# ACOT2 (m): 293T Lysate: sc-118204



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. ACOT1 (acyl-CoA thioesterase 1, also known as CTE1) and ACOT2 (acyl-CoA thioesterase 2, also known as PTE2) are members of the ACOT family and exhibit different cellular localization, with ACOT1 existing as a monomer in the cytoplasm and ACOT2 localized primarily to mitochondria. Characteristic of most ACOT proteins, ACOT1 and ACOT2 catalyze the conversion of palmitoyl-CoA and water to free CoA and palmitate, a reaction that is important for the regulation of intercellular fatty acid levels. ACOT2 is expressed as multiple alternatively spliced isoforms and, like ACOT1, is encoded by a gene which maps to human chromosome 14.

## **REFERENCES**

- Jones, J.M. and Gould, S.J. 2000. Identification of PTE2, a human peroxisomal long-chain acyl-CoA thioesterase. Biochem. Biophys. Res. Commun. 275: 233-240.
- Ishizuka, M., Toyama, Y., Watanabe, H., Fujiki, Y., Takeuchi, A., Yamasaki, S., Yuasa, S., Miyazaki, M., Nakajima, N., Taki, S. and Saito, T. 2004. Overexpression of human acyl-CoA thioesterase upregulates peroxisome biogenesis. Exp. Cell Res. 297: 127-141.
- 3. Westin, M.A., Alexson, S.E. and Hunt, M.C. 2004. Molecular cloning and characterization of two mouse peroxisome proliferator-activated receptor  $\alpha$  (PPAR $\alpha$ )-regulated peroxisomal acyl-CoA thioesterases. J. Biol. Chem. 279: 21841-21848.
- 4. Hunt, M.C., Yamada, J., Maltais, L.J., Wright, M.W., Podesta, E.J. and Alexson, S.E. 2005. A revised nomenclature for mammalian acyl-CoA thioesterases/hydrolases. J. Lipid Res. 46: 2029-2032.
- Hunt, M.C., Rautanen, A., Westin, M.A., Svensson, L.T. and Alexson, S.E. 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.
- 6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609972. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- 7. Rudolph, M.C., Neville, M.C. and Anderson, S.M. 2007. Lipid synthesis in lactation: diet and the fatty acid switch. J. Mammary Gland Biol. Neoplasia 12: 269-281.
- 8. Oka, S., Yoshihara, E., Bizen-Abe, A., Liu, W., Watanabe, M., Yodoi, J. and Masutani, H. 2009. Thioredoxin binding protein-2/thioredoxin-interacting protein is a critical regulator of Insulin secretion and peroxisome proliferator-activated receptor function. Endocrinology 150: 1225-1234.

#### **CHROMOSOMAL LOCATION**

Genetic locus: Acot2 (mouse) mapping to 12 D1.

#### **RESEARCH USE**

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

## **PRODUCT**

ACOT2 (m): 293T Lysate represents a lysate of mouse ACOT2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## **APPLICATIONS**

ACOT2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ACOT2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## **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.

### **PROTOCOLS**

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

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