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FADS2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP5368c

Product Information

Application	FC, WB, IHC-P, E
Primary Accession	O95864
Other Accession	Q6DDK2, A4FV48, NP_004256.1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Xenopus, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	52259
Antigen Region	96-122

Additional Information

Gene ID	9415
Other Names	Fatty acid desaturase 2, 11419-, Delta(6) fatty acid desaturase, D6D, Delta(6) desaturase, Delta-6 desaturase, FADS2
Target/Specificity	This FADS2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 96-122 amino acids of human FADS2.
Dilution	FC~~1:10~50 WB~~1:1000 IHC-P~~1:100~500 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 (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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.

Background

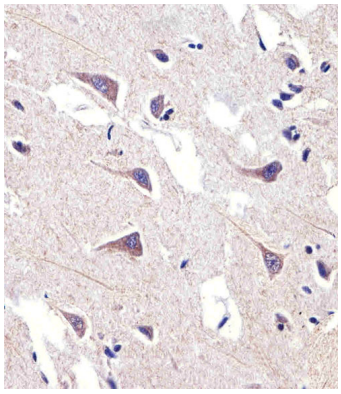
The protein encoded by this gene is a member of the fatty acid desaturase (FADS) gene family. Desaturase enzymes regulate unsaturation of fatty acids through the introduction of double bonds between defined carbons of the fatty acyl chain. FADS family members are considered fusion products composed of an N-terminal cytochrome b5-like domain and a C-terminal multiple membrane-spanning desaturase portion, both of which are characterized by conserved histidine motifs. This gene is clustered with family members FADS1 and FADS2 at 11q12-q13.1; this cluster is thought to have arisen evolutionarily from gene duplication based on its similar exon/intron organization.

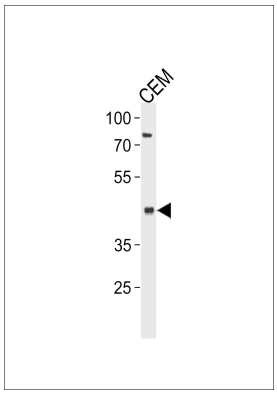
References

Molto-Puigmarti, C., et al. Am. J. Clin. Nutr. (2010) In press :
Lattka, E., et al. Curr. Opin. Lipidol. 21(1):64-69(2010)
Lattka, E., et al. J. Lipid Res. 51(1):182-191(2010)
Glaser, C., et al. Metab. Clin. Exp. (2009) In press :
Lattka, E., et al. J Nutrigenet Nutrigenomics 2(3):119-128(2009)
Tang, C., et al. J. Lipid Res. 44(4):686-695(2003)
Nara, T.Y., et al. Biochem. Biophys. Res. Commun. 296(1):111-117(2002)
Marquardt, A., et al. Genomics 66(2):175-183(2000)
Cho, H.P., et al. J. Biol. Chem. 274(1):471-477(1999)
Stohr, H., et al. Genome Res. 8(1):48-56(1998)

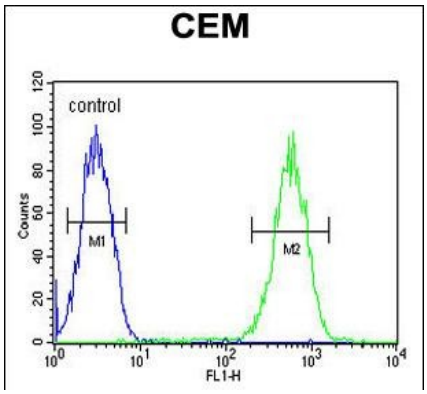
Images

Immunohistochemical analysis of paraffin-embedded H.brain section using FADS2 Antibody (Center)(Cat#AP5368c). AP5368c was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.





FADS2 Antibody (Center) (Cat. #AP5368c) western blot analysis in CEM cell line lysates (35ug/lane).This demonstrates the FADS2 antibody detected the FADS2 protein (arrow).



FADS2 Antibody (Center) (Cat. #AP5368c) flow cytometric analysis of CEM cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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