# UQCRH (P-14): sc-103920



The Power to Question

#### **BACKGROUND**

UQCRH (ubiquinol-cytochrome c reductase hinge protein), also known as QCR6, is a 91 amino acid protein that localizes to the inner mitochondrial membrane and exists as a component of the ubiquinol-cytochrome c reductase complex (known as complex III or as the cytochrome b-c1 complex). Functioning in conjunction with a variety of other proteins, UQCRH plays a role in the mitochondrial respiratory chain and it thought to mediate cytochrome complex formation. The gene encoding UQCRH maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

#### **REFERENCES**

- King, T.E. and Kim, C.H. 1986. Preparation of hinge protein and its requirement for interaction of cytochrome c with cytochrome c1. Meth. Enzymol. 126: 238-253.
- 2. Ohta, S., Goto, K., Arai, H. and Kagawa, Y. 1987. An extremely acidic aminoterminal presequence of the precursor for the human mitochondrial hinge protein. FEBS Lett. 226: 171-175.
- Kim, C.H., Balny, C. and King, T.E. 1987. Role of the hinge protein in the electron transfer between cardiac cytochrome c1 and c. Equilibrium constants and kinetic probes. J. Biol. Chem. 262: 8103-8108.
- 4. Liu, A.Y. and Bradner, R.C. 1993. Elevated expression of the human mito-chondrial hinge protein gene in cancer. Cancer Res. 53: 2460-2465.
- Braun, H.P. 1996. Identification of novel homologues of three low molecular weight subunits of the mitochondrial bc1 complex. Mol. Biol. Rep. 23: 71-77.
- Okazaki, M., Ishibashi, Y., Asoh, S. and Ohta, S. 1998. Overexpressed mitochondrial hinge protein, a cytochrome c-binding protein, accelerates apoptosis by enhancing the release of cytochrome c from mitochondria. Biochem. Biophys. Res. Commun. 243: 131-136.
- Modena, P., Testi, M.A., Facchinetti, F., Mezzanzanica, D., Radice, M.T., Pilotti, S. and Sozzi, G. 2003. UQCRH gene encoding mitochondrial Hinge protein is interrupted by a translocation in a soft-tissue sarcoma and epigenetically inactivated in some cancer cell lines. Oncogene 22: 4586-4593.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: UQCRH (human) mapping to 1p33; Uqcrh (mouse) mapping to 4 D1.

## **SOURCE**

UQCRH (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UQCRH of human origin.

#### **PRODUCT**

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103920 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **APPLICATIONS**

UQCRH (P-14) is recommended for detection of UQCRH and LOC729769 of mouse, rat and 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).

Molecular Weight of UQCRH: 11 kDa.

## **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) 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.

# 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 or our catalog for detailed protocols and support products.

**Santa Cruz Biotechnology, Inc.** 1.800.457.3801 831.457.3800 fax 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**