

# UQCRB (D-15): sc-87493

## BACKGROUND

UQCRB (ubiquinol-cytochrome c reductase binding protein), also known as complex III subunit VII, ubiquinol-cytochrome c reductase complex 14 kDa protein and QCR7, is a 111 amino acid mitochondrion inner membrane protein. UQCRB is a component of the ubiquinol-cytochrome c reductase complex, also known as complex III or cytochrome b-c1 complex, which is a constituent of the mitochondrial respiratory chain. The ubiquinol-cytochrome c reductase complex is composed of two core proteins (UQCRC1 and UQCRC2), three respiratory subunits (cytochrome c1, cytochrome b and Rieske) and six low-molecular weight proteins (UQCRH, UQCRB, QP-C, UQCR10, UQCR11 and a cleavage product of Rieske). UQCRB binds ubiquinone and is involved in the transfer of electrons across the mitochondrion inner membrane. Mutations in the gene that encodes UQCRB have been linked to mitochondrial complex III deficiency (CIII deficiency), a condition characterized by congenital lactic acidosis.

## REFERENCES

1. Wakabayashi, S., Takao, T., Shimonishi, Y., Kuramitsu, S., Matsubara, H., Wang, T., Zhang, Z. and King, T.E. 1985. Complete amino acid sequence of the ubiquinone binding protein (QP-C), a protein similar to the 14,000-dalton subunit of the yeast ubiquinol-cytochrome c reductase complex. *J. Biol. Chem.* 260: 337-343.
2. Suzuki, H., Hosokawa, Y., Toda, H., Nishikimi, M. and Ozawa, T. 1988. Cloning and sequencing of a cDNA for human mitochondrial ubiquinone-binding protein of complex III. *Biochem. Biophys. Res. Commun.* 156: 987-994.
3. Suzuki, H., Hosokawa, Y., Toda, H., Nishikimi, M. and Ozawa, T. 1989. Isolation of a single nuclear gene encoding human ubiquinone-binding protein in complex III of mitochondrial respiratory chain. *Biochem. Biophys. Res. Commun.* 161: 371-378.
4. Hosokawa, Y., Suzuki, H., Nishikimi, M., Matsukage, A., Yoshida, M.C. and Ozawa, T. 1990. Chromosomal assignment of the gene for the ubiquinone-binding protein of human mitochondrial cytochrome bc1 complex. *Biochem. Int.* 21: 41-44.
5. Suzuki, H., Hosokawa, Y., Toda, H., Nishikimi, M. and Ozawa, T. 1990. Common protein-binding sites in the 5'-flanking regions of human genes for cytochrome c1 and ubiquinone-binding protein. *J. Biol. Chem.* 265: 8159-8163.
6. Malaney, S., Heng, H.H., Tsui, L.C., Shi, X.M. and Robinson, B.H. 1996. Localization of the human gene encoding the 13.3-kDa subunit of mitochondrial complex III (UQCRB) to 8q22 by *in situ* hybridization. *Cytogenet. Cell Genet.* 73: 297-299.
7. Haut, S., Brivet, M., Touati, G., Rustin, P., Lebon, S., Garcia-Cazorla, A., Saudubray, J.M., Boutron, A., Legrand, A. and Slama, A. 2003. A deletion in the human QP-C gene causes a complex III deficiency resulting in hypoglycaemia and lactic acidosis. *Hum. Genet.* 113: 118-122.

## CHROMOSOMAL LOCATION

Genetic locus: UQCRB (human) mapping to 8q22.1, LOC727947 (human) mapping to 5q33.3.

## SOURCE

UQCRB (D-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of UQCRB of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87493 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

UQCRB (D-15) is recommended for detection of UQCRB and LOC727947 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

UQCRB (D-15) is also recommended for detection of UQCRB and LOC727947 in additional species, including avian.

Molecular Weight of UQCRB: 13 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.