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Anti-NDUFA4 Antibody

Catalog # AP51381

Product Information

Application	WB, IHC, IF/IC
Primary Accession	O00483
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	9370

Additional Information

Gene ID	4697
Other Names	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 4; Complex I-MLRQ; CI-MLRQ; NADH-ubiquinone oxidoreductase MLRQ subunit
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human NDUFA4. The exact sequence is proprietary.
Dilution	WB~~ 1:1000 IHC~~1:100~500 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	COXFA4 (HGNC:7687)
Synonyms	NDUFA4
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

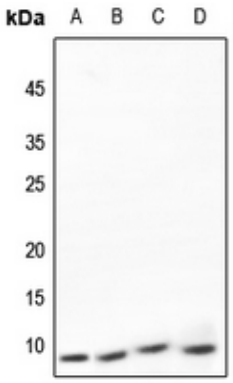
heme A3 and copper B (CU(B)). The BNC reduces molecular oxygen to 2 water molecules unsing 4 electrons from cytochrome c in the IMS and 4 protons from the mitochondrial matrix (PubMed:22902835). COXFA4 is required for complex IV maintenance (PubMed:22902835).

Cellular Location Mitochondrion inner membrane; Single-pass membrane protein

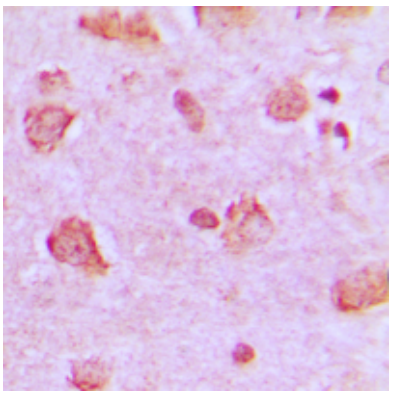
References

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Kanagarajah D.,et al.Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases.
Ebert L.,et al.Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.
Halleck A.,et al.Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
Scherer S.W.,et al.Science 300:767-772(2003).

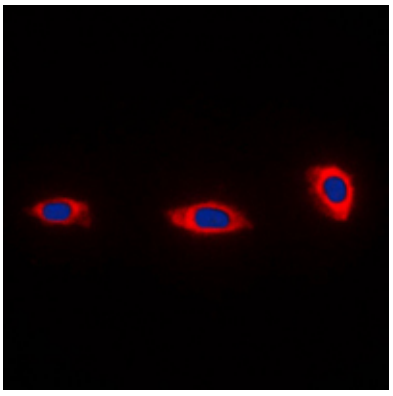
Images



Western blot analysis of NDUFA4 expression in H446 (A), mouse kidney (B), mouse liver (C), rat kidney (D) whole cell lysates. (Predicted band size: 9 kD; Observed band size: 9 kD)



Immunohistochemical analysis of NDUFA4 staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of NDUFA4 staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark. DAPI was used to stain the cell nuclei (blue).

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