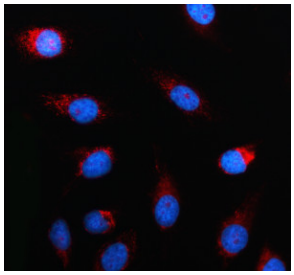
UQCRC2 Antibody / Cytochrome b-c1 Complex Subunit 2 Antibody (FY13501)

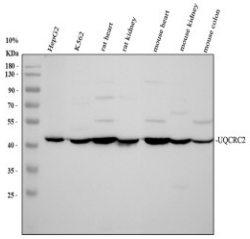
Catalog No.	Formulation	Size
FY13501	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

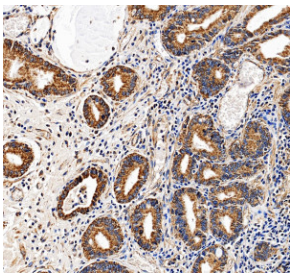
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen Affinity
Buffer	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4
UniProt	P22695
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml Immunoprecipitation : 2ug per 500ug of lysate
Limitations	This UQCRC2 Antibody / Cytochrome b-c1 Complex Subunit 2 Antibody is available for research use only.



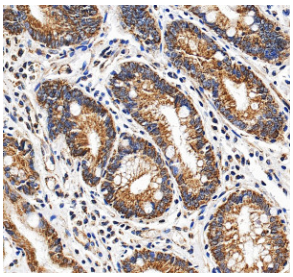
UQCRC2 Antibody Human HeLa Cell IF. Immunofluorescent staining of human HeLa cells was performed with UQCRC2 Antibody at 5 ug/ml overnight at 4oC. Enzyme antigen retrieval was performed for 15 minutes, followed by Cy3-conjugated secondary antibody (red) and DAPI nuclear counterstain (blue). UQCRC2 staining displays a punctate cytoplasmic distribution consistent with mitochondrial localization. This UQCRC2 Antibody demonstrates localization of cytochrome b-c1 complex subunit 2 in human HeLa cells.



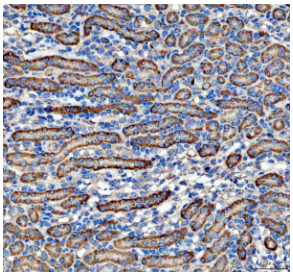
UQCRC2 Antibody Human, Mouse and Rat WB. Western blot analysis was performed using UQCRC2 Antibody on human HepG2 and K562 cell lysates (lanes 1-2), rat heart and kidney tissue lysates (lanes 3-4), and mouse heart, kidney and colon tissue lysates (lanes 5-7). Samples (30 ug) were separated by 10% SDS-PAGE under reducing conditions. The antibody was used at 0.1 ug/ml overnight at 4oC. A prominent band was detected at approximately 48 kDa, consistent with the expected molecular weight of UQCRC2. This UQCRC2 Antibody demonstrates detection of cytochrome b-c1 complex subunit 2 across human, mouse and rat samples.



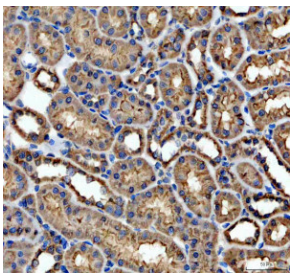
UQCRC2 Antibody Human Gastric Cancer IHC. IHC staining of FFPE human gastric cancer tissue was performed with UQCRC2 Antibody at 2 ug/ml overnight at 4oC. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer, followed by HRP-conjugated secondary antibody and DAB detection. Strong UQCRC2 staining is observed in the tumor epithelium with a predominantly cytoplasmic pattern. This UQCRC2 Antibody demonstrates localization of cytochrome b-c1 complex subunit 2 in human gastric cancer tissue.



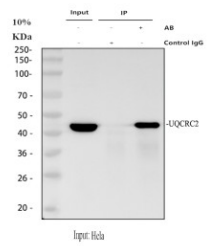
UQCRC2 Antibody Human Gastric Adenocarcinoma IHC. IHC staining of FFPE human gastric cancer tissue was performed with UQCRC2 Antibody at 2 ug/ml overnight at 4oC. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer, followed by HRP-conjugated secondary antibody and DAB detection. Strong UQCRC2 staining is observed in malignant glandular epithelial cells with a predominantly cytoplasmic pattern. This UQCRC2 Antibody demonstrates localization of cytochrome b-c1 complex subunit 2 in human gastric adenocarcinoma tissue.



UQCRC2 Antibody Mouse Kidney Tubule IHC. IHC staining of FFPE mouse kidney tissue was performed with UQCRC2 Antibody at 2 ug/ml overnight at 4oC. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer, followed by HRP-conjugated secondary antibody and DAB detection. Strong UQCRC2 staining is observed in renal tubular epithelial cells with a predominantly cytoplasmic pattern. This UQCRC2 Antibody demonstrates localization of cytochrome b-c1 complex subunit 2 in mouse kidney tissue.



