SANTA CRUZ BIOTECHNOLOGY, INC.

ACSL4 (N-18): sc-47997

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 CO_2, triacylglycerol (TAG), phospholipids (PL) and cholesteryl esters (CE). ACSL3 preferentially utilizes laurate, myristate, arachidonate and eicosapentaenoate among saturated and unsaturated long chain fatty acids. ACSL3 is expressed as two isoforms in various tissues, including brain, heart, placenta, prostate, skeletal muscle, testis and thymus. ACSL4 preferentially utilizes arachidonate and is abundant in steroidogenic tissues. ACSL4 may modulate female fertility and uterine prostaglandin production.

CHROMOSOMAL LOCATION

Genetic locus: ACSL4 (human) mapping to Xq23; Acsl4 (mouse) mapping to X F2.

SOURCE

ACSL4 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ACSL4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-47997 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ACSL4 (N-18) is recommended for detection of short isoform and long isoform of ACSL4 of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ACSL4 (N-18) is also recommended for detection of short isoform and long isoform of ACSL4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ACSL4 siRNA (h): sc-60619, ACSL4 siRNA (m): sc-60620, ACSL4 shRNA Plasmid (h): sc-60619-SH, ACSL4 shRNA Plasmid (m): sc-60620-SH, ACSL4 shRNA (h) Lentiviral Particles: sc-60619-V and ACSL4 shRNA (m) Lentiviral Particles: sc-60620-V.

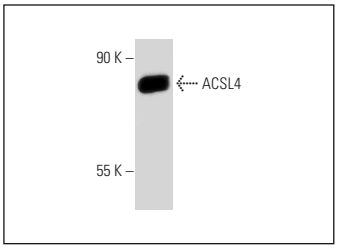
Molecular Weight of ACSL4: 75 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

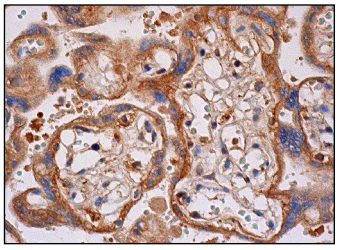
STORAGE

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

DATA



ACSL4 (N-18): sc-47997. Western blot analysis of ACSL4 expression in Hep G2 whole cell lysate.



ACSL4 (N-18): sc-47997. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of decidual cells.

SELECT PRODUCT CITATIONS

1. Wieckowski, M.R., et al. 2009. Isolation of mitochondria-associated membranes and mitochondria from animal tissues and cells. Nat. Protoc. 4: 1582-1590.
2. Kozieł, K., et al. 2009. Plasma membrane associated membranes (PAM) from Jurkat cells contain STIM1 protein is PAM involved in the capacitative calcium entry? Int. J. Biochem. Cell Biol. 41: 2440-2449.
3. Zhou, R., et al. 2011. A role for mitochondria in NLRP3 inflammasome activation. Nature 469: 221-225.
4. Grunert, T., et al. 2011. A comparative proteome analysis links tyrosine kinase 2 (Tyk2) to the regulation of cellular glucose and lipid metabolism in response to poly(I:C). J. Proteomics 74: 2866-2880.
5. Yang, C.S., et al. 2015. Small heterodimer partner interacts with NLRP3 and negatively regulates activation of the NLRP3 inflammasome. Nat. Commun. 6: 6115.

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.