

GPAT1 Antibody
Catalog # ASC10696**Specification**

GPAT1 Antibody - Product Information

Application
Primary Accession
Other Accession
Reactivity
Host
Clonality
Isotype
Calculated MW

WB
[Q9HCL2](#)
[NP_065969](#), [57678](#)
Human, Mouse, Rat
Rabbit
Polyclonal
IgG
Predicted: 87, 91 kDa

Application Notes

Observed: 92 kDa KDa
GPAT1 antibody can be used for detection of GPAT1 by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.

GPAT1 Antibody - Additional Information

Gene ID **57678**

Target/Specificity

GPAT1 antibody was raised against a 15 amino acid synthetic peptide near the carboxy terminus of the human GPAT1.

The immunogen is located within amino acids 730 - 780 of GPAT1.

Reconstitution & Storage

GPAT1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions

GPAT1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

GPAT1 Antibody - Protein Information

Name GPAM ([HGNC:24865](#))

Synonyms GPAT1, KIAA1560

Function

Esterifies acyl-group from acyl-ACP to the sn-1 position of glycerol-3-phosphate, an essential step in glycerolipids biosynthesis such as triglycerides, phosphatidic acids and lysophosphatidic acids.

Cellular Location

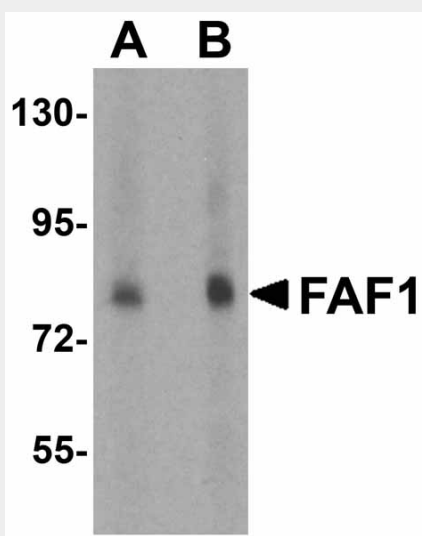
Mitochondrion outer membrane {ECO:0000250|UniProtKB:P97564}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P97564}

GPAT1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

GPAT1 Antibody - Images



Western blot analysis of FAF1 in THP-1 cell lysate with FAF1 antibody at (A) 1 and (B) 2 µg/mL.

GPAT1 Antibody - Background

GPAT1 Antibody: Glycerol-3-phosphate acyltransferase 1 (GPAT1), one of four known GPAT isoforms, is located on the mitochondrial outer membrane, allowing reciprocal regulation with carnitine palmitoyltransferase-1. It is thought to be critical for the development of hepatic steatosis; steatosis triggered by GPAT1 overexpression leads to hepatic and possibly peripheral insulin resistance. GPAT1 is transcriptionally upregulated by insulin and sterol regulatory element binding protein (SREBP-1) and downregulated by AMP-activated protein kinase. Mice deficient in GPAT1 exhibit decreased triacylglycerol (TAG) in cardiomyocytes even in high-fat diets, suggesting that GPAT1 contributes significantly to TAG accumulation in heart tissue during lipogenic or high fat diets.

GPAT1 Antibody - References

Coleman RA and Lee DP. Enzymes of triacylglycerol synthesis and their regulation. Prog. Lipid Res. 2004; 43:134-76.
Linden D, William-Olsson L, Ahnmark A, et al. Liver-directed overexpression of mitochondrial

glycerol-3-phosphate acyltransferase results in hepatic steatosis, increased triacylglycerol secretion and reduced fatty acid oxidation. FASEB J. 2006; 20:434-43.

Eberle D, Hegarty B, Bossard P, et al. SREBP transcription factors: master regulators of lipid homeostasis. Biochimie 2004; 86:839-48.

Lewin TM, de Jong H, Schwerbrock NJ, et al. Mice deficient in glycerol-3-phosphate acyltransferase-1 have diminished myocardial triacylglycerol accumulation during lipogenic diet and altered phospholipid fatty acid composition. Biochim. Biophys. Acta 2008; 1781:352-8.