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ACOX1 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1847B

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	Q15067
Other Accession	NP_009223.2
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Clone Names	153CT43.1.1
Calculated MW	74424

Additional Information

Gene ID	51
Other Names	Peroxisomal acyl-coenzyme A oxidase 1, AOX, Palmitoyl-CoA oxidase, Straight-chain acyl-CoA oxidase, SCOX, ACOX1, ACOX
Target/Specificity	This ACOX1 monoclonal antibody is generated from mouse immunized with ACOX1 recombinant protein.
Dilution	WB~~1:100~500 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ACOX1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACOX1 (HGNC:119)
Synonyms	ACOX
Function	Involved in the initial and rate-limiting step of peroxisomal beta-oxidation

of straight-chain saturated and unsaturated very-long- chain fatty acids (VLCFAs) (PubMed:15060085, PubMed:17458872, PubMed:17603022, PubMed:32169171, PubMed:33234382, PubMed:7876265). Catalyzes the desaturation of fatty acyl-CoAs that have a saturated bond between C2 and C3 (2,3-saturated acyl-CoA) to 2-trans-enoyl-CoAs ((2E)-enoyl-CoAs), and donates electrons directly to molecular oxygen (O(2)), thereby producing hydrogen peroxide (H(2)O(2)) (PubMed:17458872, PubMed:17603022, PubMed:7876265). May play a role in peroxisomal beta-oxidation step in polyunsaturated fatty acids (PUFAs) biosynthesis. Possibly regulates systemic levels of docosahexaenoic acid (DHA, C22:6n-3) through a process involving endoplasmic reticulum desaturation and elongation of alpha-linolenic acid (ALA, C18:3n-3) to form tetracosahexaenoic acid (THA, C24:6n-3), which is then beta- oxidized to DHA in peroxisomes (Probable). Involved in VLCFA-dependent hepatic-to-adipose tissue inter-organ signaling in response to diet. Through hepatic beta-oxidation of THA, may regulate THA systemic levels and THA-dependent activation of FFAR4 signaling in adipocytes, limiting adipose tissue thermogenesis (By similarity).

Cellular Location Peroxisome.

Tissue Location Widely expressed with highest levels of isoform 1 and isoform 2 detected in testis. Isoform 1 is expressed at higher levels than isoform 2 in liver and kidney while isoform 2 levels are higher in brain, lung, muscle, white adipose tissue and testis. Levels are almost equal in heart.

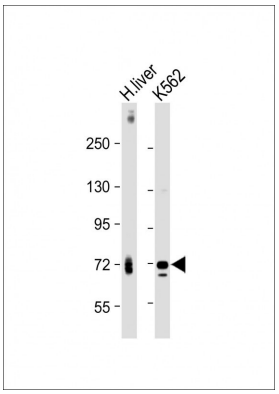
Background

ACOX1 is the first enzyme of the fatty acid beta-oxidation pathway, which catalyzes the desaturation of acyl-CoAs to 2-trans-enoyl-CoAs. It donates electrons directly to molecular oxygen, thereby producing hydrogen peroxide. Defects in this gene result in pseudoneonatal adrenoleukodystrophy, a disease that is characterized by accumulation of very long chain fatty acids.

References

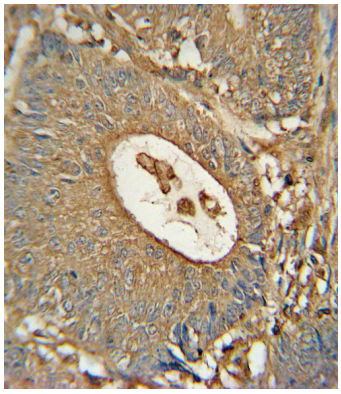
Lu, Y., et al. J. Lipid Res. 49(12):2582-2589(2008) Carrozzo, R., et al. Am. J. Med. Genet. A 146A (13), 1676-1681 (2008) Omi, S., et al. J. Biochem. 143(5):649-660(2008)

Images

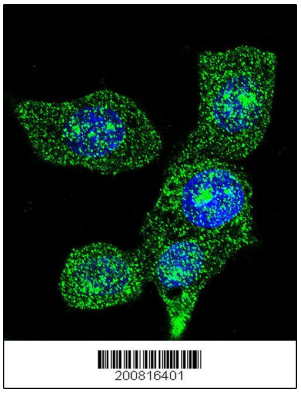


All lanes : Anti-ACOX1 Antibody at 1:4000 dilution Lane 1: Human liver lysate Lane 2: K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 74 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

ACOX1 Monoclonal Antibody (Cat. #AM1847b) immunohistochemistry analysis in formalin fixed and paraffin embedded human colon carcinoma followed by peroxidase conjugation of the secondary antibody and



DAB staining. This data demonstrates the use of the ACOX1 Monoclonal Antibody for immunohistochemistry. Clinical relevance has not been evaluated.



Confocal immunofluorescent analysis of ACOX1 Antibody (Cat#AM1847b) with Hela cell followed by Alexa Fluor® 488-conjugated goat anti-mouse lgG (green). DAPI was used to stain the cell nuclear (blue).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.