abcam

ab184032

Anti-ACOX1/AOX antibody [EPR19038]

Anti-ACOX1/AOX antibody [EPR19038] (ab184032) is a rabbit monoclonal antibody detecting ACOX1/AOX in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 30 publications

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR19038
Purification technique	Affinity purification Protein A
Concentration	0.47 - 0.472 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse

Dilution info	1/30
Notes	-

Expected

Species	Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/250
Notes	-

Species	Rat
Dilution info	1/250
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Expected

Species	Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information ACOX1

Function Involved in the initial and rate-limiting step of peroxisomal beta-oxidation of straight-chain saturated and unsaturated very-long-chain fatty acids (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). Isoform 1. Shows highest activity against medium-chain fatty acyl-CoAs. Shows optimum activity with a chain length of 10 carbons (decanoyl-CoA) in vitro. Isoform 2. Is active against a much broader range of substrates and shows activity towards long-chain fatty acyl-CoAs.

Storage

Shipped at conditions Conditional Ambient

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-ACOX1/AOX antibody [EPR19038] (ab184032) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of ACOX1/AOX?
Anti-ACOX1/AOX [EPR19038] (ab184032) specifically detects a band for ACOX1/AOX (UniProt: Q9R0H0) at a molecular weight of 75kDa.

Trusted by the scientific community
Anti-ACOX1/AOX [EPR19038] (ab184032) was first used in a scientific publication in 2015 and has been cited over 30 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR19038] also available for your convenience: ab184032, Carrier free - ab238939

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ACOX1 also known as AOX or AOX animal plays an important role in peroxisomal beta-oxidation of fatty acids. This enzyme catalyzes the desaturation of acyl-CoAs to 2-trans-enoyl-CoAs. ACOX1 with a mass of approximately 73 kDa is primarily expressed in liver and kidney tissues where it contributes to lipid metabolism. The functionality of this protein is essential for maintaining the balance of fatty acids within the peroxisome which is an important organelle in cellular lipid homeostasis.
Biological function summary	ACOX1 functions as part of the fatty acid oxidation process by ensuring the efficient breakdown of very long-chain fatty acids. This enzyme operates in conjunction with other proteins involved in the beta-oxidation enzyme complex. The activity of ACOX1 is significant for energy production metabolizing long-chain fatty acids which accumulate under normal physiological conditions. Proper function of this enzyme ensures that excessive accumulation of these fatty acids does not occur which can otherwise lead to cellular stress or dysfunction.
Pathways	ACOX1 fits into lipid metabolism pathways specifically the peroxisomal beta-oxidation pathway. This pathway is critical for the breakdown of long and very long-chain fatty acids. ACOX1 functions together with other peroxisomal enzymes such as peroxisomal acyl-coenzyme A oxidase 2 (ACOX2) to complete this metabolic process. Both these enzymes work in tandem to manage fatty acid levels within the peroxisomal pathway ensuring smooth cellular energy homeostasis and overall metabolic function.
Associated diseases and disorders	Mutations or deficiencies in ACOX1 relate closely to conditions like adrenoleukodystrophy and Zellweger syndrome. These disorders arise from impaired peroxisomal function leading to the accumulation of very long-chain fatty acids that are typically processed by ACOX1. Such accumulations can exacerbate neurological and hepatic disorders. Additionally a dysfunctional interaction between ACOX1 and peroxisomal protein peroxin 1 (PEX1) can result in compromised peroxisome function further contributing to the pathology of these disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

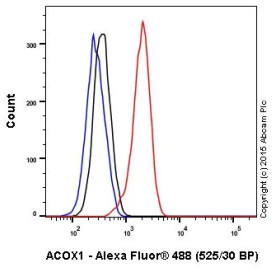
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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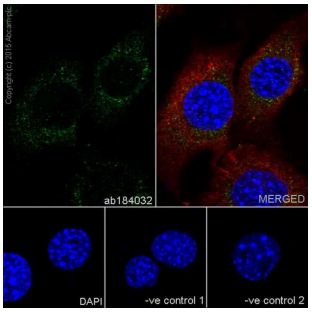
7 product images



Flow Cytometry (Intracellular) - Anti-ACOX1/AOX antibody [EPR19038] (ab184032)

ACOX1/AOX Flow Cytometry (Intracellular) staining using rabbit Anti-ACOX1/AOX antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed NIH/3T3 (Mouse embryonic fibroblast) cell linelabeling ACOX1/AOX with ab184032 at 1/100 dilution (red) compared with a Rabbit IgG, monoclonal [EPR19038] - Isotype control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti Rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.

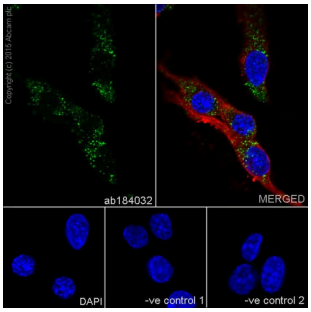


Immunocytochemistry/ Immunofluorescence - Anti-ACOX1/AOX antibody [EPR19038] (ab184032)

ACOX1/AOX Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ACOX1/AOX antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling ACOX1/AOX with ab184032 at 1/250 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on NIH/3T3 cell line. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin antibody [EPR19038] - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG (AlexaFluor®594) preadsorbed (ab150120) at 1/1000 dilution (red).

