

Degs1 (S-12): sc-162734

BACKGROUND

Members of the fatty acid desaturase (FADS) family 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 b5-like domains, C-terminal multiple membrane-spanning desaturase regions and three histidine box motifs. FADS7, known as Degs1 (degenerative spermatocyte homolog 1, lipid desaturase) in rodents, is a 323 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum and belongs to the FADS family. Expressed ubiquitously, FADS7 exhibits sphingolipid δ -4-desaturase activity and is able to convert D-erythro-sphinganine to D-erythro-sphingosine. The gene encoding FADS7 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome.

REFERENCES

1. Cadena, D.L., Kurten, R.C. and Gill, G.N. 1997. The product of the MLD gene is a member of the membrane fatty acid desaturase family: overexpression of MLD inhibits EGF receptor biosynthesis. *Biochemistry* 36: 6960-6967.
2. Marquardt, A., Stöhr, H., White, K. and Weber, B.H. 2000. cDNA cloning, genomic structure, and chromosomal localization of three members of the human fatty acid desaturase family. *Genomics* 66: 175-183.
3. Ternes, P., Franke, S., Zähringer, U., Sperling, P. and Heinz, E. 2002. Identification and characterization of a sphingolipid δ 4-desaturase family. *J. Biol. Chem.* 277: 25512-25518.
4. Martinelli, N., Girelli, D., Malerba, G., Guarini, P., Illig, T., Trabetti, E., Sandri, M., Friso, S., Pizzolo, F., Schaeffer, L., Heinrich, J., Pignatti, P.F., Corrocher, R. and Olivieri, O. 2008. FADS genotypes and desaturase activity estimated by the ratio of arachidonic acid to linoleic acid are associated with inflammation and coronary artery disease. *Am. J. Clin. Nutr.* 88: 941-949.
5. Malerba, G., Schaeffer, L., Xumerle, L., Klopp, N., Trabetti, E., Biscuola, M., Cavallari, U., Galavotti, R., Martinelli, N., Guarini, P., Girelli, D., Olivieri, O., Corrocher, R., Heinrich, J., Pignatti, P.F. and Illig, T. 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.

CHROMOSOMAL LOCATION

Genetic locus: DEGS1 (human) mapping to 1q42.11; Degs1 (mouse) mapping to 1 H5.

SOURCE

Degs1 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Degs1 of mouse 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-162734 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Degs1 (S-12) is recommended for detection of Degs1 of mouse and rat origin and FADS7 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).

Suitable for use as control antibody for FADS7 siRNA (h): sc-78658, Degs1 siRNA (m): sc-142987, FADS7 shRNA Plasmid (h): sc-78658-SH, Degs1 shRNA Plasmid (m): sc-142987-SH, FADS7 shRNA (h) Lentiviral Particles: sc-78658-V and Degs1 shRNA (m) Lentiviral Particles: sc-142987-V.

Molecular Weight of Degs1: 34 kDa.

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.

STORAGE

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

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.