SANTA CRUZ BIOTECHNOLOGY, INC.

ACOT9 siRNA (m): sc-140816

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., et al. 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 (mouse) mapping to X F3.

PRODUCT

ACOT9 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ACOT9 shRNA Plasmid (m): sc-140816-SH and ACOT9 shRNA (m) Lentiviral Particles: sc-140816-V as alternate gene silencing products.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ACOT9 siRNA (m) is recommended for the inhibition of ACOT9 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

ACOT9 (G-6): sc-514330 is recommended as a control antibody for monitoring of ACOT9 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ACOT9 gene expression knockdown using RT-PCR Primer: ACOT9 (m)-PR: sc-140816-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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