

#### COX4I1 Antibody

Purified Mouse Monoclonal Antibody Catalog # AO1448a

### Specification

### COX4I1 Antibody - Product Information

Application Primary Accession Reactivity Host Clonality Isotype Calculated MW **Description**  WB, IF, FC <u>P13073</u> Human, Mouse, Rat, Monkey Mouse Monoclonal IgG1 19kDa KDa

Cytochrome c oxidase (COX) functions as the terminal oxidase of the respiratory chain that uses cytochrome c as an electron donor to drive a proton gradient across the inner mitochondrial membrane. The mammalian COX apoenzyme is a heteromer consisting of three mitochondrial encoded catalytic subunits and several nuclear gene encoded structural subunits. COX contains two iron-coordination sites and two copper-coordination sites. Cytochrome c oxidase IV (COX4) is a nuclear-encoded subunit of COX that may play a role in regulating COX activity. COX4 is expressed ubiquitously in adult human tissue with the strongest levels of expression in the pancreas and moderate expression levels in heart, skeletal muscle and placenta.

Immunogen Purified recombinant fragment of human COX4I1 expressed in E. Coli.

**Formulation** Ascitic fluid containing 0.03% sodium azide.

## 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

**Dilution** WB~~1/500 - 1/2000 IF~~1/200 - 1/1000 FC~~1/200 - 1/400

## 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

COX4I1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.



## **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.

#### **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 Cytomety
- <u>Cell Culture</u>

#### COX4I1 Antibody - Images





Figure 1: Western blot analysis using COX4I1 mouse mAb against HEK293 (1), A549 (2) and PC12 (3) cell lysate.



Figure 2: Immunofluorescence analysis of PANC-1 cells using COX4I1 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



Figure 3: Flow cytometric analysis of K562 cells using COX4I1 mouse mAb (blue) and negative control (red).

# **COX4I1** Antibody - References



1. Biochim Biophys Acta. 1992 Feb 26;1119(2):218-24. 2. Histochemistry. 1990;94(2):211-5. 3. FEBS Lett. 2000 Jun 30;476(1-2):22-6.