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ACOX2 Rabbit pAb

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Catalog # AP58264

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q99424
Reactivity	Rat, Mouse
Predicted	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	76827
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human ACOX2
Epitope Specificity	341-440/681
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Peroxisome.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The product of this gene belongs to the acyl-CoA oxidase family. It encodes the branched-chain acyl-CoA oxidase which is involved in the degradation of long branched fatty acids and bile acid intermediates in peroxisomes. Deficiency of this enzyme results in the accumulation of branched fatty acids and bile acid intermediates, and may lead to Zellweger syndrome, severe mental retardation, and death in children. [provided by RefSeq, Mar 2009]

Additional Information

Gene ID	8309
Other Names	Peroxisomal acyl-coenzyme A oxidase 2, 1.17.99.3, 3-alpha, 7-alpha, 12-alpha-trihydroxy-5-beta-cholestanoyl-CoA 24-hydroxylase, 3-alpha, 7-alpha, 12-alpha-trihydroxy-5-beta-cholestanoyl-CoA oxidase, THCCox, ACOX2 (HGNC:120)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ACOX2 (HGNC:120)
Function	Involved in peroxisomal beta-oxidation of branched-chain fatty acids (BCFAs) and bile acids intermediates. Catalyzes the initial and rate-limiting dehydrogenation step that removes two hydrogen molecules and introduces a trans double bond between the alpha and beta carbons of the acyl CoA molecules while generating hydrogen peroxide as a by-product. Oxidizes its substrates in a stereospecific way and can only desaturate isomers carrying (2S)-methyl groups (By similarity) (PubMed:29287774). In brown adipose tissue peroxisomes, mediates beta- oxidation of monomethyl branched-chain fatty acids with iso configuration (mmBCFAs) as part of a substrate synthesis and oxidation cycle fueled by FASN-dependent de novo mmBCFA synthesis. The mmBCFA catabolism is coupled to AMPK activation and mitochondrial ATP production as a thermogenic adaptation mechanism to maintain the body temperature in cold environment (By similarity). Metabolizes multi-methyl-branched fatty acyl-CoA esters such as (2S)-pristanoyl-CoA, displaying redundancy with ACOX3 (PubMed:29287774). In the liver, mediates side-chain beta-oxidation of C27 bile acyl-CoA intermediates carrying a (25S)-methyl group to yield 24,25-trans unsaturated derivatives as part of peroxisomal bile acid synthesis pathway (PubMed:27884763, PubMed:29287774). Can oxidize straight-chain fatty acyl CoAs such as C10-CoA and C16-CoA with low efficiency (PubMed:29287774).
Cellular Location	Peroxisome
Tissue Location	Present in all tissues tested: heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Most abundant in heart, liver and kidney (at protein level)

Background

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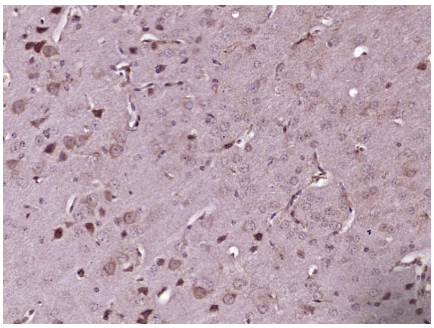
Images



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (ACOX2) Polyclonal Antibody, Unconjugated (AP58264) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.