

FADS1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP58269

Specification

FADS1 Polyclonal Antibody - Product Information

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

Primary Accession <u>060427</u>

Reactivity Rat, Pig, Dog, Bovine

Host Rabbit
Clonality Polyclonal
Calculated MW 49 KDa
Physical State Liquid

Immunogen KLH conjugated synthetic peptide derived

laG

from human FADS1

Epitope Specificity 381-444/444

Isotype Purity

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

affinity purified by Protein A

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.

FADS1 Polyclonal Antibody - 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~~1:1000<br \><span class
="dilution_IHC-P">IHC-P~~N/A<br \><span class
="dilution_IHC-F">IHC-F~~N/A<br \><span class
="dilution_IF">IF~~1:50~200<br \>E~~N/A

Storage

Store at -20 $^{\circ}$ 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 $^{\circ}$ C.

FADS1 Polyclonal 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.

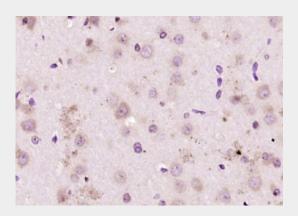
FADS1 Polyclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

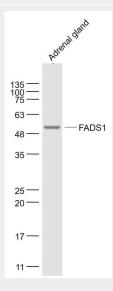
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture



FADS1 Polyclonal Antibody - Images



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 (bs-5060R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Sample:

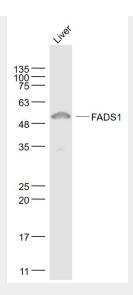
Adrenal gland (Mouse) Lysate at 40 ug

Primary: Anti- FADS1 (bs-5060R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 49 kD Observed band size: 50 kD





Sample:

Liver (Mouse) Lysate at 40 ug

Primary: Anti- FADS1 (bs-5060R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 49 kD Observed band size: 50 kD