10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

COX6A2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9616c

Product Information

Application	WB, IHC-P, E
Primary Accession	Q02221
Reactivity	Human
Predicted	Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB23260
Calculated MW	10815
Antigen Region	37-66

Additional Information

Gene ID	1339
Other Names	Cytochrome c oxidase subunit 6A2, mitochondrial, Cytochrome c oxidase polypeptide VIa-heart, COXVIAH, Cytochrome c oxidase subunit VIA-muscle, COX VIa-M, COX6A2, COX6A, COX6AH
Target/Specificity	This COX6A2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 37-66 amino acids from the Central region of human COX6A2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 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	COX6A2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	COX6A2
Synonyms	COX6A, COX6AH

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. Plays a role in the assembly and stabilization of complex IV (PubMed:31155743).
Cellular Location	Mitochondrion inner membrane {ECO:0000250|UniProtKB:P07471}; Single-pass membrane protein {ECO:0000250|UniProtKB:P07471}
Tissue Location	Expressed specifically in heart and muscle (PubMed:31155743). Not detected in brain, colon, spleen, kidney, liver, lung and pancreas (PubMed:31155743).

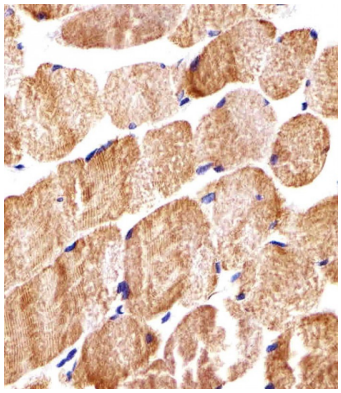
Background

Cytochrome c oxidase (COX), the terminal enzyme of the mitochondrial respiratory chain, catalyzes the electron transfer from reduced cytochrome c to oxygen. It is a heteromeric complex consisting of 3 catalytic subunits encoded by mitochondrial genes and multiple structural subunits encoded by nuclear genes. The mitochondrially-encoded subunits function in electron transfer, and the nuclear-encoded subunits may be involved in the regulation and assembly of the complex. This nuclear gene encodes polypeptide 2 (heart/muscle isoform) of subunit VIa, and polypeptide 2 is present only in striated muscles. Polypeptide 1 (liver isoform) of subunit VIa is encoded by a different gene, and is found in all non-muscle tissues. These two polypeptides share 66% amino acid sequence identity.

References

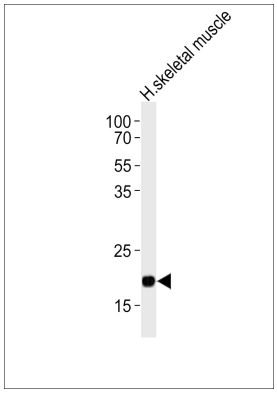
Bachman, N.J., et al. Genomics 42(1):146-151(1997)
Lanfranchi, G., et al. Genome Res. 6(1):35-42(1996)

Images

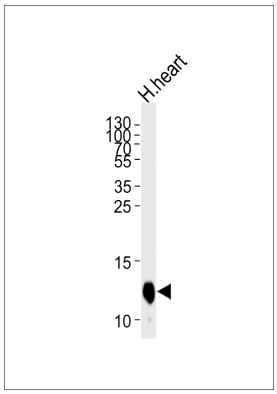


Immunohistochemical analysis of paraffin-embedded H. skeletal muscle section using COX6A2 Antibody (Center)(Cat#AP9616c). AP9616c was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

Western blot analysis of lysate from human skeletal



muscle tissue lysate, using COX6A2 Antibody (Center)(Cat. #AP9616c). AP9616c was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysate at 20ug.



Western blot analysis of lysate from human heart tissue lysate, using COX6A2 Antibody (Center)(Cat. #AP9616c). AP9616c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug per lane.

Citations

- Investigating the role of the physiological isoform switch of cytochrome c oxidase subunits in reversible mitochondrial disease.

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