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FADS3 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP18268b

Specification

FADS3 Antibody (C-term) - Product Information

Application	**WB,E**
Primary Accession	Q9Y5Q0
Other Accession	Q8K1P9, Q9JJE7, NP_068373.1
Reactivity	**Human**
Predicted	**Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**51145**
Antigen Region	**328-355**

FADS3 Antibody (C-term) - Additional Information

Gene ID 3995

Other Names
Fatty acid desaturase 3, 11419-, Cytochrome b5-related protein, FADS3, CYB5RP

Target/Specificity
This FADS3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 328-355 amino acids from the C-terminal region of human FADS3.

Dilution
WB~~1:1000

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
FADS3 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

FADS3 Antibody (C-term) - Protein Information

Name FADS3 {ECO:0000303|PubMed:19752397, ECO:0000312|HGNC:HGNC:3576}

Function Mammals have different sphingoid bases that differ in their length and/or pattern of

desaturation and hydroxyl groups. The predominant sphingoid base that comprises mammalian ceramides is sphing-4-enine (sphingosine or SPH) which has a trans (E) desaturation at carbon 4 (PubMed:31916624, PubMed:31862735). FADS3 is a desaturase that introduces a cis (Z) double bond between carbon 14 and carbon 15 of the sphingoid base (also known as long chain base, LCB), producing LCBs such as sphinga-4,14-dienine (SPD, d18:2(4E,14Z)) from SPH (PubMed:31916624, PubMed:31862735, PubMed:37209771). Prefers SPH- containing ceramides (N-acylsphing-4-enines) as substrates (PubMed:31916624, PubMed:31862735, PubMed:37209771). Capable of metabolizing also the SPH in its free form (PubMed:31862735). SPD ceramides occur widely in mammalian tissues and cells (PubMed:31916624). Due to their unusual structure containing a cis double bond, SPD ceramides may have an opposite, negative role in lipid microdomain formation relative to conventional ceramides (PubMed:31916624). Could be involved in the detoxification of 1-deoxy sphingolipids, by desaturating the cytotoxic 1-deoxysphinganine (1- deoxySA, m18:0), produced under pathological conditions, to 1- deoxysphingenine (1-deoxysphingosine, 1-deoxySO, m18:1) (Probable). Although prefers SPH-containing ceramides (N-acylsphing-4-enines) as substrates, it also exhibits activity toward dihydrosphingosine-containing CERs (N-acylsphinganines) and produces 14Z-SPH-containing sphingolipids,which can be found in patients with DEGS1 mutations (PubMed:37209771). Its desaturase mechanism involves an electron transfer facilitated by cytochrome b5 (PubMed:37209771). FADS3 also acts as a methyl-end fatty acyl coenzyme A (CoA) desaturase that introduces a cis double bond between the preexisting double bond and the terminal methyl group of the fatty acyl chain (By similarity). Desaturates (11E)-octadecenoate (trans-vaccenoate, the predominant trans fatty acid in human milk) at carbon 13 to generate (11E,13Z)- octadecadienoate (also known as conjugated linoleic acid 11E,13Z-CLA) (By similarity).

Cellular Location
Endoplasmic reticulum membrane; Multi-pass membrane protein

Tissue Location
Highly expressed in various organs and tissues including liver, kidney, brain, lung, pancreas, testis, ovary and skeletal muscle (at protein level).

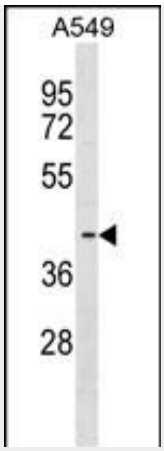
FADS3 Antibody (C-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

FADS3 Antibody (C-term) - Images

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FADS3 Antibody (C-term) (Cat. #AP18268b) western blot analysis in A549 cell line lysates (35ug/lane).This demonstrates the FADS3 antibody detected the FADS3 protein (arrow).

FADS3 Antibody (C-term) - Background

The protein encoded by this gene is a member of the fatty acid desaturase (FADS) gene family. Desaturase enzymes regulate unsaturation of fatty acids through the introduction of double bonds between defined carbons of the fatty acyl chain. FADS family members are considered fusion products composed of an N-terminal cytochrome b5-like domain and a C-terminal multiple membrane-spanning desaturase portion, both of which are characterized by conserved histidine motifs. This gene is clustered with family members FADS1 and FADS2 at 11q12-q13.1; this cluster is thought to have arisen evolutionarily from gene duplication based on its similar exon/intron organization.

FADS3 Antibody (C-term) - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Mathias, R.A., et al. J. Lipid Res. 51(9):2766-2774(2010)
Barber, M.J., et al. PLoS ONE 5 (3), E9763 (2010) :
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)
Hicks, A.A., et al. PLoS Genet. 5 (10), E1000672 (2009) :