Anti-MTCO2 Antibody [SC06-88]

ET1610-72

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IF-Cell, IF-Tissue, IHC-P
Molecular Wt:	Predicted band size: 26 kDa
Clone number:	SC06-88

Description: Cytochrome c oxidase subunit II (COX2), also designated COII, MTCO2 or oxidative phosphorylation (OxPhos) complex IV, subunit II, is one of three mitochondrial DNA (mtDNA) encoded subunits (MTCO1-3) of respiratory complex IV. Cytochrome c oxidase is a hetero-oligomeric enzyme composed of 13 subunits localized to the mitochondrial inner membrane and is the terminal enzyme complex of the electron transport chain. Complex IV catalyzes the reduction of molecular oxygen to water. The energy released is used to transport protons across the mitochondrial inner membrane. The resulting electrochemical gradient is necessary for the synthesis of ATP. Complex IV contains 13 polypeptides; COX1, COX2 and COX3 (MTCO1-3) make up the catalytic core and are encoded by mtDNA while subunits IV, Va, Vb, VIa, VIb, VIc, VIIa, VIIb, VIIc and VIII are nuclear-encoded. Defects in COX2 are associated with tumor formation.

Immunogen: Synthetic peptide within Human MTCO2 aa 199-227 / 227.

Positive control: MCF7 cell lysate, HeLa cell lysate, Human liver tissue lysate, HeLa, human liver tissue.

Subcellular location: Mitochondrion inner membrane.

Database links: SwissProt: P00403 Human

Recommended Dilutions:

WB	1:1,000-1:2,000
IF-Cell	1:100
IF-Tissue	1:50-1:200
IHC-P	1:200

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

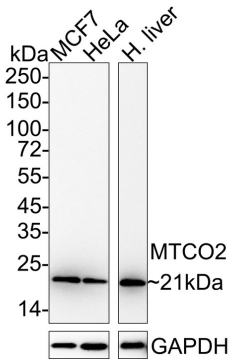

Fig1: Western blot analysis of MTCO2 on different lysates with Rabbit anti-MTCO2 antibody (ET1610-72) at 1/1,000 dilution.

Lane 1: MCF7 cell lysate (10 µg/Lane)
Lane 2: HeLa cell lysate (10 µg/Lane)
Lane 3: Human liver tissue lysate (20 µg/Lane)

Predicted band size: 26 kDa
Observed band size: 21 kDa

Exposure time: 46 seconds; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1610-72) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

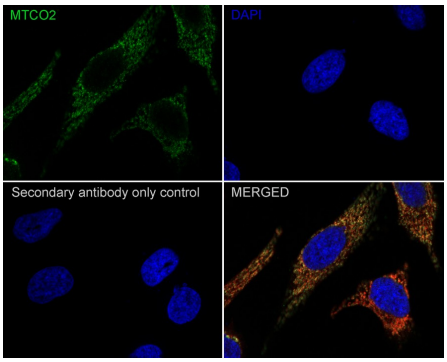

Fig2: Immunocytochemistry analysis of HeLa cells labeling MTCO2 with Rabbit anti-MTCO2 antibody (ET1610-72) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-MTCO2 antibody (ET1610-72) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Counterstained with Mitotracker. Nuclear DNA was labelled in blue with DAPI.

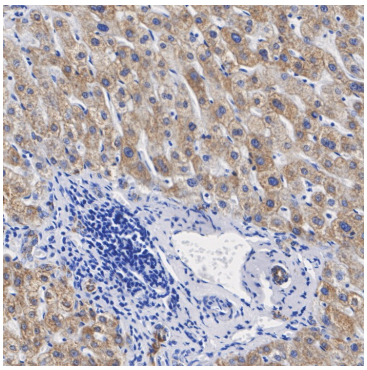

Fig3: Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-MTCO2 antibody (ET1610-72) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1610-72) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Liu KE & Frazier WA Phosphorylation of the BNIP3 C-Terminus Inhibits Mitochondrial Damage and Cell Death without Blocking Autophagy. PLoS One 10:e0129667 (2015).
2. Ng AC et al. Essential role of TID1 in maintaining mitochondrial membrane potential homogeneity and mitochondrial DNA integrity. Mol Cell Biol 34:1427-37 (2014).