

**Goat Anti-COX4I2 & COX4I1 Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF2173a****Specification**

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**Goat Anti-COX4I2 & COX4I1 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P13073</a>
Other Accession	<a href="#">NP_115998</a> , <a href="#">84701</a> , <a href="#">1327</a> , <a href="#">84682 (mouse)</a> , <a href="#">84683 (rat)</a>
Reactivity	Human
Predicted	Mouse, Rat, Dog
Host	Goat
Clonality	Polyclonal
Concentration	0.5 mg/ml
Isotype	IgG
Calculated MW	19577

**Goat Anti-COX4I2 & COX4I1 Antibody - Additional Information****Gene ID** 1327**Other Names**

Cytochrome c oxidase subunit 4 isoform 1, mitochondrial, Cytochrome c oxidase polypeptide IV, Cytochrome c oxidase subunit IV isoform 1, COX IV-1, COX4I1, COX4

**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-COX4I2 & COX4I1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-COX4I2 & COX4I1 Antibody - Protein Information****Name** COX4I1 ([HGNC:2265](#))**Function**

Component of the cytochrome c oxidase, the last enzyme in the mitochondrial electron transport chain which drives oxidative phosphorylation. The respiratory chain contains 3 multisubunit complexes succinate dehydrogenase (complex II, CII), ubiquinol- cytochrome c oxidoreductase (cytochrome b-c1 complex, complex III, CIII) and cytochrome c oxidase (complex IV, CIV), that

cooperate to transfer electrons derived from NADH and succinate to molecular oxygen, creating an electrochemical gradient over the inner membrane that drives transmembrane transport and the ATP synthase. Cytochrome c oxidase is the component of the respiratory chain that catalyzes the reduction of oxygen to water. Electrons originating from reduced cytochrome c in the intermembrane space (IMS) are transferred via the dinuclear copper A center (CU(A)) of subunit 2 and heme A of subunit 1 to the active site in subunit 1, a binuclear center (BNC) formed by heme A3 and copper B (CU(B)). The BNC reduces molecular oxygen to 2 water molecules using 4 electrons from cytochrome c in the IMS and 4 protons from the mitochondrial matrix.

#### Cellular Location

Mitochondrion inner membrane; Single-pass membrane protein

#### Tissue Location

Ubiquitous.

### Goat Anti-COX4I2 & COX4I1 Antibody - 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](#)

### Goat Anti-COX4I2 & COX4I1 Antibody - Images



AF2173a (1 µg/ml) staining of Human Skeletal Muscle lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

### Goat Anti-COX4I2 & COX4I1 Antibody - Background

Cytochrome c oxidase (COX), the terminal enzyme of the mitochondrial respiratory chain, catalyzes the electron transfer from reduced cytochrome c to oxygen. It is a heteromeric complex consisting of 3 catalytic subunits encoded by mitochondrial genes and multiple structural subunits encoded by nuclear genes. The mitochondrially-encoded subunits function in electron transfer, and the nuclear-encoded subunits may be involved in the regulation and assembly of the complex. This nuclear gene encodes isoform 2 of subunit IV. Isoform 1 of subunit IV is encoded by a different gene, however, the two genes show a similar structural organization. Subunit IV is the largest nuclear encoded subunit which plays a pivotal role in COX regulation.

### **Goat Anti-COX4I2 & COX4I1 Antibody - References**

Exocrine pancreatic insufficiency, dyserythropoeitic anemia, and calvarial hyperostosis are caused by a mutation in the COX4I2 gene. Shteyer E, et al. Am J Hum Genet, 2009 Mar. PMID 19268275.  
Polymorphisms in mitochondrial genes and prostate cancer risk. Wang L, et al. Cancer Epidemiol Biomarkers Prev, 2008 Dec. PMID 19064571.

Transcription of mammalian cytochrome c oxidase subunit IV-2 is controlled by a novel conserved oxygen responsive element. Hüttemann M, et al. FEBS J, 2007 Nov. PMID 17937768.

HIF-1 regulates cytochrome oxidase subunits to optimize efficiency of respiration in hypoxic cells. Fukuda R, et al. Cell, 2007 Apr 6. PMID 17418790.

The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). Gerhard DS, et al. Genome Res, 2004 Oct. PMID 15489334.