

QP-C (C-12): sc-74880

BACKGROUND

Cytochrome c is a well characterized, mobile electron transport protein that is essential to energy conversion in all aerobic organisms. Cytochrome b associates with cytochrome c subunit 1 and the Rieske protein to form complex III, also designated cytochrome bc₁ complex, which is involved in cellular respiration. QP-C, also known as QCR8, QPC, UQCRCQ (ubiquinol-cytochrome c reductase, complex III subunit VII, 9.5kDa) or cytochrome bc₁ complex subunit 8, is a 82 amino acid mitochondrial inner membrane protein that belongs to the UQCRCQ/QCR8 family. QP-C is a component of the UQCRC (ubiquinol-cytochrome-c reductase complex core) complex, which is part of the mitochondrial respiratory chain. Mutations in QP-C are due to mitochondrial complex III deficiency and are characterized by severe psychomotor retardation and extrapyramidal signs.

REFERENCES

1. Duncan, A.M., et al. 1993. Assignment of the gene for the core protein II (UQCRC2) subunit of the mitochondrial cytochrome bc₁ complex to human chromosome 16p12. *Genomics* 18: 455-456.
2. Hoffman, G.G., et al. 1993. Complete coding sequence, intron/exon organization, and chromosomal location of the gene for the core I protein of human ubiquinol-cytochrome c reductase. *J. Biol. Chem.* 268: 21113-21119.
3. Valnot, I., et al. 1999. A mitochondrial cytochrome b mutation but no mutations of nuclearly encoded subunits in ubiquinol-cytochrome c reductase (complex III) deficiency. *Hum. Genet.* 104: 460-466.
4. Borisov, V.B. 2002. Defects in mitochondrial respiratory complexes III and IV, and human pathologies. *Mol. Aspects Med.* 23: 385-412.
5. Wen, J.J., et al. 2004. Oxidative modification of mitochondrial respiratory complexes in response to the stress of *Trypanosoma cruzi* infection. *Free Radic. Biol. Med.* 37: 2072-2081.
6. Borisov, V.B. 2004. Mutations in respiratory chain complexes and human diseases. *Ital. J. Biochem.* 53: 34-40.

CHROMOSOMAL LOCATION

Genetic locus: UQCRCQ (human) mapping to 5q31.1; Uqcrcq (mouse) mapping to 11 B1.3.

SOURCE

QP-C (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of QP-C of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74880 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

QP-C (C-12) is recommended for detection of QP-C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

QP-C (C-12) is also recommended for detection of QP-C in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for QP-C siRNA (h): sc-76305, QP-C siRNA (m): sc-76306, QP-C shRNA Plasmid (h): sc-76305-SH, QP-C shRNA Plasmid (m): sc-76306-SH, QP-C shRNA (h) Lentiviral Particles: sc-76305-V and QP-C shRNA (m) Lentiviral Particles: sc-76306-V.

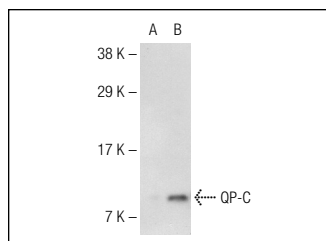
Molecular Weight of QP-C: 9.5 kDa.

Positive Controls: QP-C (m): 293T Lysate: sc-125875.

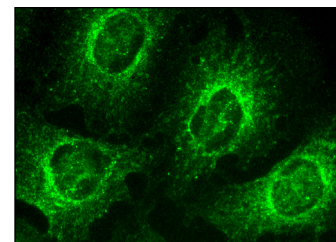
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



QP-C (C-12): sc-74880. Western blot analysis of QP-C expression in non-transfected: sc-117752 (A) and mouse QP-C transfected: sc-125875 (B) 293T whole cell lysates.



QP-C (C-12): sc-74880. Immunofluorescence staining of methanol-fixed HeLa cells showing mitochondrial localization.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.