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SLC27A1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17452b

Product Information

Application	WB, E
Primary Accession	Q6PCB7
Other Accession	P97849, Q60714, NP_940982.1
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB37189
Calculated MW	71108
Antigen Region	583-612

Additional Information

Gene ID	376497
Other Names	Long-chain fatty acid transport protein 1, FATP-1, Fatty acid transport protein 1, 621-, Solute carrier family 27 member 1, SLC27A1, ACSVL5, FATP1
Target/Specificity	This SLC27A1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 583-612 amino acids from the C-terminal region of human SLC27A1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SLC27A1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SLC27A1 (HGNC:10995)
Synonyms	ACSVL5, FATP1

Function	Mediates the import of long-chain fatty acids (LCFA) into the cell by facilitating their transport at the plasma membrane (PubMed:12556534, PubMed:20530735, PubMed:21395585, PubMed:28178239). Also functions as an acyl-CoA ligase catalyzing the ATP-dependent formation of fatty acyl-CoA using LCFA and very-long-chain fatty acids (VLCFA) as substrates, which prevents fatty acid efflux from cells and might drive more fatty acid uptake. May act directly as a bona fide transporter, or alternatively, in a cytoplasmic or membrane-associated multimeric protein complex to trap and draw fatty acids towards accumulation. Plays a pivotal role in regulating available LCFA substrates from exogenous sources in tissues undergoing high levels of beta-oxidation or triglyceride synthesis. May be involved in regulation of cholesterol metabolism (By similarity). Probably involved in fatty acid transport across the blood barrier (PubMed:21395585).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:Q60714}; Single-pass membrane protein {ECO:0000250|UniProtKB:Q60714} Endomembrane system {ECO:0000250|UniProtKB:Q60714}; Single-pass membrane protein {ECO:0000250|UniProtKB:Q60714}. Cytoplasm {ECO:0000250|UniProtKB:Q60714}. Note=Plasma membrane and intracellular membranes, at least in adipocytes. In adipocytes, but not myocytes, insulin via the mTORC1 signaling pathway induces a rapid translocation of SLC27A1 from intracellular compartments to the plasma membrane, paralleled by increased LCFA uptake. Insulin-dependent translocation from the cytoplasm to the cell membrane is regulated by EPRS1 Predominantly cytoplasmic in myocytes. {ECO:0000250|UniProtKB:Q60714}
Tissue Location	Highest levels of expression are detected in muscle and adipose tissue small, intermediate levels in small intestine, and barely detectable in liver (PubMed:10873384, PubMed:21395585) Expressed in brain gray matter (PubMed:21395585)

Background

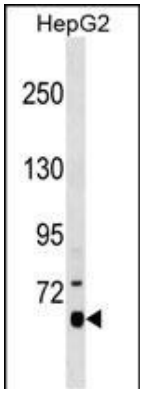
Involved in translocation of long-chain fatty acids (LFCA) across the plasma membrane. The LFCA import appears to be hormone-regulated in a tissue-specific manner. In adipocytes, but not myocytes, insulin induces a rapid translocation of FATP1 from intracellular compartments to the plasma membrane, paralleled by increased LFCA uptake. May act directly as a bona fide transporter, or alternatively, in a cytoplasmic or membrane-associated multimeric protein complex to trap and draw fatty acids towards accumulation. Plays a pivotal role in regulating available LFCA substrates from exogenous sources in tissues undergoing high levels of beta-oxidation or triglyceride synthesis. May be involved in regulation of cholesterol metabolism. Has acyl-CoA ligase activity for long-chain and very-long-chain fatty acids (By similarity).

References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Guignard, T.J., et al. J. Biol. Chem. 285(24):18759-18768(2010)
Uher, R., et al. Am J Psychiatry 167(5):555-564(2010)
Ban, H.J., et al. BMC Genet. 11, 26 (2010) :
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)

Images

SLC27A1 Antibody (C-term) (Cat. #AP17452b) western blot analysis in HepG2 cell line lysates (35ug/lane).This demonstrates the SLC27A1 antibody detected the



SLC27A1 protein (arrow).

Citations

- MicroRNA-199a Targets the Fatty Acid Transport Protein 1 Gene and Inhibits the Adipogenic Trans-Differentiation of C2C12 Myoblasts.