

Anti-UQCRC1 Antibody

Catalog # AP96108

Product Information

Application	WB, IHC, FC, IF/IC
Primary Accession	P31930
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Calculated MW	52646

Additional Information

Gene ID	7384
Other Names	Cytochrome b-c1 complex subunit 1, mitochondrial; Complex III subunit 1; Core protein I; Ubiquinol-cytochrome-c reductase complex core protein 1
Target/Specificity	Recombinant fusion protein of human UQCRC1 expressed in E. Coli
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 FC~~FC (1/100 - 1/200) IF/IC~~N/A
Format	Mouse IgG1. Liquid in PBS, 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	UQCRC1
Function	Component of the ubiquinol-cytochrome c oxidoreductase, a multisubunit transmembrane complex that is part of 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. The cytochrome b-c1 complex catalyzes electron transfer from ubiquinol to cytochrome c, linking this redox reaction to translocation of protons across the mitochondrial inner membrane, with protons being carried across the membrane as hydrogens on the quinol. In the process called Q cycle, 2 protons are consumed from the matrix, 4 protons are released into the intermembrane space and 2 electrons are passed to cytochrome c (By similarity). The 2 core subunits UQCRC1/QCR1 and UQCRC2/QCR2 are homologous to the 2 mitochondrial-processing peptidase (MPP) subunits beta-MPP and alpha-MPP respectively, and they

seem to have preserved their MPP processing properties (By similarity). May be involved in the in situ processing of UQCRC1 into the mature Rieske protein and its mitochondrial targeting sequence (MTS)/subunit 9 when incorporated into complex III (Probable). Seems to play an important role in the maintenance of proper mitochondrial function in nigral dopaminergic neurons (PubMed:[33141179](#)).

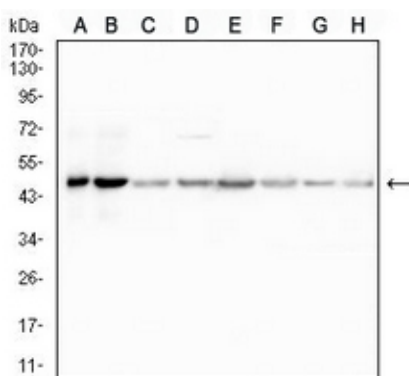
Cellular Location

Mitochondrion inner membrane {ECO:0000250|UniProtKB:P07256}; Peripheral membrane protein {ECO:0000250|UniProtKB:P07256}; Matrix side {ECO:0000250|UniProtKB:P07256}

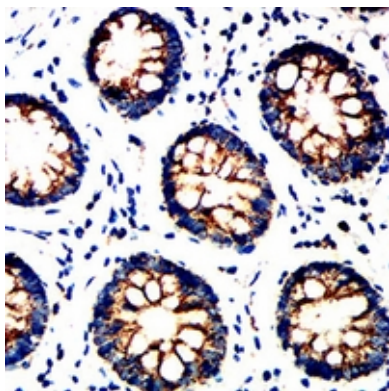
Tissue Location

Expressed in brain, including substantia nigra, striatum, cortex and cerebellum, and in spinal cord, heart, kidney, liver and muscle.

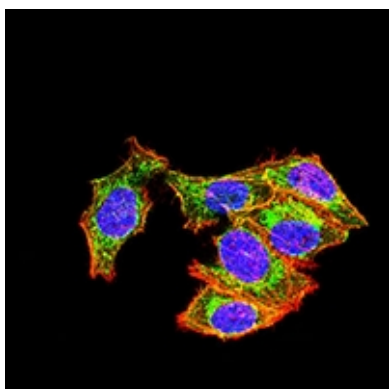
Images



Western blot analysis of UQCRC1 expression in Hela (A), A431 (B), HepG2 (C), HEK293 (D), PC3 (E), SHSY5Y (F), mouse brain (G), rat brain (H) whole cell lysates. (Predicted band size: 53 kD; Observed band size: 50 kD)

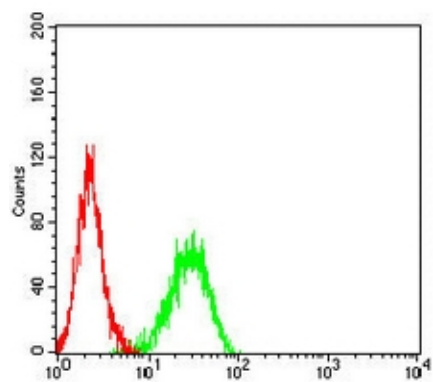


Immunohistochemical analysis of UQCRC1 staining in human colon formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using 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 UQCRC1 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 an AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

Flow cytometric analysis of Jurkat cells using Anti-UQCRC1 Antibody (green) and negative control (red).



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