatidic acid acyltransferase that is encoded by a gene located in the class III region of the human major histocompatibility complex. *J. Biol. Chem.* 273: 4096-4105.
- Bursten, S.L. 1998. Interaction of lipopolysaccharide with a mammalian lysophosphatidate acyltransferase (LPAAT) transfected into *E. coli*, and effect of lisofylline on LPAAT transfected into mammalian cells. *Prog. Clin. Biol. Res.* 397: 345-356.
- Leung, D.W. 2001. The structure and functions of human lysophosphatidic acid acyltransferases. *Front. Biosci.* 6: D944-D953.
- Beigneux, A.P., et al. 2006. Agpat6—a novel lipid biosynthetic gene required for triacylglycerol production in mammary epithelium. *J. Lipid Res.* 47: 734-744.

## CHROMOSOMAL LOCATION

Genetic locus: AGPAT6 (human) mapping to 8p11.21; Agpat1 (mouse) mapping to 17 B1.

## SOURCE

LPAAT- $\zeta$  (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LPAAT- $\zeta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-68594 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

LPAAT- $\zeta$  (E-20) is recommended for detection of LPAAT- $\zeta$  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), 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).

LPAAT- $\zeta$  (E-20) is also recommended for detection of LPAAT- $\zeta$  in additional species, including equine, canine, bovine, porcine and avian.

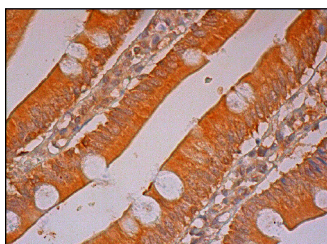
Suitable for use as control antibody for LPAAT- $\zeta$  siRNA (h): sc-75689, LPAAT- $\zeta$  siRNA (m): sc-75691, LPAAT- $\zeta$  shRNA Plasmid (h): sc-75689-SH, LPAAT- $\zeta$  shRNA Plasmid (m): sc-75691-SH, LPAAT- $\zeta$  shRNA (h) Lentiviral Particles: sc-75689-V and LPAAT- $\zeta$  shRNA (m) Lentiviral Particles: sc-75691-V.

Molecular Weight of LPAAT- $\zeta$ : 52 kDa.

## 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



LPAAT- $\zeta$  (E-20): sc-68594. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

## 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.