

Anti-MTCO1 Antibody

Catalog # ABO10643

Product Information

Application	WB, IHC-P, ICC
Primary Accession	P00397
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cytochrome c oxidase subunit 1(MT-CO1) detection. Tested with WB, IHC-P, ICC in Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Other Names	Cytochrome c oxidase subunit 1, 1.9.3.1, Cytochrome c oxidase polypeptide I, Mtco1, COI, mt-Co1
Calculated MW	56910
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 μ g/ml, Mouse, Rat, By Heat Immunocytochemistry , 0.5-1 μ g/ml, Mouse, Rat Western blot, 0.1-0.5 μ g/ml, Mouse, Rat
Subcellular Localization	Mitochondrion inner membrane; Multi-pass membrane protein.
Source	Eukaryota
Protein Name	Cytochrome c oxidase subunit 1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Thimerosal, 0.05mg NaN ₃ .
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of mouse MTCO1(501-514aa PYHTFEEPTYVKVK), different from the related rat sequence by one amino acid.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20° C for one year. After r° Constitution, at 4° C for one month. It° Can also be aliquotted and stored frozen at -20° C for a longer time.Avoid repeated

freezing and thawing.

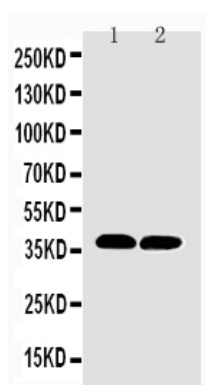
Protein Information

Name	Mtco1
Synonyms	COI, mt-Co1
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; Multi-pass membrane protein

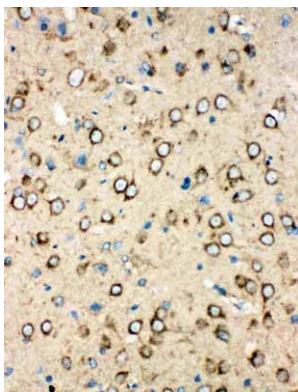
Background

Cytochrome c oxidase subunit I(CO1 or MTCO1) is 1 of 3 mitochondrial DNA(mtDNA) encoded subunits(MTCO1, MTCO2, MTCO3) of respiratory Complex IV. Complex IV is located within the mitochondrial inner membrane and is the third and final enzyme of the electron transport chain of mitochondrial oxidative phosphorylation. It is composed of 13 polypeptides. Subunits I, II, and III(MTCO1, MTCO2, MTCO3) are encoded by mtDNA while subunits IV, Va, Vb, VIa, VIb, VIc, VIIa, VIIb, VIIc, and VIII are nuclear encoded. The cytochrome c oxidase family of enzymes have 4 redox centers, 2 hemes and 2 copper centers. In mitochondrial Complex IV, the 2 hemes are a and a3 and the 2 coppers are CuA and CuB. The 2 hemes and CuB are bound to subunit I. Acin-Perez et al.(2003) identified a cell line containing single and double missense mutations in the cytochrome c oxidase(COX) subunit I gene of mouse mitochondrial DNA. And they hypothesized that deleterious mutations can arise and become predominant; cultured cells can maintain several mtDNA haplotypes at stable frequencies; the respiratory chain has little spare COX capacity; and that the size of a cavity in the vicinity of val421 in MTCO1I of animal COX may affect the function of the enzyme.

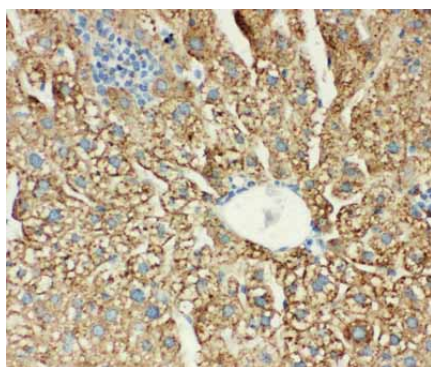
Images



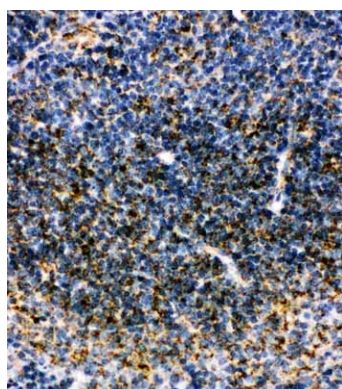
Anti-MTCO1 antibody, ABO10643, Western blotting
Lane 1: Rat Heart Tissue Lysate
Lane 2: Mouse Heart Tissue Lysate



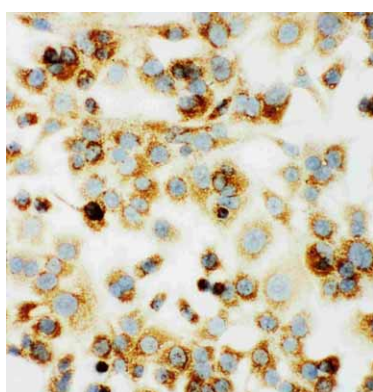
Anti-MTCO1 antibody, ABO10643, IHC(P)IHC(P): Rat Brain Tissue



Anti-MTCO1 antibody, ABO10643, IHC(P)IHC(P): Mouse Liver Tissue



Anti-MTCO1 antibody, ABO10643, IHC(P)IHC(P): Mouse Spleen Tissue



Anti-MTCO1 antibody, ABO10643, ICCICC: HEPA Cell

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.