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Goat Anti-FADS1 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1396a

Specification

Goat Anti-FADS1 Antibody - Product Information

Application	**WB, E**
Primary Accession	O60427
Other Accession	NP_037534, 3992, 76267 (mouse), 84575 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat, Pig, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**51964**

Goat Anti-FADS1 Antibody - Additional Information

Gene ID 3992

Other Names
Fatty acid desaturase 1, 1.14.19.-, Delta(5) fatty acid desaturase, D5D, Delta(5) desaturase, Delta-5 desaturase, FADS1, FADSD5

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-FADS1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-FADS1 Antibody - Protein Information

Name FADS1 {ECO:0000303|PubMed:10860662, ECO:0000312|HGNC:HGNC:3574}

Function
[Isoform 1]: Acts as a front-end fatty acyl-coenzyme A (CoA) desaturase that introduces a cis

double bond at carbon 5 located between a preexisting double bond and the carboxyl end of the fatty acyl chain. Involved in biosynthesis of highly unsaturated fatty acids (HUFA) from the essential polyunsaturated fatty acids (PUFA) linoleic acid (LA) (18:2n-6) and alpha-linolenic acid (ALA) (18:3n-3) precursors. Specifically, desaturates dihomo-gamma-linoleoate (DGLA) (20:3n-6) and eicosatetraenoate (ETA) (20:4n-3) to generate arachidonate (AA) (20:4n-6) and eicosapentaenoate (EPA) (20:5n-3), respectively (PubMed:10601301, PubMed:10769175). As a rate limiting enzyme for DGLA (20:3n-6) and AA (20:4n-6)-derived eicosanoid biosynthesis, controls the metabolism of inflammatory lipids like prostaglandin E2, critical for efficient acute inflammatory response and maintenance of epithelium homeostasis. Contributes to membrane phospholipid biosynthesis by providing AA (20:4n-6) as a major acyl chain esterified into phospholipids. In particular, regulates phosphatidylinositol-4,5-bisphosphate levels, modulating inflammatory cytokine production in T-cells (By similarity). Also desaturates (11E)- octadecenoate (trans-vaccenoate)(18:1n-9), a metabolite in the biohydrogenation pathway of LA (18:2n-6) (By similarity).

Cellular Location
[Isoform 1]: Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:A4UVI1}; Multi-pass membrane protein {ECO:0000250|UniProtKB:A4UVI1}. Mitochondrion

Tissue Location
Widely expressed, with highest levels in liver, brain, adrenal gland and heart. Highly expressed in fetal liver and brain.

Goat Anti-FADS1 Antibody - 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

Goat Anti-FADS1 Antibody - Images

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AF1396a (0.3 µg/ml) staining of Human Lung lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-FADS1 Antibody - 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.

Goat Anti-FADS1 Antibody - References

Genetic variation of the FADS1 FADS2 gene cluster and n-6 PUFA composition in erythrocyte membranes in the European Prospective Investigation into Cancer and Nutrition-Potsdam study. Zietemann V, et al. Br J Nutr, 2010 Aug 9. PMID 20691134.
Genome-wide association analysis identifies multiple loci related to resting heart rate. Eijgelsheim M, et al. Hum Mol Genet, 2010 Oct 1. PMID 20639392.
Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
Evaluating the discriminative power of multi-trait genetic risk scores for type 2 diabetes in a northern Swedish population. Fontaine-Bisson B, et al. Diabetologia, 2010 Oct. PMID 20571754.
FADS genetic variants and omega-6 polyunsaturated fatty acid metabolism in a homogeneous island population. Mathias RA, et al. J Lipid Res, 2010 Sep. PMID 20562440.