abcam

ab154803

Anti-UQCRH antibody [EPR9038(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR9038(B)
Purification technique	Affinity purification Protein A
Specificity	The immunogen used for this product shares 100% homology with UQCRHL. Cross-reactivity with this protein has not been confirmed experimentally.
Concentration	0.443 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100

Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Rat, Human, Mouse

Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information UQCRH

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.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	UQCRH also known as ubiquinol-cytochrome c reductase hinge protein plays an important role in the electron transport chain. It forms a part of the core structure of cytochrome bc1 complex (Complex III) in mitochondria. UQCRH has a molecular mass of about 9 kDa and is expressed ubiquitously in human tissues. Its primary role is to assist in transferring electrons by connecting cytochrome c1 and cytochrome c which is essential for cellular respiration and energy production.
Biological function summary	The hinge protein acts as a critical component of the mitochondrial respiratory chain complex III. UQCRH ensures the efficient transfer of electrons within the complex which contributes to generating a proton gradient across the inner mitochondrial membrane. This proton gradient drives ATP synthesis. It is a vital component of the larger respiratory chain complex which is important for aerobic cellular energy metabolism and plays an important role in overall mitochondrial function.

Pathways	UQCRH is a significant player in the oxidative phosphorylation pathway which is central to the production of ATP. The protein closely interacts with components of Complex III and adjacent complexes of the electron transport chain such as NADH dehydrogenase (Complex I) and cytochrome c oxidase (Complex IV). These interactions help UQCRH integrate smoothly within the pathway ensuring the consistent flow of electrons and maintenance of ATP production.
Associated diseases and disorders	UQCRH mutations or dysfunctions link to mitochondrial disorders such as mitochondrial complex III deficiency. Dysfunction in this protein disrupts normal mitochondrial respiration leading to various symptoms including myopathy and encephalopathy. Additionally impaired UQCRH function can contribute to the development of neurodegenerative diseases. Studies have observed connections between abnormal UQCRH activity and proteins such as superoxide dismutase-1 (SOD1) in disease states indicating its possible role in oxidative stress-related pathologies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

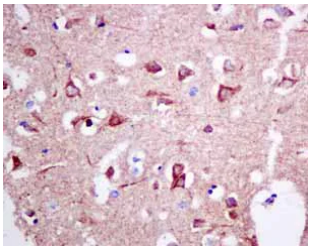
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

9 product images

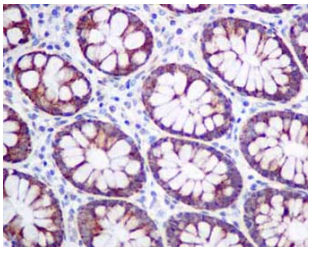


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-UQCRH antibody

Immunohistochemical analysis of paraffin embedded Human normal brain tissue using ab154803 showing +ve staining.

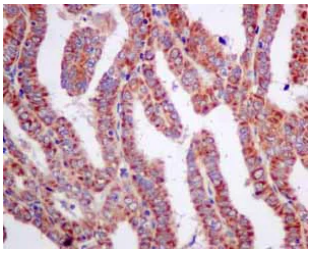
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-UQCRH antibody

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling UQCRH with ab154803 at 1/50 dilution.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

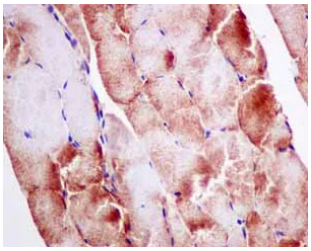


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-UQCRH antibody

Immunohistochemical analysis of paraffin embedded Human thyroid gland carcinoma tissue using ab154803 showing +ve staining.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

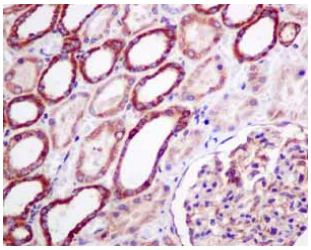


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-UQCRH antibody

Immunohistochemical analysis of paraffin embedded Human skeletal muscle tissue using ab154803 showing +ve staining.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

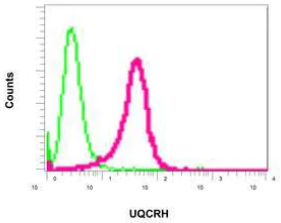


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-UQCRH antibody

Immunohistochemical analysis of paraffin embedded Human normal kidney tissue using ab154803 showing +ve staining.

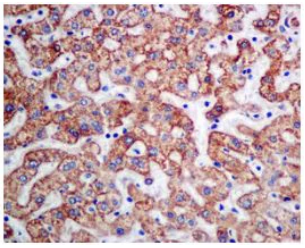
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH Flow Cytometry (Intracellular) staining using rabbit Anti-UQCRH antibody

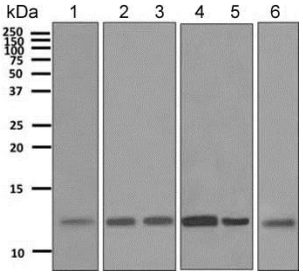
Intracellular flow cytometric analysis of permeabilized Saos 2 cells labeling UQCRH with ab154803 at 1/10 dilution (red) or a rabbit IgG (green- negative control).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-UQCRH antibody

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling UQCRH with ab154803 at 1/50 dilution.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH Western blot staining using rabbit Anti-UQCRH antibody

All lanes:
Western blot - Anti-UQCRH antibody [EPR9038(B)] (ab154803) at 1/1000 dilution

Lane 1:
Fetal liver lysate at 10 µg

Lane 2:
PC12 lysate at 10 µg

Lane 3:
C6 lysate at 10 µg

Lane 4:
Fetal brain lysate at 10 µg

Lane 5:
Human spleen lysate at 10 µg

Lane 6:
Saos 2 lysate at 10 µg

Predicted band size: 11 kDa

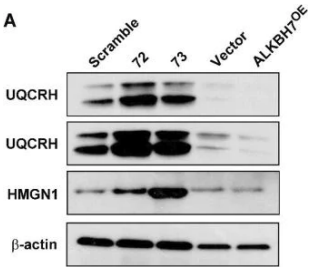


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Western blot - Anti-UQCRH antibody [EPR9038(B)] (ab154803)

UQCRH western blot using anti-UQCRH antibody [EPR9038(B)] ab154803. Publication image and figure legend from Meng, S., Zhan, S., et al., 2020, Proteome Sci, PubMed 31889914.

ab154803 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab154803 please see the product overview.

Validation of TMT-based proteomics data. (a) Two DEPs (UQCRH and HMGN1) identified in proteomics data were validated by western blot. Knockdown of ALKBH7 resulted in upregulation of UQCRH and HMGN1 expression, and the opposite pattern of expression was detected in ALKBH7 overexpression cell lines, which were consistent with our proteomics data. (b) The relative intensity of UQCRH and HMGN1 in western blot (normalized by corresponding β-actin expression)

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