10320 Camino Santa Fe, Suite G
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Tel: 858.875.1900 Fax: 858.875.1999

Anti-COX IV COX4I1 Rabbit Monoclonal Antibody

Catalog # ABO13819

Specification

Anti-COX IV COX4I1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, IHC, IF, ICC, IP, FC**
Primary Accession	P13073
Host	**Rabbit**
Isotype	**Rabbit IgG**
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Format	**Liquid**

Description
Anti-COX IV COX4I1 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Anti-COX IV COX4I1 Rabbit Monoclonal 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 (HGNC:2265)

Calculated MW
19577 MW KDa

Application Details
WB 1:1000-1:2000
IHC 1:50-1:200
ICC/IF 1:100-1:500
IP 1:20
FC 1:20

Subcellular Localization
Mitochondrion inner membrane.

Tissue Specificity
Ubiquitous.

Contents
Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen
A synthesized peptide derived from human COX IV

Purification
Affinity-chromatography

Storage	**Store at -20°C for one year. For short term**

storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-COX IV COX4I1 Rabbit Monoclonal 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.

Anti-COX IV COX4I1 Rabbit Monoclonal 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
- Cell Culture

Anti-COX IV COX4I1 Rabbit Monoclonal Antibody - Images

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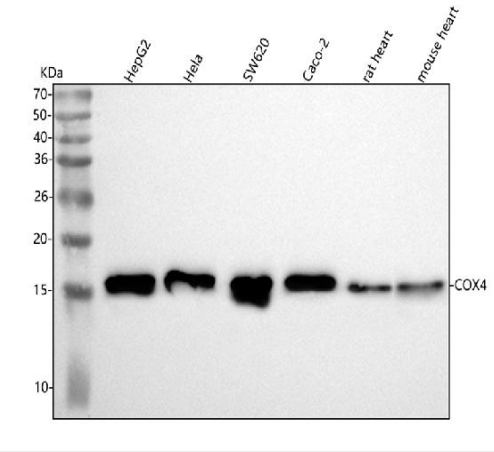

Figure 1. Western blot analysis of COX IV using anti-COX IV antibody (M05442).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human HepG2 whole cell lysates,
Lane 2: human Hela whole cell lysates,
Lane 3: human SW620 whole cell lysates,
Lane 4: human CACO-2 whole cell lysates,
Lane 5: rat heart tissue lysates,
Lane 6: mouse heart tissue lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-COX IV antigen affinity purified monoclonal antibody (Catalog # M05442) at 1:1000 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:1000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for COX IV at approximately 17 kDa. The expected band size for COX IV is at 20 kDa.

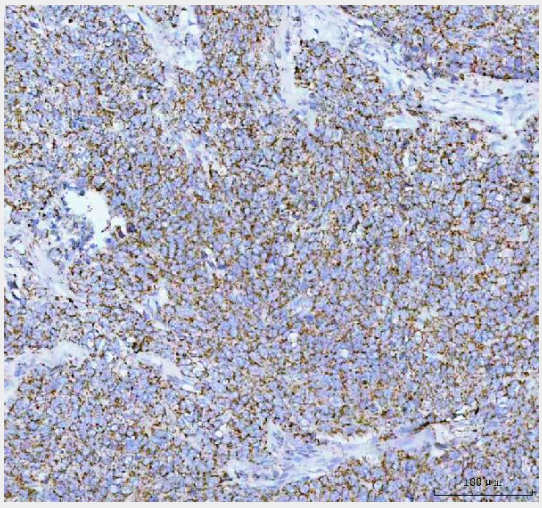

Figure 2. IHC analysis of COX IV using anti-COX IV antibody (M05442).
COX IV was detected in a paraffin-embedded section of human cervical cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-COX IV Antibody (M05442) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit

IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

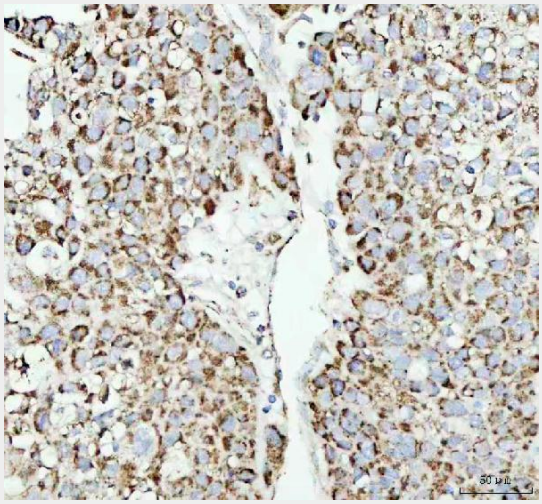

Figure 3. IHC analysis of COX IV using anti-COX IV antibody (M05442).
COX IV was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-COX IV Antibody (M05442) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

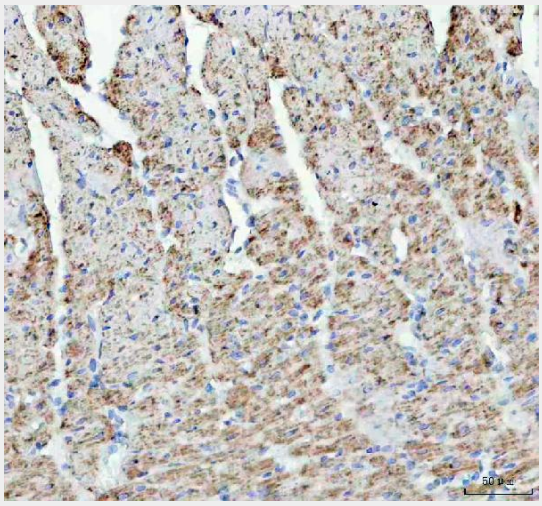

Figure 4. IHC analysis of COX IV using anti-COX IV antibody (M05442).
COX IV was detected in a paraffin-embedded section of rat heart tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-COX IV Antibody (M05442) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

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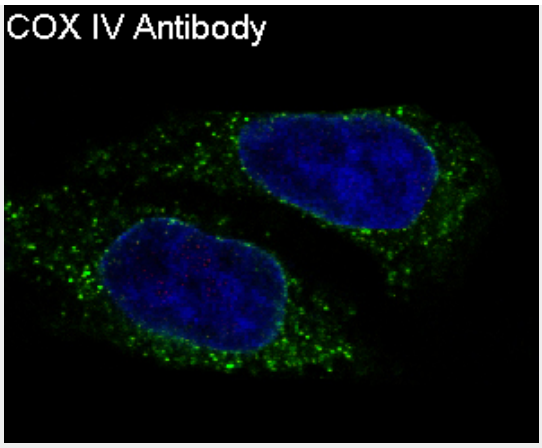
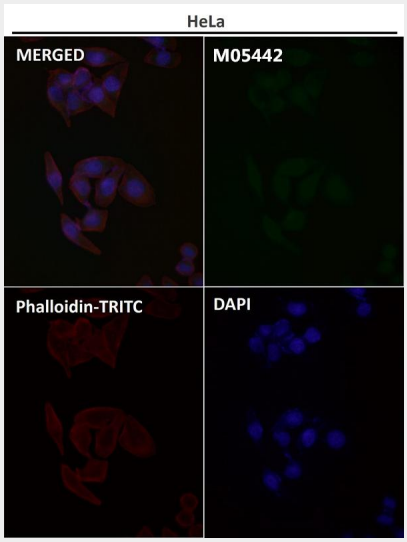


Immunofluorescent analysis of Hela cells, using COX IV Antibody.



Immunofluorescent analysis using the Antibody at 1:50 dilution.