10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

FADS3 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP18268b

Specification

FADS3 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q9Y5Q0

FADS3 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 3995

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

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.

FADS3 Antibody (C-term) Blocking Peptide - 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:<a

href="http://www.uniprot.org/citations/31916624" target="_blank">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) Blocking Peptide - Protocols

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

- Blocking Peptides

FADS3 Antibody (C-term) Blocking Peptide - Images

FADS3 Antibody (C-term) Blocking Peptide - Background

The protein encoded by this gene is a member of the fattyacid desaturase (FADS) gene family. Desaturase enzymes regulateunsaturation of fatty acids through the introduction of doublebonds between defined carbons of the fatty acyl chain. FADS familymembers are considered fusion products composed of an N-terminalcytochrome b5-like domain and a C-terminal multiplemembrane-spanning desaturase portion, both of which arecharacterized by conserved histidine motifs. This gene is clusteredwith family members FADS1 and FADS2 at 11q12-q13.1; this cluster isthought to have arisen evolutionarily from gene duplication basedon its similar exon/intron organization.

FADS3 Antibody (C-term) Blocking Peptide - 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) :