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COXIV Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22111a

Product Information

Application	WB, FC, E
Primary Accession	P19783
Other Accession	P10888
Reactivity	Human, Rat, Mouse
Predicted	Rat
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB55992
Calculated MW	19530

Additional Information

Gene ID	12857
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, Cox4a
Target/Specificity	This COXIV antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 115-169 amino acids from the mouse region of human COXIV.
Dilution	WB~~1:2000 FC~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	COXIV Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Cox4i1
Synonyms	Cox4, Cox4a, Coxiv {ECO:0000303|PubMed:3

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

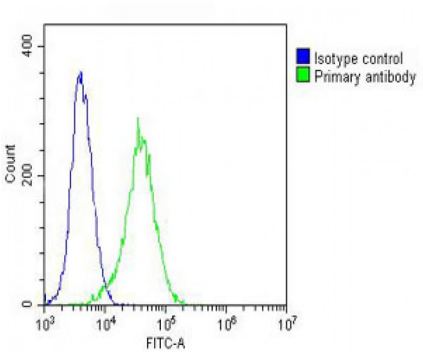
Background

This protein is one of the nuclear-coded polypeptide chains of cytochrome c oxidase, the terminal oxidase in mitochondrial electron transport.

References

Grossman L.I.,et al.Nucleic Acids Res. 18:6454-6454(1990).
Carter R.S.,et al.Arch. Biochem. Biophys. 288:97-106(1991).
Carninci P.,et al.Science 309:1559-1563(2005).
Lubec G.,et al.Submitted (APR-2007) to UniProtKB.
Park J.,et al.Mol. Cell 50:919-930(2013).

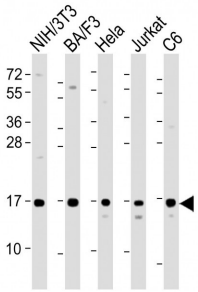
Images



Overlay histogram showing NIH/3T3 cells stained with AP22111a (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP22111a, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OH191631) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

All lanes : Anti-COXIV Antibody at 1:2000 dilution Lane 1: NIH/3T3 whole cell lysate Lane 2: BA/F3 whole cell lysate Lane 3: Hela whole cell lysate Lane 4: Jurkat whole cell lysate Lane 5: C6 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 20 kDa Blocking/Dilution buffer: 5%

NFDM/TBST.



Citations

- Mitochondrial transplantation reduces lower limb ischemia-reperfusion injury by increasing skeletal muscle energy and adipocyte browning
- Cell-type-specific profiling of brain mitochondria reveals functional and molecular diversity.