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

FADS1 Rabbit pAb

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Catalog # AP58269

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	O60427
Reactivity	Mouse, Rat
Predicted	Human, Dog, Pig
Host	Rabbit
Clonality	Polyclonal
Calculated MW	51964
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human FADS1
Epitope Specificity	381-444/444
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Endoplasmic reticulum membrane; Multi-pass membrane protein
SIMILARITY	Belongs to the fatty acid desaturase family. Contains 1 cytochrome b5 heme-binding domain
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	FADS1 is a component of a lipid metabolic pathway that catalyzes biosynthesis of highly unsaturated fatty acids from precursor essential polyunsaturated fatty acids, linoleic acid and alphanlinolenic acid. It catalyzes the desaturation of dihomo gamma linoleic acid and eicosatetraenoic acid to generate arachidonic acid and eicosapentaenoic acid respectively.

Additional Information

Gene ID	3992
Other Names	Acyl-CoA (8-3)-desaturase, 1.14.19.44, Delta(5) fatty acid desaturase, D5D, Delta-5 desaturase, Fatty acid desaturase 1, FADS1 {ECO:0000303|PubMed:10860662, ECO:0000312|HGNC:HGNC:3574}
Target/Specificity	Expressed in many tissues, it is most abundant in the liver, brain, adrenal gland and heart. Found as well in skeletal muscle, lung, placenta, kidney, pancreas and retina.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

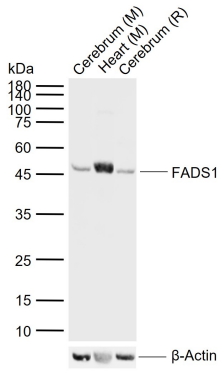
Protein Information

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.

Background

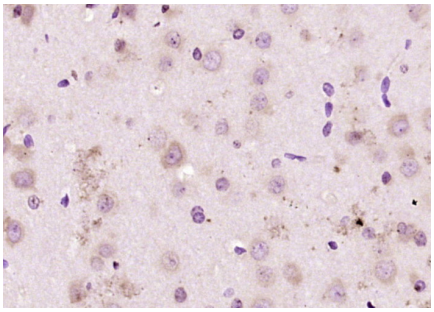
FADS1 is a component of a lipid metabolic pathway that catalyzes biosynthesis of highly unsaturated fatty acids from precursor essential polyunsaturated fatty acids, linoleic acid and alphanlinolenic acid. It catalyzes the desaturation of dihomo gamma linoleic acid and eicosatetraenoic acid to generate arachidonic acid and eicosapentaenoic acid respectively.

Images



Sample:
Lane 1: Mouse Cerebrum tissue lysates
Lane 2: Mouse Heart tissue lysates
Lane 3: Rat Cerebrum tissue lysates
Primary: Anti-FADS1 (AP58269) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 49 kDa
Observed band size: 46 kDa

Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodium citrate buffer



(pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (FADS1) Polyclonal Antibody, Unconjugated (AP58269) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.