10320 Camino Santa Fe, Suite G
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FADS1 Antibody (clone 2D9)

Mouse Monoclonal Antibody

Catalog # ALS14351

Specification

FADS1 Antibody (clone 2D9) - Product Information

Application	**WB**
Primary Accession	O60427
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Calculated MW	**52kDa KDa**

FADS1 Antibody (clone 2D9) - 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

Target/Specificity
Human FADS1

Reconstitution & Storage
Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions
FADS1 Antibody (clone 2D9) is for research use only and not for use in diagnostic or therapeutic procedures.

FADS1 Antibody (clone 2D9) - 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

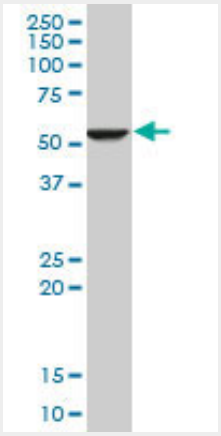
Tissue Location
Widely expressed, with highest levels in liver, brain, adrenal gland and heart. Highly expressed in fetal liver and brain.

FADS1 Antibody (clone 2D9) - 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

FADS1 Antibody (clone 2D9) - Images



monoclonal antibody, clone 2D9. Western blot of expression in HeLa NE.

FADS1 Antibody (clone 2D9) - Background

Isoform 2 does not exhibit any catalytic activity toward 20:3n-6, but it may enhance FADS2 activity (By similarity). Isoform 1 is a component of a lipid metabolic pathway that catalyzes biosynthesis of highly unsaturated fatty acids (HUFA) from precursor essential polyunsaturated fatty acids (PUFA) linoleic acid (LA) (18:2n-6) and alpha-linolenic acid (ALA) (18:3n-3). Catalyzes the desaturation of dihomo-gamma-linoleic acid (DHGLA) (20:3n-6) and eicosatetraenoic acid (20:4n-3) to generate arachidonic acid (AA) (20:4n-6) and eicosapentaenoic acid (EPA)(20:5n-3), respectively.

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FADS1 Antibody (clone 2D9) - References

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