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FACL4 Rabbit mAb

Catalog # AP76853

Product Information

Application	WB, IHC-P, FC, IP
Primary Accession	O60488
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	79188

Additional Information

Gene ID	2182
Other Names	ACSL4
Dilution	WB~~1:1000 IHC-P~~N/A FC~~1:10~50 IP~~N/A
Format	1xPBS(pH 7.4), 150mM NaCl, 50% Glycerol, 0.02% Sodium azide and 0.05% BSA
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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. Alternative splicing of this gene generates 2 transcript variants. The absence of this enzyme may contribute to the mental retardation or Alport syndrome.