

**FADS3 Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP18268b****Specification**

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**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:<a href="http://www.uniprot.org/citations/31916624" target="\_blank">31916624</a>, PubMed:<a href="http://www.uniprot.org/citations/31862735" target="\_blank">31862735</a>). 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:<a href="http://www.uniprot.org/citations/31916624" target="\_blank">31916624</a>, PubMed:<a href="http://www.uniprot.org/citations/31862735" target="\_blank">31862735</a>, PubMed:<a href="http://www.uniprot.org/citations/37209771" target="\_blank">37209771</a>). Prefers SPH-containing ceramides (N-acylsphing-4-enines) as substrates (PubMed:<a href="http://www.uniprot.org/citations/31916624" target="\_blank">31916624</a>, PubMed:<a href="http://www.uniprot.org/citations/31862735" target="\_blank">31862735</a>, PubMed:<a href="http://www.uniprot.org/citations/37209771" target="\_blank">37209771</a>). Capable of metabolizing also the SPH in its free form (PubMed:<a href="http://www.uniprot.org/citations/31862735" target="\_blank">31862735</a>). SPD ceramides occur widely in mammalian tissues and cells (PubMed:<a href="http://www.uniprot.org/citations/31862735" target="\_blank">31862735</a>).

[31916624](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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-deoxysphingene (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-acylsphingamines) and produces 14Z-SPH-containing sphingolipids, which can be found in patients with DEGS1 mutations (PubMed: [37209771](http://www.uniprot.org/citations/37209771)). Its desaturase mechanism involves an electron transfer facilitated by cytochrome b5 (PubMed: [37209771](http://www.uniprot.org/citations/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 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) 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) :