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ACSL4 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14406A

Product Information

Application	WB, E
Primary Accession	O60488
Other Accession	O35547, Q9QUJ7, NP_075266.1, NP_004449.1
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34356
Calculated MW	79188
Antigen Region	28-56

Additional Information

Gene ID	2182
Other Names	Long-chain-fatty-acid--CoA ligase 4, Long-chain acyl-CoA synthetase 4, LACS 4, ACSL4, ACS4, FACL4, LACS4
Target/Specificity	This ACSL4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 28-56 amino acids from the N-terminal region of human ACSL4.
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	ACSL4 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACSL4
Synonyms	ACS4, FACL4, LACS4

Function	Catalyzes the conversion of long-chain fatty acids to their active form acyl-CoA for both synthesis of cellular lipids, and degradation via beta-oxidation (PubMed:21242590, PubMed:22633490, PubMed:24269233, PubMed:31061331, PubMed:38720107). Preferentially activates arachidonate and eicosapentaenoate as substrates (PubMed:21242590). Preferentially activates 8,9-EET > 14,15-EET > 5,6- EET > 11,12-EET (PubMed:21242590). Modulates glucose-stimulated insulin secretion by regulating the levels of unesterified EETs (By similarity). Modulates prostaglandin E2 secretion (PubMed:21242590). Acts as an activator of ferroptosis by activating polyunsaturated fatty acids, especially arachidonate and adrenate, to their active form, generating the primary lipid-peroxidation substrates that contribute to ferroptosis (PubMed:27842070, PubMed:35027735, PubMed:38720107).
Cellular Location	Mitochondrion outer membrane; Single-pass type III membrane protein. Endoplasmic reticulum membrane; Single-pass type III membrane protein. Cell membrane; Single-pass type III membrane protein

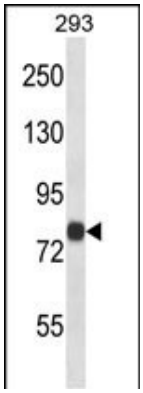
Background

The protein encoded by this gene is an isozyme of the long-chain fatty-acid-coenzyme A ligase family. Although differing in substrate specificity, subcellular localization, and tissue distribution, all isozymes of this family convert free long-chain fatty acids into fatty acyl-CoA esters, and thereby play a key role in lipid biosynthesis and fatty acid degradation. This isozyme preferentially utilizes arachidonate as substrate. The absence of this enzyme may contribute to the mental retardation or Alport syndrome. Alternative splicing of this gene generates 2 transcript variants.

References

Bosker, F.J., et al. Mol. Psychiatry (2010) In press :
Zhang, Y., et al. Hum. Mol. Genet. 18(20):3894-3905(2009)
Zeman, M., et al. Tohoku J. Exp. Med. 217(4):287-293(2009)
An, C., et al. Neurosci. Lett. 441(2):197-200(2008)
Hu, C., et al. Cancer Biol. Ther. 7(1):131-134(2008)

Images



ACSL4 Antibody (N-term) (Cat. #AP14406a) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the ACSL4 antibody detected the ACSL4 protein (arrow).

Citations

- Methodology for Subcellular Fractionation and MicroRNA Examination of Mitochondria, Mitochondria Associated ER Membrane (MAM), ER, and Cytosol from Human Brain

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