

# UQCRC1 (16D10): sc-65238

## BACKGROUND

UQCRC1, or ubiquinol-cytochrome c reductase complex core protein 1, is a core subunit of the mitochondrial respiratory complex III. It is the largest nuclear encoded subunit of the complex. UQCRC1 plays a key role in mitochondria-to-nucleus retrograde response and is involved in the mitochondrial proton gradient formation. It has also shown to interact with Nogo, an inhibitor of neurite growth after spinal cord injury. UQCRC1 has been found at high expression levels in breast and ovarian tumors, positively correlating with Cox-2 expression. Transcription of UQCRC1 is repressed by the nuclear protein methyl-CpG-binding protein-2 (MeCP2). A mutation in the gene for MeCP2 (associated with Rett syndrome) can result in the overexpression of UQCRC1, leading to increased activity of complex III.

## REFERENCES

- 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.
- Islam, M.M., et al. 1994. A complete cDNA sequence for core I protein subunit of human ubiquinol-cytochrome c reductase. *Biochem. Mol. Biol. Int.* 32: 797-805.
- 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.
- Hu, W.H., et al. 2002. Identification and characterization of a novel Nogo-interacting mitochondrial protein (NIMP). *J. Neurochem.* 81: 36-45.
- Wen, J.J. and Garg, N. 2004. Oxidative modification of mitochondrial respiratory complexes in response to the stress of *Trypanosoma cruzi* infection. *Free Radic. Biol. Med.* 37: 2072-2081.
- Kriaucionis, S., et al. 2006. Gene expression analysis exposes mitochondrial abnormalities in a mouse model of Rett syndrome. *Mol. Cell. Biol.* 26: 5033-5042.

## CHROMOSOMAL LOCATION

Genetic locus: UQCRC1 (human) mapping to 3p21.31; Uqcrc1 (mouse) mapping to 9 F2.

## SOURCE

UQCRC1 (16D10) is a mouse monoclonal antibody raised against UQCRC1.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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.

## APPLICATIONS

UQCRC1 (16D10) is recommended for detection of UQCRC1 of mouse 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for UQCRC1 siRNA (h): sc-72154, UQCRC1 siRNA (m): sc-72155, UQCRC1 shRNA Plasmid (h): sc-72154-SH, UQCRC1 shRNA Plasmid (m): sc-72155-SH, UQCRC1 shRNA (h) Lentiviral Particles: sc-72154-V and UQCRC1 shRNA (m) Lentiviral Particles: sc-72155-V.

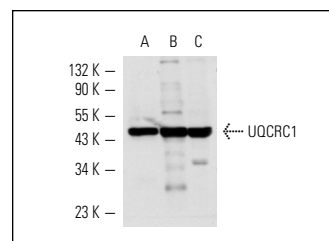
Molecular Weight of UQCRC1: 53 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, mouse heart extract: sc-2254 or mouse brain extract: sc-2253.

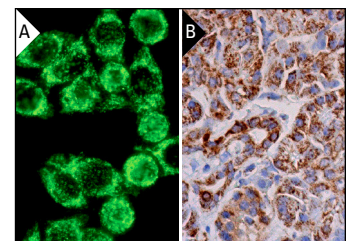
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

## DATA



UQCRC1 (16D10): sc-65238. Western blot analysis of UQCRC1 expression in human heart (A), mouse heart (B) and mouse brain (C) tissue extracts.



UQCRC1 (16D10): sc-65238. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells and Islets of Langerhans (B).

## SELECT PRODUCT CITATIONS

- Kristiansen, T.Z., et al. 2008. Differential membrane proteomics using 18O-labeling to identify biomarkers for cholangiocarcinoma. *J. Proteome Res.* 7: 4670-4677.
- Panfoli, I., et al. 2009. Evidence for aerobic metabolism in retinal rod outer segment disks. *Int. J. Biochem. Cell Biol.* 41: 2555-2565.