

COQ7 (L-19): sc-66356

BACKGROUND

COQ7, a timing protein CLK-1 homolog, is a 217 amino acid protein encoded by the human gene COQ7. It is believed COQ7/CLK-1 is required for the biosynthesis of coenzyme Q (COQ), an essential cofactor in mitochondrial respiration. In yeast, mutation of the COQ7 gene results in the absence of UQ biosynthesis and demonstrates a role for this gene in the step leading to the hydroxylation of 5-demethoxyubiquinone. COQ7 may also be responsible for maintenance of mitochondrial integrity and neurogenesis. COQ7 is highly expressed in tissues with high energy demand, such as heart, muscle, liver and kidney. After transcription, COQ7 is targeted to the mitochondria, where it is processed to its mature form. The protein similarities and the conservation of function of the CLK-1/clk-1/COQ7 gene products suggest a potential link between the production of ubiquinone and aging.

REFERENCES

- Vajo, Z., et al. 2000. Conservation of the *Caenorhabditis elegans* timing gene CLK-1 from yeast to human: a gene required for ubiquinone biosynthesis with potential implications for aging. *Mamm. Genome* 10: 1000-1004.
- Stenmark, P., et al. 2001. A new member of the family of di-iron carboxylate proteins. COQ7 (CLK-1), a membrane-bound hydroxylase involved in ubiquinone biosynthesis. *J. Biol. Chem.* 276: 33297-33300.
- Takahashi, M., et al. 2001. Mouse COQ7/CLK-1 orthologue rescued slowed rhythmic behavior and extended life span of CLK-1 longevity mutant in *Caenorhabditis elegans*. *Biochem. Biophys. Res. Commun.* 286: 534-540.
- Levasseur, F., et al. 2001. Ubiquinone is necessary for mouse embryonic development but is not essential for mitochondrial respiration. *J. Biol. Chem.* 276: 46160-46164.
- Nakai, D., et al. 2001. Mouse homologue of COQ7/CLK-1, longevity gene in *Caenorhabditis elegans*, is essential for coenzyme Q synthesis, maintenance of mitochondrial integrity, and neurogenesis. *Biochem. Biophys. Res. Commun.* 289: 463-471.

CHROMOSOMAL LOCATION

Genetic locus: COQ7 (human) mapping to 16p12.3; Coq7 (mouse) mapping to 7 F2.

SOURCE

COQ7 (L-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of COQ7 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-66356 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

COQ7 (L-19) is recommended for detection of COQ7 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).

COQ7 (L-19) is also recommended for detection of COQ7 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for COQ7 siRNA (h): sc-62146, COQ7 siRNA (m): sc-62147, COQ7 shRNA Plasmid (h): sc-62146-SH, COQ7 shRNA Plasmid (m): sc-62147-SH, COQ7 shRNA (h) Lentiviral Particles: sc-62146-V and COQ7 shRNA (m) Lentiviral Particles: sc-62147-V.

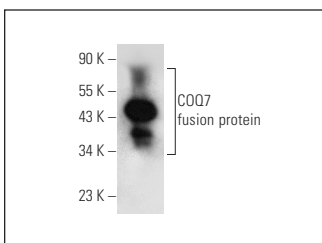
Molecular Weight of COQ7: 24 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, Sol8 cell lysate: sc-2249 or 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



COQ7 (L-19): sc-66356. Western blot analysis of human recombinant COQ7 fusion protein.

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.