

LPAAT-θ (F-7): sc-514163

BACKGROUND

Phosphatidic acid and lysophosphatidic acid are phospholipids involved in lipid biosynthesis and signal transduction. LPAAT-θ (lysophosphatidic acid acyltransferase θ) catalyzes the synthesis of phosphatidic acid from lysophosphatidic acid. LPAAT-θ is a membrane-bound protein belonging to the LPAAT family. Members of the LPAAT family have a well-known role in lipid biosynthesis, and they may also play a role in tumor progression. LPAAT-θ localizes to the endoplasmic reticulum and is expressed in numerous tissue types. Low expression levels are detected in brain, kidney, liver, pancreas, placenta, prostate and thymus. The overexpression of LPAAT-θ can induce FRAP-dependent p70 S6 kinase phosphorylation on Thr 389 and 4E-BP1 phospho-rylation on Ser 65.

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.
- Eberhardt, C., et al. 1997. Human lysophosphatidic acid acyltransferase. cDNA cloning, expression, and localization to chromosome 9q34.3. *J. Biol. Chem.* 272: 20299-20305.
- 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.
- Aguado, B. and Campbell, R.D. 1998. Characterization of a human lyso-phosphatidic 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.

CHROMOSOMAL LOCATION

Genetic locus: GPAT3 (human) mapping to 4q21.23; Gpat3 (mouse) mapping to 5 E4.

SOURCE

LPAAT-θ (F-7) is a mouse monoclonal antibody raised against amino acids 1-90 mapping at the N-terminus of LPAAT-θ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LPAAT-θ (F-7) is available conjugated to agarose (sc-514163 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514163 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514163 PE), fluorescein (sc-514163 FITC), Alexa Fluor® 488 (sc-514163 AF488), Alexa Fluor® 546 (sc-514163 AF546), Alexa Fluor® 594 (sc-514163 AF594) or Alexa Fluor® 647 (sc-514163 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514163 AF680) or Alexa Fluor® 790 (sc-514163 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

LPAAT-θ (F-7) is recommended for detection of LPAAT-θ of mouse, rat and 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 LPAAT-θ siRNA (h): sc-62565, LPAAT-θ siRNA (m): sc-62566, LPAAT-θ shRNA Plasmid (h): sc-62565-SH, LPAAT-θ shRNA Plasmid (m): sc-62566-SH, LPAAT-θ shRNA (h) Lentiviral Particles: sc-62565-V and LPAAT-θ shRNA (m) Lentiviral Particles: sc-62566-V.

Molecular Weight of LPAAT-θ: 42 kDa.

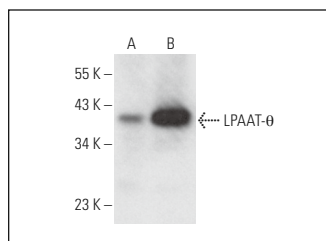
Positive Controls: c4 whole cell lysate: sc-364186, Caki-1 cell lysate: sc-2224 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SUPPORT REAGENTS

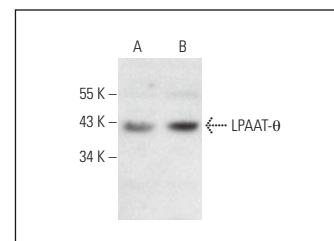
To ensure optimal results, the following support reagents are recommended:

- 1) 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.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) 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



LPAAT-θ (F-7): sc-514163. Western blot analysis of LPAAT-θ expression in Hep G2 (A) and Caki-1 (B) whole cell lysates.



LPAAT-θ (F-7): sc-514163. Western blot analysis of LPAAT-θ expression in c4 (A) and F9 (B) whole cell lysates.

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 for detailed protocols and support products.