SANTA CRUZ BIOTECHNOLOGY, INC.

# ACOX3 (H-1): sc-390624

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

ACOX3 (acyl-Coenzyme A oxidase 3), also known as BRCOX or PRCOX, is a 700 amino acid protein that localizes to peroxisomes and belongs to the acyl-CoA oxidase family. Using FAD as a cofactor, ACOX3 catalyzes the desaturation of 2-methyl branched fatty acids in peroxisomes, thereby playing an important role in peroxisomal fatty acid β-oxidation. Human ACOX3 shares 75% sequence identity with its rat counterpart, suggesting a conserved role between species. Multiple isoforms of ACOX3 exist due to alternative splicing events. The gene encoding ACOX3 maps to human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

## REFERENCES


1. Vanhove, G.F., et al. 1993. The CoA esters of 2-methyl-branched chain fatty acids and of the bile acid intermediates di- and trihydroxycoprostanic acids are oxidized by one single peroxisomal branched chain acyl-CoA oxidase in human liver and kidney. J. Biol. Chem. 268: 10335-10344.
2. Vanhooren, J.C., et al. 1997. Evidence for the existence of a pristanoyl-CoA oxidase gene in man. Biochem. J. 325: 593-599.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 603402. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Hunt, M.C., et al. 2002. Characterization of an acyl-coA thioesterase that functions as a major regulator of peroxisomal lipid metabolism. J. Biol. Chem. 277: 1128-1138.
5. Zha, S., et al. 2005. Peroxisomal branched chain fatty acid β-oxidation pathway is upregulated in prostate cancer. Prostate 63: 316-323.
6. Westin, M.A., et al. 2007. Peroxisomes contain a specific phytanoyl-CoA/pristanoyl-CoA thioesterase acting as a novel auxiliary enzyme in α- and β-oxidation of methyl-branched fatty acids in mouse. J. Biol. Chem. 282: 26707-26716.


## CHROMOSOMAL LOCATION

Genetic locus: ACOX3 (human) mapping to 4p16.1; Acox3 (mouse) mapping to 5 B3.

## SOURCE

ACOX3 (H-1) is a mouse monoclonal antibody raised against amino acids 1-45 mapping at the N-terminus of ACOX3 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ 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

ACOX3 (H-1) is recommended for detection of ACOX3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ACOX3 siRNA (h): sc-89236, ACOX3 siRNA (m): sc-140819, ACOX3 shRNA Plasmid (h): sc-89236-SH, ACOX3 shRNA Plasmid (m): sc-140819-SH, ACOX3 shRNA (h) Lentiviral Particles: sc-89236-V and ACOX3 shRNA (m) Lentiviral Particles: sc-140819-V.

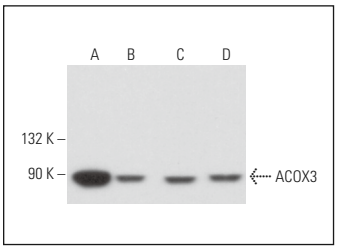
Molecular Weight of ACOX3: 78 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, C2C12 whole cell lysate: sc-364188 or Jurkat whole cell lysate: sc-2204.

## 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.

## DATA




ACOX3 (H-1): sc-390624. Western blot analysis of ACOX3 expression in HeLa (**A**), Jurkat (**B**), C2C12 (**C**) and A549 (**D**) whole cell lysates.

## 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.