

ACSL4 (h): 293 Lysate: sc-173428

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). 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.

REFERENCES

1. Fujino, T., et al. 1996. Molecular characterization and expression of rat Acyl-CoA synthetase 3. *J. Biol. Chem.* 271: 16748-16752.
2. Fujino, T., et al. 1997. Alternative translation initiation generates Acyl-CoA synthetase 3 isoforms with heterogeneous amino termini. *J. Biochem.* 122: 212-216.
3. Cho, Y.Y., et al. 2000. Regulation by adrenocorticotrophic hormone and arachidonate of the expression of Acyl-CoA synthetase 4, an arachidonate-preferring enzyme expressed in steroidogenic tissues. *Biochem. Biophys. Res. Commun.* 274: 741-745.
4. Minekura, H., et al. 2001. Genomic organization and transcription units of the human Acyl-CoA synthetase 3 gene. *Gene* 278: 185-192.
5. Muoio, D.M., et al. 2001. Acyl-CoAs are functionally channeled in liver: potential role of Acyl-CoA synthetase. *Am. J. Physiol. Endocrinol. Metab.* 279: E1366-E1373.
6. Cho, Y.Y., et al. 2001. Abnormal uterus with polycysts, accumulation of uterine prostaglandins, and reduced fertility in mice heterozygous for Acyl-CoA synthetase 4 deficiency. *Biochem. Biophys. Res. Commun.* 284: 993-997.

CHROMOSOMAL LOCATION

Genetic locus: ACSL4 (human) mapping to Xq23.

PRODUCT

ACSL4 (h): 293 Lysate represents a lysate of human ACSL4 transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

ACSL4 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive ACSL4 antibodies. Recommended use: 10-20 μ l per lane.

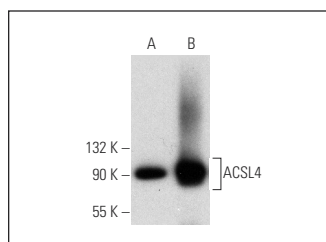
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

ACSL4 (F-4): sc-365230 is recommended as a positive control antibody for Western Blot analysis of enhanced human ACSL4 expression in ACSL4 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



ACSL4 (F-4): sc-365230. Western blot analysis of ACSL4 expression in non-transfected: sc-110760 (A) and human ACSL4 transfected: sc-173428 (B) 293 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.