UQCRC2 Antibody Rat Kidney Mitochondrial IHC. IHC staining of FFPE rat kidney tissue was performed with UQCRC2 Antibody at 2 ug/ml overnight at 4oC. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer, followed by HRP-conjugated secondary antibody and DAB detection. Positive UQCRC2 staining is observed prominently in renal tubular epithelial cells with a cytoplasmic pattern. This UQCRC2 Antibody demonstrates localization of cytochrome b-c1 complex subunit 2 in rat kidney tissue.



UQCRC2 Antibody Human HeLa Cell IP. Immunoprecipitation of UQCRC2 from human HeLa whole cell lysate was performed using UQCRC2 Antibody. Lane 1 contains 30 ug of input lysate, lane 2 represents immunoprecipitation with rabbit control IgG, and lane 3 represents immunoprecipitation with 2 ug of UQCRC2 Antibody and 500 ug of HeLa lysate. Western blot detection was performed with the antibody at 0.5 ug/ml and a light chain-specific HRP secondary antibody. A specific band was detected at approximately 48 kDa in the input and UQCRC2 immunoprecipitate, with no corresponding signal in the IgG control. This UQCRC2 Antibody demonstrates immunoprecipitation of cytochrome b-c1 complex subunit 2 from human cells.

Description

UQCRC2 Antibody / Cytochrome b-c1 Complex Subunit 2 Antibody detects UQCRC2, a nuclear-encoded core component of mitochondrial respiratory Complex III. Also known as ubiquinol-cytochrome c reductase core protein 2, UQCRC2 is located within the inner mitochondrial membrane as part of the multisubunit cytochrome b-c1 complex. Complex III occupies a central position in the mitochondrial electron transport chain, transferring electrons from ubiquinol to cytochrome c while contributing to formation of the proton gradient required for oxidative phosphorylation.

Mitochondrial Complex III functions between Complexes I and II, which supply electrons to the ubiquinone pool, and Complex IV, which receives electrons through cytochrome c. During the Q cycle, oxidation and reduction of ubiquinone species are coupled to proton translocation across the inner mitochondrial membrane. This process contributes to the electrochemical gradient subsequently used by ATP synthase to drive ATP production. UQCRC2 is therefore associated with a respiratory complex essential for efficient mitochondrial energy metabolism.

UQCRC2 is one of the core proteins of Complex III and contributes to the structural organization and proper assembly of the complex. Although it is not itself one of the principal redox-active catalytic subunits, normal UQCRC2 expression is important for maintaining Complex III integrity and respiratory chain function. A UQCRC2 Antibody can support investigation of Complex III abundance and mitochondrial respiratory biology in cells and tissues.

Defects in mitochondrial respiratory chain function can disrupt ATP production, alter mitochondrial membrane potential and increase oxidative stress. Complex III is also an important site of mitochondrial reactive oxygen species generation, linking its activity to redox signaling and cellular responses to metabolic stress. UQCRC2 and other Complex III components are consequently studied in research involving mitochondrial dysfunction, oxidative stress, cellular metabolism and mechanisms regulating oxidative phosphorylation.

Altered mitochondrial respiration is relevant to a broad range of biological and disease processes, including cancer, neurobiology, cardiovascular research and metabolic disorders. Changes in respiratory complex abundance or assembly can influence cellular bioenergetics and adaptation to metabolic demands. UQCRC2 is also commonly examined alongside representative proteins from other oxidative phosphorylation complexes when assessing mitochondrial respiratory chain composition and integrity.

NSJ Bioreagents offers UQCRC2 Antibody reagents for investigating mitochondrial Complex III expression and respiratory chain biology. A Cytochrome b-c1 Complex Subunit 2 Antibody can support research into electron transport, oxidative phosphorylation, mitochondrial energy metabolism, Complex III organization and cellular mechanisms associated with mitochondrial dysfunction.

Learn more about related targets by visiting our Mitochondrial Marker Antibodies page.

Application Notes

Optimal dilution of the UQCRC2 Antibody / Cytochrome b-c1 Complex Subunit 2 Antibody should be determined by the researcher.

Immunogen

E.coli-derived human Cytochrome b-c1 Complex Subunit 2 recombinant protein (amino acids L52-K436) was used as the immunogen for the UQCRC2 Antibody.

Storage

After reconstitution, the UQCRC2 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

UQCRC2 antibody, Cytochrome b-c1 Complex Subunit 2 antibody, Ubiquinol-Cytochrome c Reductase Core Protein 2 antibody, Complex III Core Protein 2 antibody, Core Protein II antibody, QCR2 antibody