

LPIN1 Antibody

Catalog # ASC11671

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q14693
Other Accession	NP_001248357 , 387528013
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	98664
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	LPIN1 antibody can be used for detection of LPIN1 by Western blot at 1 - 2 μ g/mL.

Additional Information

Gene ID	23175
Other Names	Phosphatidate phosphatase LPIN1, 3.1.3.4, Lipin-1, LPIN1, KIAA0188
Target/Specificity	LPIN1; LPIN1 antibody is human and mouse reactive. At least four isoforms of LPIN1 are known to exist.
Reconstitution & Storage	LPIN antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Precautions	LPIN1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	LPIN1 (HGNC:13345)
Synonyms	KIAA0188
Function	Acts as a magnesium-dependent phosphatidate phosphatase enzyme which catalyzes the conversion of phosphatidic acid to diacylglycerol during triglyceride, phosphatidylcholine and phosphatidylethanolamine biosynthesis and therefore controls the metabolism of fatty acids at different levels (PubMed: 20231281 , PubMed: 23426360 , PubMed: 29765047 , PubMed: 31695197). Is involved in adipocyte differentiation (By similarity). Recruited at the mitochondrion outer membrane and is involved in mitochondrial fission by converting phosphatidic acid to diacylglycerol (By similarity). Acts also as nuclear transcriptional coactivator for PPARGC1A/PPARA regulatory pathway to modulate lipid metabolism gene

expression (By similarity).

Cellular Location

Cytoplasm, cytosol. Endoplasmic reticulum membrane. Nucleus membrane {ECO:0000250|UniProtKB:Q91ZP3}. Note=Translocates from the cytosol to the endoplasmic reticulum following acetylation by KAT5

Tissue Location

Specifically expressed in skeletal muscle. Also abundant in adipose tissue. Lower levels in some portions of the digestive tract.

Background

LPIN1 Antibody: LPIN1, also known as PAP1, is a magnesium-ion-dependent phosphatidic acid phosphohydrolase enzyme that catalyzes the penultimate step in triglyceride synthesis including the dephosphorylation of phosphatidic acid to yield diacylglycerol (reviewed in 1). LPIN1 is required for adipocyte differentiation and it also functions as a nuclear transcriptional coactivator with some peroxisome proliferator-activated receptors to modulate expression of other genes involved in lipid metabolism (1,2). Mutations in LPIN1 are associated with metabolic diseases such as type 2 diabetes and recurrent acute myoglobinuria (3,4) and it is also a candidate for several human lipodystrophy syndromes (5).

References

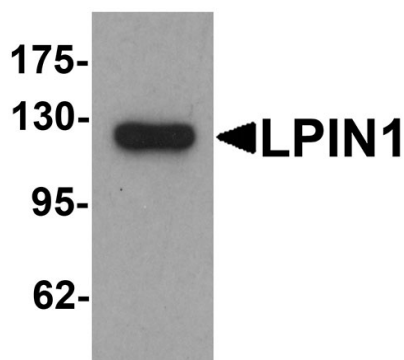
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Peterfy M, Phan J, Xu P, et al. Lipodystrophy in the fld mouse results from mutation of a new gene encoding a nuclear protein, lipin. *Nat. Genet.* 2001; 27:121-4.

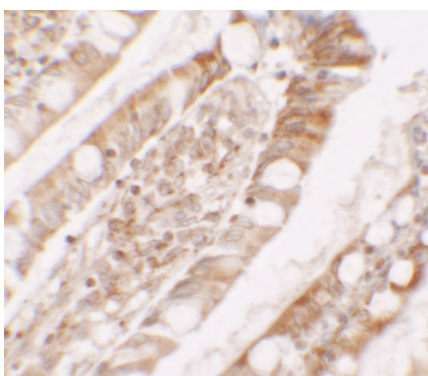
Zhang R, Jiang F, Hu C, et al. Genetic variants of LPIN1 indicate an association with Type 2 diabetes mellitus in a Chinese population. *Diabet. Med.* 2013; 30:118-22.

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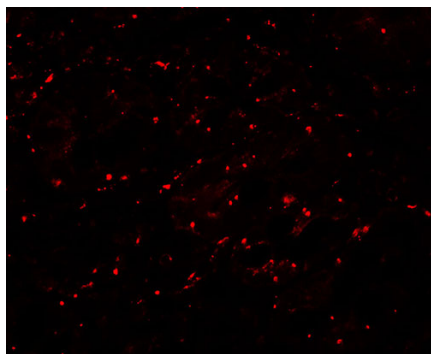
Images



Western blot analysis of LPIN1 in K562 cell lysate with LPIN1 antibody at 1 µg/mL.



Immunohistochemistry of LPIN1 in human small intestine tissue with LPIN1 antibody at 5 µg/mL.



Immunofluorescence of LPIN1 in human small intestine tissue with LPIN1 antibody at 20 µg/ml.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.