

**ACO2 Antibody (Center)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP1936C**

**Specification**

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**ACO2 Antibody (Center) - Product Information**

Application	<b>WB, IHC-P,E</b>
Primary Accession	<a href="#">O99798</a>
Other Accession	<a href="#">O9ER34</a> , <a href="#">P16276</a> , <a href="#">Q99K10</a> , <a href="#">P20004</a>
Reactivity	<b>Human, Rat</b>
Predicted	<b>Bovine, Mouse, Pig</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Isotype	<b>Rabbit IgG</b>
Antigen Region	<b>438-467</b>

**ACO2 Antibody (Center) - Additional Information**

**Gene ID** 50

**Other Names**

Aconitate hydratase, mitochondrial, Aconitase, Citrate hydro-lyase, ACO2

**Target/Specificity**

This ACO2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 438-467 amino acids from the Central region of human ACO2.

**Dilution**

WB~~1:1000  
IHC-P~~1:10~50

**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**

ACO2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**ACO2 Antibody (Center) - Protein Information**

**Name** ACO2

**Function** Catalyzes the isomerization of citrate to isocitrate via cis- aconitate.

## Cellular Location

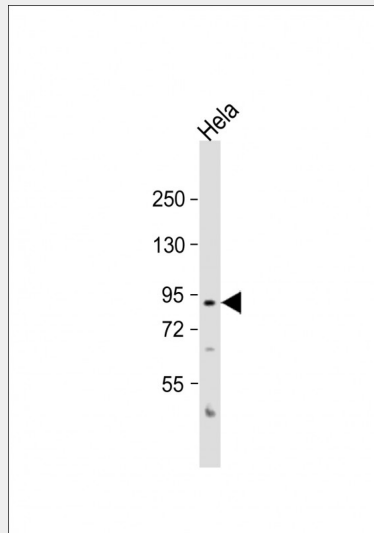
Mitochondrion {ECO:0000250|UniProtKB:P16276}.

## ACO2 Antibody (Center) - Protocols

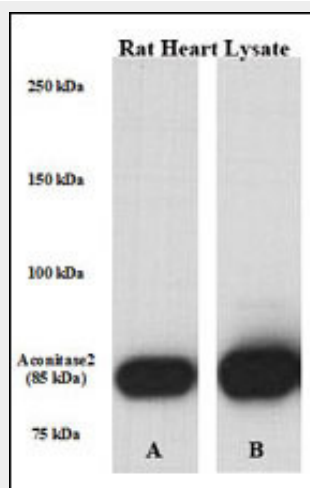
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

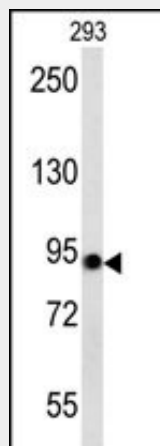
## ACO2 Antibody (Center) - Images



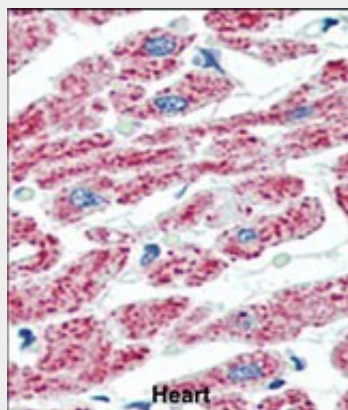
Anti-Aconitase Antibody at 1:1000 dilution + HeLa whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 85 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Perfused isolated rat heart whole tissue lysate was lysed with either A) 50 mM Tris-HCl, 150 mM NaCl, 1 mM EDTA, 1% NP-40, 0.1% SDS, 0.5% Na-deoxycholate, 1 mM Na<sub>3</sub>VO<sub>4</sub>, 20 mM NaF, 1 mM PMSF, 5 v/v % protease inhibitor cocktail or B) T-PER Tissue Protein Extraction Reagent [# 785101; Pierce], containing 1mM Na<sub>3</sub>VO<sub>4</sub>, 20 mM NaF, 5 v/v % protease inhibitor cocktail (Sigma); PVDF membrane was incubated in primary Ab [rabbit polyclonal antibody against ACO2 (Center) (Cat# AP1936c). Solution: 1:1000 diluted in 5% NFM TBS-T 0,05 for overnight (15 hrs) at 4 °C. Data courtesy of Boglarka Laczy M.D., Division of Cardiovascular Disease, Dept. of Medicine, University of Alabama at Birmingham.



ACO2 (Cat. #AP1936c) western blot analysis in 293 cell line lysates (35ug/lane). This demonstrates the Aconitase antibody detected the Aconitase protein (arrow).



Formalin-fixed and paraffin-embedded human Heart tissue reacted with ACO2 Antibody (Center)(Cat.#AP1936c), which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

#### **ACO2 Antibody (Center) - Background**

ACO2 belongs to the aconitase/IPM isomerase family. It is an enzyme that catalyzes the interconversion of citrate to isocitrate via cis-aconitate in the second step of the TCA cycle. This protein is encoded in the nucleus and functions in the mitochondrion. It was found to be one of the mitochondrial matrix proteins that are preferentially degraded by the serine protease 15 (PRSS15), also known as Lon protease, after oxidative modification.

#### **ACO2 Antibody (Center) - References**

Juang, H.H., Mol. Genet. Metab. 81(3):244-252 (2004).  
Bota, D.A., et al., Nat. Cell Biol. 4(9):674-680 (2002).

Gruer, M.J., et al., Trends Biochem. Sci. 22(1):3-6 (1997).

Klausner, R.D., et al., Mol. Biol. Cell 4(1):1-5 (1993).

Geurts van Kessel, A.H., et al., Cytogenet. Cell Genet. 28(3):169-172 (1980).

**ACO2 Antibody (Center) - Citations**

- [Lon protease inactivation in causes unfolded protein stress and inhibition of mitochondrial translation.](#)
- [OXIDATIVE STRESS AND MITOCHONDRIAL DYNAMICS MALFUNCTION ARE LINKED IN PELIZAEUS-MERZBACHER DISEASE.](#)
- [Mitoferrin modulates iron toxicity in a drosophila model of Friedreich´s ataxia.](#)
- [Reduced synaptic vesicle protein degradation at lysosomes curbs TBC1D24/sky-induced neurodegeneration.](#)
- [Indomethacin, a non-steroidal anti-inflammatory drug, develops gastropathy by inducing reactive oxygen species-mediated mitochondrial pathology and associated apoptosis in gastric mucosa: a novel role of mitochondrial aconitase oxidation.](#)
- [Proteomic profiling reveals a severely perturbed protein expression pattern in aged skeletal muscle.](#)