

# FADS1 Rabbit pAb

FADS1 Rabbit pAb Catalog # AP58269

### **Product Information**

**Application** WB, IHC-P, IHC-F, IF

Primary Accession 060427

**Reactivity** Pig, Mouse, Dog

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

SUBCELLULAR LOCATION

**SIMILARITY** 

0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Endoplasmic reticulum membrane; Multi-pass membrane protein 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

**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** 

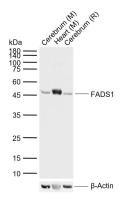
Widely expressed, with highest levels in liver, brain, adrenal gland and heart.

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

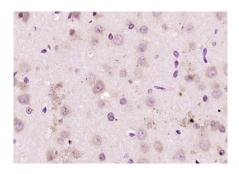
Primary: Anti-FADS1 (AP58269) at 1/1000 dilution

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) instructions and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.