The negative controls are as follows:
-ve control 1: ab184032 at 1/250 dilution followed by ab150120 at 1/1000 dilution.
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.

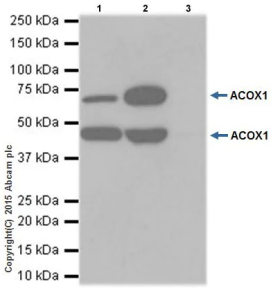


Immunocytochemistry/ Immunofluorescence - Anti-ACOX1/AOX antibody [EPR19038] (ab184032)

ACOX1/AOX Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ACOX1/AOX antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized C6 (Rat glial tumor cell line) cells labeling ACOX1/AOX with ab184032 at 1/250 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on C6 cell line. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin antibody [EPR19038] - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG (AlexaFluor®594) preadsorbed (ab150120) at 1/1000 dilution (red).

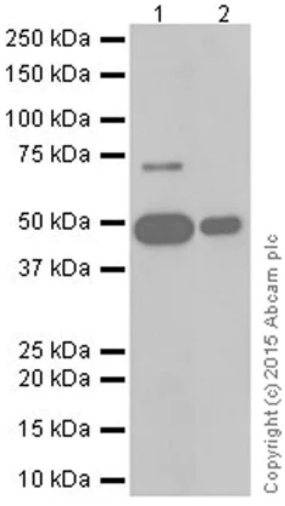
The negative controls are as follows:
-ve control 1: ab184032 at 1/250 dilution followed by ab150120 at 1/1000 dilution.
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Immunoprecipitation - Anti-ACOX1/AOX antibody [EPR19038] (ab184032)

ACOX1/AOX was immunoprecipitated from 1mg of NIH/3T3 (Mouse embryonic fibroblast cell line) whole cell lysate with ab184032 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab184032 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: NIH/3T3 whole cell lysate 10µg (Input).
Lane 2: ab184032 IP in NIH/3T3 whole cell lysate.
Lane 3: Rabbit IgG, monoclonal [EPR19038] - Isotype Control (ab172730) instead of ab184032 in HeLa whole cell lysate.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 30 seconds.
All lanes:
Immunoprecipitation - Anti-ACOX1/AOX antibody [EPR19038] (ab184032)

Predicted band size: 74 kDa



Western blot - Anti-ACOX1/AOX antibody [EPR19038] (ab184032)

Blocking/dilution buffer: 5% NFDM/TBST.
The expression profile observed is consistent with what has been described in the literature (PMID:) 8798738 and 17255948.

All lanes:
Western blot - Anti-ACOX1/AOX antibody [EPR19038] (ab184032) at 1/1000 dilution

Lane 1:
Human fetal liver lysate at 10 µg

Lane 2:
Human fetal kidney lysate at 10 µg

Secondary

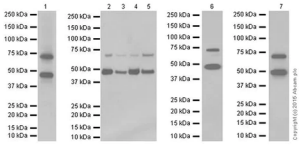
All lanes:

Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 74 kDa

Observed band size: 50 kDa, 72 kDa

Exposure time: 3min



Western blot - Anti-ACOX1/AOX antibody [EPR19038] (ab184032)

ACOX1/AOX Western blot staining using rabbit Anti-ACOX1/AOX antibody

Blocking/dilution buffer: 5% NFDM/TBST.
Exposure time Lane 1-5: 1 second; Lane 6: 30 seconds; Lane 7: 2 seconds.

The expression profile observed is consistent with what has been described in the literature (PMID:) 8798738 and 17255948.

Lanes 1 - 5:
Western blot - Anti-ACOX1/AOX antibody [EPR19038] (ab184032) at 1/1000 dilution

Lanes 6 - 7:
Western blot - Anti-ACOX1/AOX antibody [EPR19038] (ab184032) at 1/5000 dilution

Lane 1:
Mouse liver lysate at 10 µg

Lane 2:
C6 (Rat glial tumor cell line) whole cell lysate at 10 µg

Lane 3:
RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 4:
PC-12 (Rat adrenal gland pheochromocytoma cell line) whole cell lysate at 10 µg

Lane 5:
NIH/3T3 (Mouse embryo fibroblast cell line) whole cell lysate at 10 µg

Lane 6:
Mouse heart lysate at 10 µg

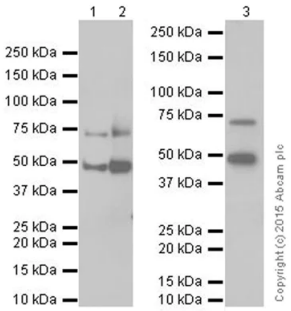
Lane 7:
Mouse kidney lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 74 kDa

Observed band size: 50 kDa, 72 kDa



Western blot - Anti-ACOX1/AOX antibody [EPR19038] (ab184032)

Blocking/dilution buffer: 5% NFDM/TBST.
Exposure time Lane 1/2: 8 seconds;Lane 3: 1 second.

The expression profile observed is consistent with what has been described in the literature (PMID:) 8798738 and 17255948.

All lanes:
Western blot - Anti-ACOX1/AOX antibody [EPR19038] (ab184032) at 1/1000 dilution

Lane 1:
Rat brain lysate at 10 µg

Lane 2:
Rat heart lysate at 10 µg

Lane 3:
Rat liver lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 70 kDa, 74 kDa

Observed band size: 110 kDa, 50 kDa, 72 kDa

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