

FADS2 (D-12): sc-109269

BACKGROUND

Members of the fatty acid desaturase (FADS) family, including FADS1, FADS2 and FADS3, regulate the desaturation of fatty acids by introducing double bonds between defined carbons of fatty acyl chains, thereby playing an essential role in the lipid metabolic pathway. Members of this family share N-terminal cytochrome β 5-like domains, C-terminal multiple membrane-spanning desaturase regions and 3 histidine box motifs. FADS2 (fatty acid desaturase 2), also known as D6D, DES6, LLCCL2 or TU13, is a 444 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum and contains one cytochrome β 5 heme-binding domain. Expressed in adult and fetal heart and in adult liver, brain, lung and retina, FADS2 functions as a component of a lipid metabolic pathway and catalyzes the first step in the pathway, namely the formation of unsaturated fatty acids from polyunsaturated fatty acids. Defects in the gene encoding FADS2 are the cause of cause of fatty acid Delta-6-desaturase deficiency, an affliction that is characterized by skin abnormalities, corneal ulceration and growth failure. Multiple isoforms of FADS2 exist due to alternative splicing events.

REFERENCES

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4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606149. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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6. Xie, L. and Innis, S.M. 2008. Genetic variants of the FADS1 FADS2 gene cluster are associated with altered (n-6) and (n-3) essential fatty acids in plasma and erythrocyte phospholipids in women during pregnancy and in breast milk during lactation. *J. Nutr.* 138: 2222-2228.
7. Malerba, G., et al. 2008. SNPs of the FADS gene cluster are associated with polyunsaturated fatty acids in a cohort of patients with cardiovascular disease. *Lipids* 43: 289-299.
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STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: FADS2 (human) mapping to 11q12.2.

SOURCE

FADS2 (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of FADS2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-109269 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FADS2 (D-12) is recommended for detection of FADS2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

FADS2 (D-12) is also recommended for detection of FADS2 in additional species, including equine and canine.

Suitable for use as control antibody for FADS2 siRNA (h): sc-96449, FADS2 shRNA Plasmid (h): sc-96449-SH and FADS2 shRNA (h) Lentiviral Particles: sc-96449-V.

Molecular Weight of FADS2: 52 kDa.

Positive Controls: AN3 CA cell lysate: sc-24662 or Ramos cell lysate: sc-2216.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.