

FADS2 Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22275a

Specification

FADS2 Antibody - Product Information

Application	IF, WB,E
Primary Accession	O95864
Reactivity	Human
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Calculated MW	52259

FADS2 Antibody - Additional Information

Gene ID 9415

Other Names

Fatty acid desaturase 2, 1.14.19.-, Delta(6) fatty acid desaturase, D6D, Delta(6) desaturase, Delta-6 desaturase, FADS2

Target/Specificity

This FADS2 antibody is generated from a rabbit immunized with a recombinant protein of human FADS2.

Dilution

IF~~1:25

WB~~1:2000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

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

Precautions

FADS2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

FADS2 Antibody - Protein Information

Name FADS2 ([HGNC:3575](#))

Function Involved in the 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, acting as a fatty acyl-coenzyme A (CoA) desaturase that introduces a cis

double bond at carbon 6 of the fatty acyl chain. Catalyzes the first and rate limiting step in this pathway which is the desaturation of LA (18:2n-6) and ALA (18:3n-3) into gamma-linoleate (GLA) (18:3n-6) and stearidonate (18:4n-3), respectively (PubMed:[12713571](#)). Subsequently, in the biosynthetic pathway of HUFA n- 3 series, it desaturates tetracosapentaenoate (24:5n-3) to tetracosahexaenoate (24:6n-3), which is then converted to docosahexaenoate (DHA)(22:6n-3), an important lipid for nervous system function (By similarity). Desaturates hexadecanate (palmitate) to produce 6Z-hexadecenoate (sapienate), a fatty acid unique to humans and major component of human sebum, that has been implicated in the development of acne and may have potent antibacterial activity (PubMed:[12713571](#)). It can also desaturate (11E)-octadecenoate (trans-vaccenoate, the predominant trans fatty acid in human milk) at carbon 6 generating (6Z,11E)-octadecadienoate (By similarity). In addition to Delta-6 activity, this enzyme exhibits Delta-8 activity with slight biases toward n-3 fatty acyl-CoA substrates (By similarity).

Cellular Location

Endoplasmic reticulum membrane; Multi-pass membrane protein

Tissue Location

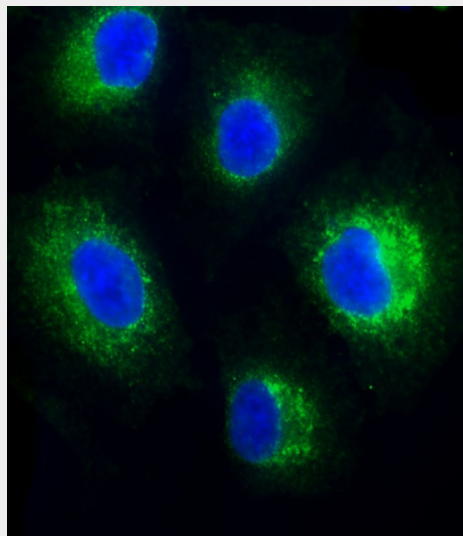
Expressed in a wide array of tissues, highest expression is found in liver followed by brain, lung, heart, and retina. A lower level is found in breast tumor when compared with normal tissues; lowest levels were found in patients with poor prognostic index.

FADS2 Antibody - Protocols

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

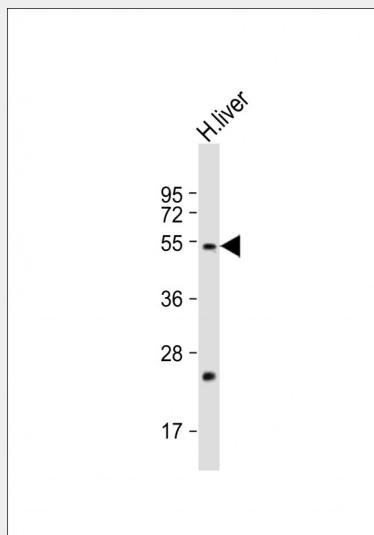
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

FADS2 Antibody - Images



Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0. 1% Triton X-100 permeabilized

A549 cells labeling FADS2 with AP22275a at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-Rabbit IgG (OH191631) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on A549 cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (1186255) at 1/500 dilution (red). The nuclear counter stain is DAPI (blue).



Anti-FADS2 Antibody at 1:2000 dilution + Human liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 52 kDa Blocking/Dilution buffer: 5% NFD/MTBST.

FADS2 Antibody - Background

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 first and rate limiting step in this pathway which is the desaturation of LA (18:2n-6) and ALA (18:3n-3) into gamma-linolenic acid (GLA) (18:3n-6) and stearidonic acid (18:4n-3) respectively and other desaturation steps. Highly unsaturated fatty acids (HUFA) play pivotal roles in many biological functions. It catalyzes as well the introduction of a cis double bond in palmitate to produce the mono-unsaturated fatty acid sapienate, the most abundant fatty acid in sebum.

FADS2 Antibody - References

- Cho H.P., et al. *J. Biol. Chem.* 274:471-477(1999).
- Marquardt A., et al. *Genomics* 66:175-183(2000).
- Zhang J.S.S., et al. Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
- Ota T., et al. *Nat. Genet.* 36:40-45(2004).
- Otsuki T., et al. *DNA Res.* 12:117-126(2005).