SANTA CRUZ BIOTECHNOLOGY, INC.

ACOX1 (153CT43.1.1): sc-517306

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.
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CHROMOSOMAL LOCATION

Genetic locus: ACOX1 (human) mapping to 17q25.1.

SOURCE

ACOX1 (153CT43.1.1) is a mouse monoclonal antibody raised against a recombinant protein corresponding to ACOX1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 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

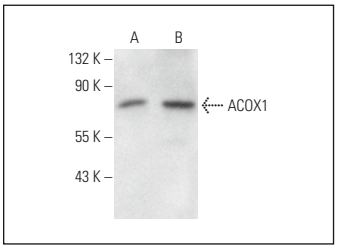
ACOX1 (153CT43.1.1) is recommended for detection of ACOX1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of ACOX1: 74 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or human liver extract: sc-363766.

DATA



ACOX1 (153CT43.1.1): sc-517306. Western blot analysis of ACOX1 expression in K-562 whole cell lysate (**A**) and human liver tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Li, G., et al. 2019. MicroRNA-15a regulates the differentiation of intramuscular preadipocytes by targeting ACAA1, ACOX1 and SCP2 in chickens. Int. J. Mol. Sci. 20: 4063.
2. Tao, S., et al. 2021. Bixin attenuates high-fat diet-caused liver steatosis and inflammatory injury through Nrf2/PPARα signals. Oxid. Med. Cell. Longev. 2021: 6610124.
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4. Li, L., et al. 2021. Dapagliflozin alleviates hepatic steatosis by restoring autophagy via the AMPK-mTOR pathway. Front. Pharmacol. 12: 589273.
5. Engel, C., et al. 2022. Altered peroxisome proliferator-activated receptor α signaling in variably diseased peripheral arterial segments. Front. Cardiovasc. Med. 9: 834199.
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STORAGE

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