SANTA CRUZ BIOTECHNOLOGY, INC.

ACOT9 (O59): sc-100476

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Acyl-CoA thioesterases (ACOTs) are a group of enzymes that catalyze the hydrolysis of acyl-CoA to form coenzyme A (CoA) and a free fatty acid. Through their catalytic activity, ACOTs are able to regulate the level of fatty acids and acyl-CoAs within the cell. ACOT9 (acyl-CoA thioesterase 9), also known as ACATE2, MT-ACT48 (mitochondrial acyl-CoA thioesterase of 48 kDa) or CGI-16, is a 406 amino acid member of the acyl-CoA hydrolase protein family. ACOT9 contains a C-terminal 80 amino acid domain that is conserved from mouse to human, suggesting that the C-terminus may confer the catalytic activity of ACOT9. The gene encoding ACOT9 is located on chromosome X and the expressed ACOT9 protein is localized to the mitochondrion.

REFERENCES

1. Murphy, D.J., et al. 1984. Solubilization, purification and kinetic properties of three membrane-bound long-chain acyl-coenzyme-A thioesterases from microsomes of photosynthetic tissue. Eur. J. Biochem.142: 43-48.
2. Alexson, S.E., et al. 1993. Isolation and characterization of microsomal acyl-CoA thioesterase. A member of the rat liver microsomal carboxylesterase multi-gene family. Eur. J. Biochem. 214: 719-727.
3. Wilcke, M. and Alexson, S.E. 1994. Characterization of acyl-CoA thioesterase activity in isolated rat liver peroxisomes. Partial purification and characterization of a long-chain acyl-CoA thioesterase. Eur. J. Biochem. 222: 803-811.
4. Poupon, V., et al. 1999. Molecular cloning and characterization of MT-ACT48, a novel mitochondrial acyl-CoA thioesterase. J. Biol. Chem. 274: 19188-19194.
5. Lai, C.H., et al. 2000. Identification of novel human genes evolutionarily conserved in *Caenorhabditis elegans* by comparative proteomics. Genome Res. 10: 703-713.
6. Hunt, M.C., et al. 2005. A revised nomenclature for mammalian acyl-CoA thioesterases/hydrolases. J. Lipid Res. 46: 2029-2032.
7. Hunt, M.C., et al. 2006. Analysis of the mouse and human acyl-CoA thioesterase (ACOT) gene clusters shows that convergent, functional evolution results in a reduced number of human peroxisomal ACOTs. FASEB J. 20: 1855-1864.

CHROMOSOMAL LOCATION

Genetic locus: ACOT9 (human) mapping to Xp22.11.

SOURCE

ACOT9 (O59) is a mouse monoclonal antibody raised against recombinant ACOT9 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

ACOT9 (O59) is recommended for detection of ACOT9 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)], 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).

Suitable for use as control antibody for ACOT9 siRNA (h): sc-91052, ACOT9 shRNA Plasmid (h): sc-91052-SH and ACOT9 shRNA (h) Lentiviral Particles: sc-91052-V.

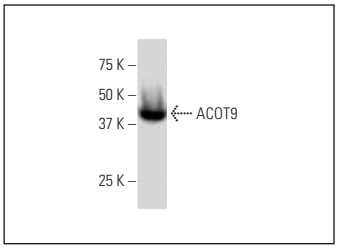
Molecular Weight of ACOT9: 48 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

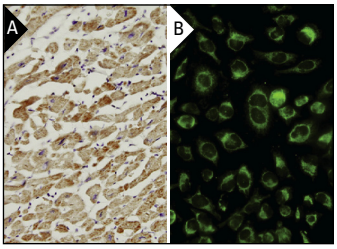
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ACOT9 (O59): sc-100476. Western blot analysis of ACOT9 expression in MCF7 whole cell lysate.



ACOT9 (O59): sc-100476. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human heart tissue (**A**) and immunofluorescence staining of paraformaldehyde-fixed HeLa cells (**B**) showing cytoplasmic localization.

STORAGE

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

PROTOCOLS

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