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ACADL Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP8536c

Specification

ACADL Antibody (Center) Blocking Peptide - Product Information

Primary Accession P28330

ACADL Antibody (Center) Blocking Peptide - Additional Information

Gene ID 33

Other Names
Long-chain specific acyl-CoA dehydrogenase, mitochondrial, LCAD, ACADL

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8536c was selected from the Center region of human ACADL. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ACADL Antibody (Center) Blocking Peptide - Protein Information

Name ACADL (HGNC:88)

Function
Long-chain specific acyl-CoA dehydrogenase is one of the acyl-CoA dehydrogenases that catalyze the first step of mitochondrial fatty acid beta-oxidation (FAO), breaking down fatty acids into acetyl- CoA and allowing the production of energy from fats (PubMed:17564966, PubMed:24591516, PubMed:32389575). The first step of FAO consists in the proR-proR stereospecific alpha, beta-dehydrogenation of fatty acyl- CoA thioesters using the electron transfer flavoprotein (ETF) as their physiologic electron acceptor, resulting in the formation of trans-2- enoyl-CoA ((2E)-enoyl-CoA) (PubMed:17564966, PubMed:21237683). Among the different mitochondrial acyl-CoA dehydrogenases, long-chain specific acyl-CoA dehydrogenase

activity overlaps with that of ACADV and ACAD9, acting on saturated and unsaturated acyl-CoAs with 6 to 24 carbons with a preference for 8 to 18 carbons long primary chains (PubMed:17564966, PubMed:21237683, PubMed:8823175). Plays a primary role in FAO in tissues where it is the main long-chain ACAD expressed, such as the lung, specifically in type 2 alveolar cells (responsible for surfactant production) (PubMed:17564966, PubMed:24591516). Probably responsible for beta-oxidation of bulky substrates including branched chain fatty acyl-CoAs and sterol derivatives thanks to its enlarged substrate-binding cavity (PubMed:38839792).

Cellular Location
Mitochondrion matrix {ECO:0000250|UniProtKB:P15650}

Tissue Location
Expressed at mRNA and protein levels in lungs, where it localizes specifically in alveolar epithelial cells (alveolar type II pneumocytes) (PubMed:17564966, PubMed:24591516). Also expressed at mRNA levels in prostate, thyroid gland, kidney, heart and muscle (PubMed:17564966).

ACADL Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

ACADL Antibody (Center) Blocking Peptide - Images

ACADL Antibody (Center) Blocking Peptide - Background

ACADL belongs to the acyl-CoA dehydrogenase family, which is a family of mitochondrial flavoenzymes involved in fatty acid and branched chain amino-acid metabolism. This protein is one of the four enzymes that catalyze the initial step of mitochondrial beta-oxidation of straight-chain fatty acid.

ACADL Antibody (Center) Blocking Peptide - References

Lu,Y., et.al., J. Lipid Res. 49 (12), 2582-2589 (2008)Lea,W., et.al., Biochim. Biophys. Acta 1485 (2-3), 121-128 (2000)