

ACSF1 (K-16): sc-167043

BACKGROUND

ACSF1 (acetoacetyl-CoA synthetase), also known as AACS or SUR-5, is a 672 amino acid protein belonging to the ATP-dependent AMP-binding enzyme family. Encoded by a gene that maps to human chromosome 12q24.31, ACSF1 is highly expressed in kidney, heart and brain, and shows similar neural expression as HMGCR (3-hydroxy-3-methylglutaryl-CoA reductase). Existing as three alternatively spliced isoforms, ACSF1 participates in ATP binding, ligase activity, acetoacetate-CoA ligase activity and nucleotide binding. The ACSF1 promoter is a known PPAR γ target gene, with the nuclear receptor recruited to the ACSF1 promoter by direct interaction with stimulating protein-1 (Sp1). ACSF1 activates acetoacetate and is highly regulated by modulators that affect HMGCR and cholesterol biosynthesis.

REFERENCES

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3. Fukui, T., et al. 1982. Purification and characterization of acetoacetyl-CoA synthetase from *Zoogloea ramigera* I-16-M. *Eur. J. Biochem.* 127: 423-428.
4. Ito, M., et al. 1984. Purification and characterization of acetoacetyl-CoA synthetase from rat liver. *Biochim. Biophys. Acta* 794: 183-193.
5. Bergstrom, J.D., et al. 1984. The regulation of acetoacetyl-CoA synthetase activity by modulators of cholesterol synthesis *in vivo* and the utilization of acetoacetate for cholesterologenesis. *J. Biol. Chem.* 259: 14548-14553.
6. Ito, M., et al. 1986. Acetoacetyl-CoA synthetase specific activity and concentration in rat tissues. *Biochim. Biophys. Acta* 876: 280-287.
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8. Watkins, P.A., et al. 2007. Evidence for 26 distinct acyl-coenzyme A synthetase genes in the human genome. *J. Lipid Res.* 48: 2736-2750.
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CHROMOSOMAL LOCATION

Genetic locus: AACS (human) mapping to 12q24.31; Aacs (mouse) mapping to 5 G1.1.

SOURCE

ACSF1 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ACSF1 of human origin.

STORAGE

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

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-167043 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ACSF1 (K-16) is recommended for detection of ACSF1 of human origin and Aacs of mouse 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 other ACSF family members.

ACSF1 (K-16) is also recommended for detection of ACSF1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ACSF1 siRNA (h): sc-96244, Aacs siRNA (m): sc-140726, ACSF1 shRNA Plasmid (h): sc-96244-SH, Aacs shRNA Plasmid (m): sc-140726-SH, ACSF1 shRNA (h) Lentiviral Particles: sc-96244-V and Aacs shRNA (m) Lentiviral Particles: sc-140726-V.

Molecular Weight of ACSF1: 75 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.

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.