SANTA CRUZ BIOTECHNOLOGY, INC.

GPAM (L-16): sc-161674

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GPAM (glycerol-3-phosphate acyltransferase, mitochondrial), also known as GPAT1, GPAT or KIAA1560, is an 828 amino acid multi-pass membrane protein that localizes to the outer membrane of the mitochondria and is involved in phospholipid metabolism. More specifically, GPAM functions to catalyze the first and committing step in the biosynthesis of glycerolipid, namely the conversion of Acyl-CoA and sn-glycerol 3-phosphate to CoA and 1-acyl-sn-glycerol 3-phosphate. Via its catalytic activity, GPAM plays an essential role in the regulation of cellular triacylglycerol and phospholipid levels. The gene encoding GPAM maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

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2. Thomas, P.D. and Poznansky, M.J. 1990. Lipid peroxidation inactivates rat liver microsomal glycerol-3-phosphate acyl transferase. Effect of iron and copper salts and carbon tetrachloride. J. Biol. Chem. 265: 2684-2691.
3. Shin, D.H., et al. 1991. Transcriptional regulation of p90 with sequence homology to *Escherichia coli* glycerol-3-phosphate acyltransferase. J. Biol. Chem. 266: 23834-23839.
4. Yet, S.F., et al. 1993. Expression and identification of p90 as the murine mitochondrial glycerol-3-phosphate acyltransferase. Biochemistry 32: 9486-9491.
5. Jerkins, A.A., et al. 1995. Characterization of the murine mitochondrial glycerol-3-phosphate acyltransferase promoter. J. Biol. Chem. 270: 1416-1421.
6. Welch, C.L., et al. 1998. Assignment of Gpam to distal mouse chromosome 19 by linkage analysis. Mamm. Genome 9: 93.
7. Igal, R.A., et al. 2001. Mitochondrial glycerol phosphate acyltransferase directs the incorporation of exogenous fatty acids into triacylglycerol. J. Biol. Chem. 276: 42205-42212.
8. Hammond, L.E., et al. 2002. Mitochondrial glycerol-3-phosphate acyltransferase-deficient mice have reduced weight and liver triacylglycerol content and altered glycerolipid fatty acid composition. Mol. Cell. Biol. 22: 8204-8214.

CHROMOSOMAL LOCATION

Genetic locus: GPAM (human) mapping to 10q25.2; Gpam (mouse) mapping to 19 D2.

SOURCE

GPAM (L-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GPAM 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-161674 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPAM (L-16) is recommended for detection of GPAM 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).

GPAM (L-16) is also recommended for detection of GPAM in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GPAM siRNA (h): sc-90652, GPAM siRNA (m): sc-145677, GPAM shRNA Plasmid (h): sc-90652-SH, GPAM shRNA Plasmid (m): sc-145677-SH, GPAM shRNA (h) Lentiviral Particles: sc-90652-V and GPAM shRNA (m) Lentiviral Particles: sc-145677-V.

Molecular Weight of GPAM: 94 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.

SELECT PRODUCT CITATIONS

1. Ehara, T., et al. 2012. Role of DNA methylation in the regulation of lipogenic glycerol-3-phosphate acyltransferase 1 gene expression in the mouse neonatal liver. Diabetes 61: 2442-2450.

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.

MONOS Satisfaction Guaranteed

Try **GPAM (D-10): sc-398135**, our highly recommended monoclonal alternative to GPAM (L-16).