10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ACOX1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2523B

Product Information

Application	WB, E
Primary Accession	Q15067
Reactivity	Human
Predicted	Mouse, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	74424
Antigen Region	629-659

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 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 629-659 amino acids from the C-terminal region of human ACOX1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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 (C-term) 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.

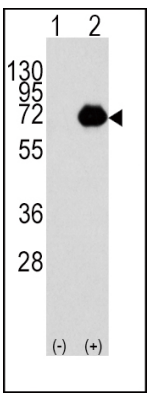
Background

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

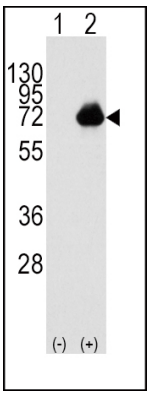
Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).
Chu, R., et al., J. Biol. Chem. 270(9):4908-4915 (1995).
Aoyama, T., et al., Biochem. Biophys. Res. Commun. 198(3):1113-1118 (1994).
Fournier, B., et al., J. Clin. Invest. 94(2):526-531 (1994).
Varanasi, U., et al., Proc. Natl. Acad. Sci. U.S.A. 91(8):3107-3111 (1994).

Images



Western blot analysis of ACOX1 (arrow) using rabbit polyclonal ACOX1 Antibody (C-term) (RB04651). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the ACOX1 gene (Lane 2) (Origene Technologies).

Western blot analysis of ACOX1 (arrow) using rabbit polyclonal ACOX1 Antibody (C-term) (RB04652). 293 cell



lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the ACOX1 gene (Lane 2) (Origene Technologies).

Citations

- Mechanisms of resistance of hepatocyte retinoid X receptor alpha-null mice to WY-14,643-induced hepatocyte proliferation and cholestasis.

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