FAR1 (N-17): sc-323848



The Power to Question

BACKGROUND

The conversion of fatty acids to fatty alcohols is required for the synthesis of wax monoesters and ether lipids. Members of the fatty acyl-CoA reductase family, including FAR1 (fatty acyl-CoA reductase 1) and FAR2 (fatty acyl-CoA reductase 2), play a role in catalyzing the reduction of saturated fatty acyl-CoA with chain length C16 or C18 to fatty alcohols. FAR1, also known as male sterility domain-containing protein 2 (MLSTD2) or short chain dehydrogenase/reductase family 10E, member 1 (SDR10E1), is a 515 amino acid single-pass membrane protein that localizes to the peroxisome, FAR1 is suggested to be essential for providing fatty alcohols required for ether bond formation in ether glycerophospholipid synthesis. The gene encoding FAR1 is located on chromosome 11, which comprises nearly 4% of the human genome.

REFERENCES

- Hajra, A.K. and Das, A.K. 1996. Lipid biosynthesis in peroxisomes. Ann. N. Y. Acad. Sci. 804: 129-141.
- 2. Vioque, J. and Kolattukudy, P.E. 1997. Resolution and purification of an aldehyde-generating and an alcohol-generating fatty acyl-CoA reductase from pea leaves (*Pisum sativum L.*). Arch. Biochem. Biophys. 340: 64-72.
- Yamashita, A., et al. 1997. Acyltransferases and transacylases involved in fatty acid remodeling of phospholipids and metabolism of bioactive lipids in mammalian cells. J. Biochem. 122: 1-16.
- Phipps, A.N., et al. 2000. Peroxisome distribution along the crypt-villus axis of the guinea pig small intestine. Mol. Cell. Biochem. 203: 119-126.
- Cheng, J.B. and Russell, D.W. 2004. Mammalian wax biosynthesis. I. Identification of two fatty acyl-Coenzyme A reductases with different substrate specificities and tissue distributions. J. Biol. Chem. 279: 37789-37797.
- Costaglioli, P., et al. 2005. Profiling candidate genes involved in wax biosynthesis in *Arabidopsis thaliana* by microarray analysis. Biochim. Biophys. Acta. 1734: 247-258.
- 7. Doan, T.T., et al. 2009. Functional expression of five *Arabidopsis* fatty acyl-CoA reductase genes in *Escherichia coli*. J. Plant Physiol. 166: 787-796.
- 8. Vishwanath, S.J., et al. 2013. Suberin-associated aatty alcohols in *Arabidopsis*: distributions in roots and contributions to seed coat barrier properties. Plant Physiol. 163: 1118-1132.
- Honsho, M., et al. 2013. Topogenesis and homeostasis of fatty acyl-CoA reductase 1. J. Biol. Chem. E-published.

CHROMOSOMAL LOCATION

Genetic locus: FAR1 (human) mapping to 11p15.2; Far1 (mouse) mapping to 7 F1.

SOURCE

FAR1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of FAR1 of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-323848 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FAR1 (N-17) is recommended for detection of FAR1 of mouse, rat and 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); non cross-reactive with FAR2.

FAR1 (N-17) is also recommended for detection of FAR1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for FAR1 siRNA (h): sc-96316, FAR1 siRNA (m): sc-145070, FAR1 shRNA Plasmid (h): sc-96316-SH, FAR1 shRNA Plasmid (m): sc-145070-SH, FAR1 shRNA (h) Lentiviral Particles: sc-96316-V and FAR1 shRNA (m) Lentiviral Particles: sc-145070-V.

Molecular Weight (predicted) of FAR1: 59 kDa. Molecular Weight (observed) of FAR1: 65 kDa. Positive Controls: Hep G2 cell lysate: sc-2227.

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.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**