

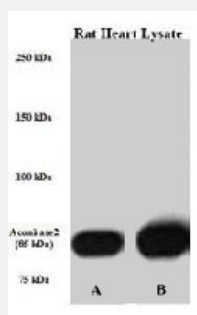
# ACO2 polyclonal antibody

Catalog # PAB3751

Size 400 uL

## Applications

### Western Blot (Tissue lysate)

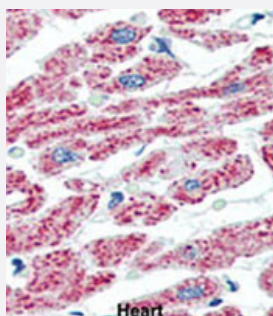


Perfused isolated rat heart whole tissue lysate was lysed with either A) 50 mM Tris-HCl, 150 mM NaCl, 1 mM EDTA, 1% NP-40, 0.1% SDS, 0.5% Na-deoxycholate, 1 mM  $\text{Na}_3\text{VO}_4$ , 20 mM NaF, 1 mM PMSF, 5 v/v % protease inhibitor cocktail or B) T-PER Tissue Protein Extraction Reagent (Pierce), containing 1mM  $\text{Na}_3\text{VO}_4$ , 20 mM NaF, 5 v/v % protease inhibitor cocktail (Sigma) ; PVDF membrane was incubated in primary Ab ACO2 polyclonal antibody (Cat # PAB3751). 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.

### Western Blot



Western blot analysis of ACO2 polyclonal antibody (Cat # PAB3751) in mouse heart (left) and 293 (right) cell lysates (35 ug/lane). ACO2 (arrow) was detected using the purified polyclonal antibody (1:1000 dilution).



### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections)

Formalin-fixed and paraffin-embedded human heart reacted with ACO2 polyclonal antibody (Cat # PAB3751), 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.

## Specification

<b>Product Description</b>	Rabbit polyclonal antibody raised against synthetic peptide of ACO2.
<b>Immunogen</b>	A synthetic peptide (conjugated with KLH) corresponding to internal region of human ACO2.
<b>Host</b>	Rabbit
<b>Reactivity</b>	Human, Mouse, Rat
<b>Form</b>	Liquid
<b>Purification</b>	Protein G purification
<b>Recommend Usage</b>	Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) (1:10-50) Western Blot (1:1000) The optimal working dilution should be determined by the end user.
<b>Storage Buffer</b>	In PBS (0.09% sodium azide)
<b>Storage Instruction</b>	Store at 4°C. For long term storage store at -20°C. Aliquot to avoid repeated freezing and thawing.
<b>Note</b>	This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

## Applications

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## Gene Info — ACO2

Entrez GeneID	<a href="#">50</a>
Protein Accession#	<a href="#">NP_001089;Q99798</a>
Gene Name	ACO2
Gene Alias	ACONM, MGC20605, MGC33908
Gene Description	aconitase 2, mitochondrial
Omim ID	<a href="#">100850</a>
Gene Ontology	<a href="#">Hyperlink</a>
Gene Summary	The protein encoded by this gene 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. [provided by RefSeq]
Other Designations	OTTHUMP00000042146 OTTHUMP00000165920 aconitase 2 aconitate hydratase citrate hydro-lyase

## Publication Reference

- [Impaired Mitochondrial Morphology and Functionality in Lonp1wt/- Mice.](#)

Anna De Gaetano, Lara Gibellini, Elena Bianchini, Rebecca Borella, Sara De Biasi, Milena Nasi, Federica Boraldi, Andrea Cossarizza, Marcello Pinti.

Journal of Clinical Medicine 2020 Jun; 9(6):E1783.

Application: WB-Ce, Mouse, MEFs

- [Modulation of mitochondrial aconitase on the bioenergy of human prostate carcinoma cells.](#)

Juang HH.

Molecular Genetics and Metabolism 2004 Mar; 81(3):244.

Application: WB, Human, DU145 cells, Human prostatic carcinoma cells, PC-3 cells

- [Lon protease preferentially degrades oxidized mitochondrial aconitase by an ATP-stimulated mechanism.](#)

Bota DA, Davies KJ.

Nature Cell Biology 2002 Sep; 4(9):674.

Application: WB-Ce, Human, WI-38 VA-13 cells

- [The aconitase family: three structural variations on a common theme.](#)

Gruer MJ, Artymiuk PJ, Guest JR.

Trends in Biochemical Sciences 1997 Jan; 22(1):3.

## Pathway

- [Biosynthesis of alkaloids derived from histidine and purine](#)
- [Biosynthesis of alkaloids derived from ornithine](#)
- [Biosynthesis of alkaloids derived from shikimate pathway](#)
- [Biosynthesis of alkaloids derived from terpenoid and polyketide](#)
- [Biosynthesis of phenylpropanoids](#)
- [Biosynthesis of plant hormones](#)
- [Biosynthesis of terpenoids and steroids](#)
- [Citrate cycle \(TCA cycle\)](#)
- [Glyoxylate and dicarboxylate metabolism](#)
- [Metabolic pathways](#)
- [Reductive carboxylate cycle \(CO<sub>2</sub> fixation\)](#)