

# UCRC (C-14): sc-86937

## BACKGROUND

UCRC (Cytochrome b-c1 complex subunit 9), also known as Ubiquinol-cytochrome c reductase complex 7.2 kDa protein and complex III subunit X (UQCR10), is a 63 amino acid mitochondrial inner membrane protein that is a component of the ubiquinol-cytochrome c reductase complex, a part of the mitochondrial respiratory chain. This complex consists of eleven subunits and interacts with cytochrome c1. Ubiquinol cytochrome c reductase (complex III) deficiency results when any of the genes encoding the subunits is missing or defective, and causes cardiomyopathy, Leber's myopathy and fatal infant conditions. UCRC is highly expressed in skeletal muscle and heart, where its levels have been shown to be influenced by ovarian hormones. Interestingly, UCRC expression in the heart increases in response to cardiac hypertrophy and hypertension.

## REFERENCES

1. Reed, J. and Hess, B. 1977. Structure of a cytochrome b-c 1 complex from *Saccharomyces cerevisiae* YF. Hoppe-Seyler's Z. Physiol. Chem. 358: 1119-1124.
2. Schägger, H., et al. 1995. Ubiquinol-cytochrome-c reductase from human and bovine mitochondria. Meth. Enzymol. 260: 82-96.
3. Islam, M.M., et al. 1997. Primary structure of the smallest (6.4-kDa) subunit of human and bovine ubiquinol-cytochrome c reductase deduced from cDNA sequences. Biochem. Mol. Biol. Int. 41: 1109-1116.
4. 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.
5. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34<sup>+</sup> hematopoietic stem/progenitor cells. Genome Res. 10: 1546-1560.
6. Akashi, H., et al. 2000. Isolation and characterization of a human cDNA encoding a protein homologous to the 7.2 kDa protein (subunit X) of bovine ubiquinol-cytochrome C reductase. J. Hum. Genet. 45: 43-46.

## CHROMOSOMAL LOCATION

Genetic locus: UQCR10 (human) mapping to 22q12.2; 1110020P15Rik (mouse) mapping to 11 A1.

## SOURCE

UCRC (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of UCRC of human origin.

## STORAGE

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

## PROTOCOLS

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

## 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-86937 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

UCRC (C-14) is recommended for detection of UCRC 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).

UCRC (C-14) is also recommended for detection of UCRC in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UCRC siRNA (h): sc-76801, UCRC siRNA (m): sc-154888, UCRC shRNA Plasmid (h): sc-76801-SH, UCRC shRNA Plasmid (m): sc-154888-SH, UCRC shRNA (h) Lentiviral Particles: sc-76801-V and UCRC shRNA (m) Lentiviral Particles: sc-154888-V.

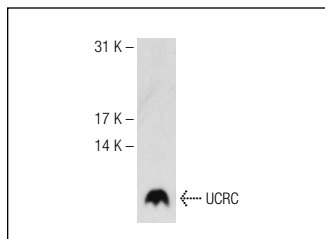
Molecular Weight of UCRC: 7 kDa.

Positive Controls: mouse heart extract: sc-2254.

## 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



UCRC (C-14): sc-86937. Western blot analysis of UCRC expression in mouse heart tissue extract.

## RESEARCH USE

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