SANTA CRUZ BIOTECHNOLOGY, INC.

# ACOX1 (E-14): sc-107375

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

ACOX1 (acyl-coenzyme A oxidase 1), also known as SCOX or PALMCOX, is a 660 amino acid protein that localizes to the peroxisome and belongs to the acyl-CoA oxidase family. Existing as two alternatively spliced isoforms, ACOX1 uses FAD as a cofactor to catalyze the desaturation of very long chain acyl-CoA proteins to 2-*trans*-enoyl-CoA proteins, a reaction that utilizes oxygen and produces hydrogen peroxide. Defects in the gene encoding ACOX1 are the cause of pseudoneonatal adrenoleukodystrophy (pseudo-NALD), which is a single-enzyme disorder that is characterized by seizures, mental retardation, leukodystrophy, mild hepatomegaly and hearing deficits.

## REFERENCES


1. Pacot, C. and Latruffe, N. 1993. Biochemical properties of liver peroxisomes from rat, guinea pig and human species and the influence of hormonal status on rat liver acyl-CoA oxidase mRNA content. Biochimie 75: 235-242.
2. Aoyama, T., et al. 1994. Molecular cloning and functional expression of a human peroxisomal acyl-coenzyme A oxidase. Biochem. Biophys. Res. Commun. 198: 1113-1118.
3. Varanasi, U., et al. 1994. Isolation of the human peroxisomal acyl-CoA oxidase gene: organization, promoter analysis, and chromosomal localization. Proc. Natl. Acad. Sci. USA 91: 3107-3111.
4. Fan, C.Y., et al. 1996. Hepatocellular and hepatic peroxisomal alterations in mice with a disrupted peroxisomal fatty acyl-coenzyme A oxidase gene. J. Biol. Chem. 271: 24698-24710.
5. Fujiwara, C., et al. 2000. Catalase-less peroxisomes. Implication in the milder forms of peroxisome biogenesis disorder. J. Biol. Chem. 275: 37271-37277.
6. Suzuki, Y., et al. 2002. Peroxisomal acyl CoA oxidase deficiency. J. Pediatr. 140: 128-130.
7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609751. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
8. Ferdinandusse, S., et al. 2007. Clinical, biochemical, and mutational spectrum of peroxisomal acyl-coenzyme A oxidase deficiency. Hum. Mutat. 28: 904-912.
9. Carrozzo, R., et al. 2008. Peroxisomal acyl-CoA-oxidase deficiency: two new cases. Am. J. Med. Genet. A 146A: 1676-1681.


## CHROMOSOMAL LOCATION

Genetic locus: ACOX1 (human) mapping to 17q25.1; Acox1 (mouse) mapping to 11 E2.

## SOURCE

ACOX1 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ACOX1 of human origin.

## RESEARCH USE

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

## 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-107375 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ACOX1 (E-14) is recommended for detection of ACOX1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ACOX1 (E-14) is also recommended for detection of ACOX1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ACOX1 siRNA (h): sc-94104, ACOX1 siRNA (m): sc-140817, ACOX1 shRNA Plasmid (h): sc-94104-SH, ACOX1 shRNA Plasmid (m): sc-140817-SH, ACOX1 shRNA (h) Lentiviral Particles: sc-94104-V and ACOX1 shRNA (m) Lentiviral Particles: sc-140817-V.

Molecular Weight of ACOX1: 74 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS


1. Kobayashi, Y., et al. 2012. Facilitative effects of *Eucommia ulmoides* on fatty acid oxidation in hypertriglyceridaemic rats. J. Sci. Food Agric. 92: 358-365.


## 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 or our catalog for detailed protocols and support products.