SANTA CRUZ BIOTECHNOLOGY, INC.

ACSL1 (3G4): sc-293281

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Acyl-CoA synthetases, also known as long-chain fatty-acid CoA synthases (FACL) or palmitoyl-CoA ligases, include ACSL1-6, which are all single-pass membrane proteins localizing to the mitochondrion, microsome or peroxisome. ACSL proteins are important for synthesis of cellular lipids and for β-oxidation degradation. Specifically, ACSL proteins catalyze the activation of long-chain fatty acids to acyl-CoAs, which can be metabolized to form CO2, triacylglycerol (TAG), phospholipids (PL) and cholesteryl esters (CE). ACSL1 is highly expressed in liver and preferentially utilizes palmitoleate, oleate and linoleate.

REFERENCES

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2. Sevoz, C., Benoit, E. and Buronfosse, T. 2000. Thioesterification of 2-aryl-propionic acids by recombinant acyl-coenzyme A synthetases (ACS1 and ACS2). Drug Metab. Dispos. 28: 398-402.
3. Muoio, D.M., Lewin, T.M., Wiedmer, P. and Coleman, R.A. 2000. Acyl-CoAs are functionally channeled in liver: potential role of acyl-CoA synthetase. Am. J. Physiol. Endocrinol. Metab. 279: E1366-E1373.
4. Lewin, T.M., Kim, J.H., Granger, D.A., Vance, J.E. and Coleman, R.A. 2001. Acyl-CoA synthetase isoforms 1, 4 and 5 are present in different subcellular membranes in rat liver and can be inhibited independently. J. Biol. Chem. 276: 24674-24679.
5. Coleman, R.A., Lewin, T.M., Van Horn, C.G. and Gonzalez-Baró, M.R. 2002. Do long-chain acyl-CoA synthetases regulate fatty acid entry into synthetic versus degradative pathways? J. Nutr. 132: 2123-2126.
6. Hall, A.M., Smith, A.J. and Bernlohr, D.A. 2003. Characterization of the Acyl-CoA synthetase activity of purified murine fatty acid transport protein 1. J. Biol. Chem. 278: 43008-43013.

CHROMOSOMAL LOCATION

Genetic locus: ACSL1 (human) mapping to 4q35.1.

SOURCE

ACSL1 (3G4) is a mouse monoclonal antibody raised against amino acids 48-145 of ACSL1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

ACSL1 (3G4) is recommended for detection of ACSL1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

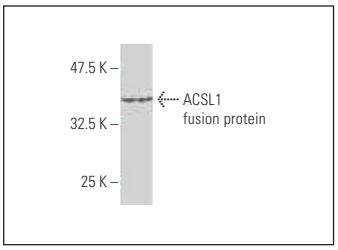
Suitable for use as control antibody for ACSL1 siRNA (h): sc-60615, ACSL1 shRNA Plasmid (h): sc-60615-SH and ACSL1 shRNA (h) Lentiviral Particles: sc-60615-V.

Molecular Weight of ACSL1: 78/83 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



ACSL1 (3G4): sc-293281. Western blot analysis of human recombinant ACSL1 fusion protein.

PROTOCOLS

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