

LPAAT- β (W-23): sc-133758

BACKGROUND

Phosphatidic acid and lysophosphatidic acid are phospholipids involved in lipid biosynthesis and signal transduction. LPAAT- β (lysophosphatidic acid acyltransferase, β), also known as AGPAT2, BSCL, BSCL1, LPAAB or 1-AGPAT2 (1-acylglycerol-3-phosphate O-acyltransferase 2), is a multi-pass membrane protein localized to the endoplasmic reticulum that catalyzes the synthesis of phosphatidic acid from lysophosphatidic acid. Predominantly expressed in heart and liver, LPAAT- β belongs to the LPAAT family of proteins that have a well-known role in lipid biosynthesis. In addition, LPAAT family members may also play a role in tumor progression. Mutations in the gene encoding LPAAT- β can result in the autosomal recessive disorder CGL1 (congenital generalized lipodystrophy type 1). CGL1, also known as Berardinelli-Seip congenital lipodystrophy type 1 (BSCL1), is a disorder characterized by insulin resistance, early onset of diabetes, hepatic steatosis, scarcity of adipose tissue and hypertriglyceridemia.

REFERENCES

- West, J., Tompkins, C.K., Balantac, N., Nudelman, E., Meengs, B., White, T., Bursten, S., Coleman, J., Kumar, A., Singer, J.W. and Leung, D.W. 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., Gray, P.W. and Tjoelker, L.W. 1997. Human lysophosphatidic acid acyltransferase. cDNA cloning, expression, and localization to chromosome 9q34.3. *J. Biol. Chem.* 272: 20299-20305.
- 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.
- Agarwal, A.K., Arioglu, E., De Almeida, S., Akkoc, N., Taylor, S.I., Bowcock, A.M., Barnes, R.I. and Garg, A. 2002. AGPAT2 is mutated in congenital generalized lipodystrophy linked to chromosome 9q34. *Nat. Genet.* 31: 21-23.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603100. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Gomes, K.B., Fernandes, A.P., Ferreira, A.C., Pardini, H., Garg, A., Magre, J. and Pardini, V.C. 2004. Mutations in the seipin and AGPAT2 genes clustering in consanguineous families with Berardinelli-Seip congenital lipodystrophy from two separate geographical regions of Brazil. *J. Clin. Endocrinol. Metab.* 89: 357-361.
- Fu, M., Kazlauskaitė, R., Baracho, M.d.e. F., Santos, M.G., Brandão-Neto, J., Villares, S., Celi, F.S., Wajchenberg, B.L. and Shuldiner, A.R. 2004. Mutations in Gng3lg and AGPAT2 in Berardinelli-Seip congenital lipodystrophy and Brunzell syndrome: phenotype variability suggests important modifier effects. *J. Clin. Endocrinol. Metab.* 89: 2916-2922.

CHROMOSOMAL LOCATION

Genetic locus: AGPAT2 (human) mapping to 9q34.3.

SOURCE

LPAAT- β (W-23) is a Protein A purified rabbit polyclonal antibody raised against synthetic LPAAT- β peptide of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

LPAAT- β (W-23) is recommended for detection of LPAAT- β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LPAAT- β siRNA (h): sc-75688, LPAAT- β shRNA Plasmid (h): sc-75688-SH and LPAAT- β shRNA (h) Lentiviral Particles: sc-75688-V.

Molecular Weight of LPAAT- β : 31 kDa.

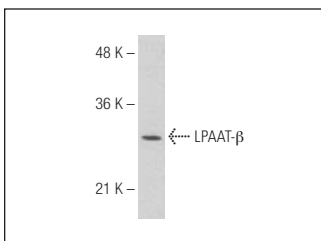
Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

DATA



LPAAT- β (W-23): sc-133758. Western blot analysis of LPAAT- β expression in Jurkat whole cell lysate.

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.