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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

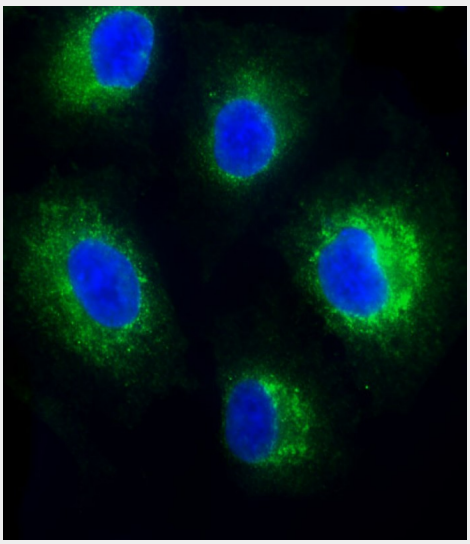
Tissue Location
Expressed in a wide array of tissues, highest expression is found in liver followed by brain, lung, heart, and retina. A lower level is found in breast tumor when compared with normal tissues; lowest levels were found in patients with poor prognostic index.

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 Cytomety
- Cell Culture

FADS2 Antibody - Images



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

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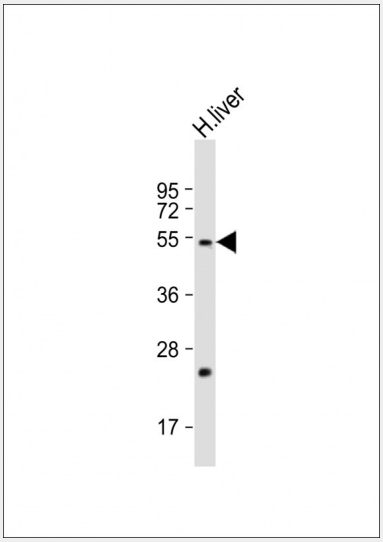
A549 cells labeling FADS2 with AP22275a at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-Rabbit IgG (OH191631) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on A549 cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (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% NFDM/TBST.

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 catalizes 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

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Marquardt A.,et al.Genomics 66:175-183(2000).
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Ota T.,et al.Nat. Genet. 36:40-45(2004).
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