

**FADS2 Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP22270a****Specification**

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**FADS2 Antibody - Product Information**

Application	WB, FC,E
Primary Accession	<a href="#">O95864</a>
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**

WB~~1:2000

FC~~1:25

E~~Use at an assay dependent concentration.

**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

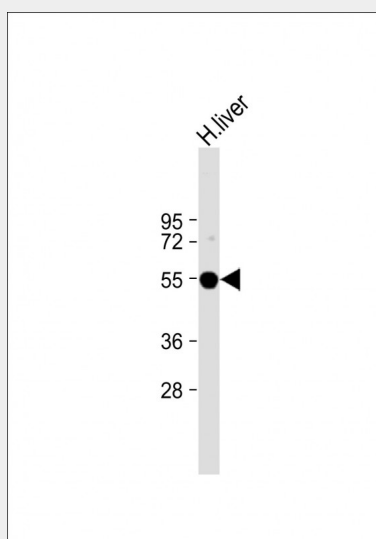
Expressed in a wide array of tissues, highest expression is found in liver followed by brain, lung, heart, and retina. A lower level is found in breast tumor when compared with normal tissues; lowest levels were found in patients with poor prognostic index.

### FADS2 Antibody - Protocols

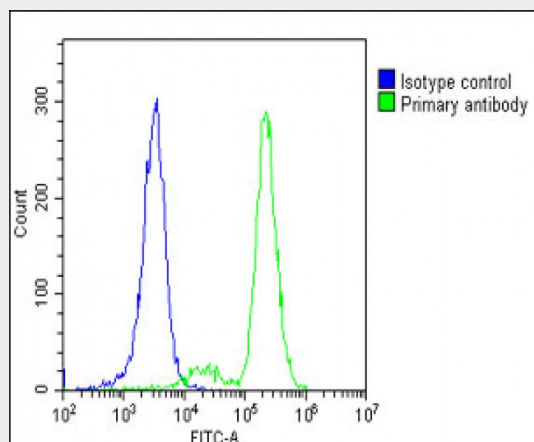
Provided below are standard protocols that you may find useful for product applications.

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

### FADS2 Antibody - Images



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% NFDM/TBST.



Overlay histogram showing K562 cells stained with AP22270a (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP22270a, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed (1583138) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was rabbit IgG1 (1 µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >10,000 events was performed.

### 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-linoleic 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).

### FADS2 Antibody - Citations

- [Embryonic fatty acid metabolism in diabetic pregnancy: the difference between embryoblasts and trophoblasts](#)