

COQ3 (F-8): sc-376774

BACKGROUND

Coenzyme Q (COQ), also referred to as ubiquinone, is a fat-soluble component of the electron transport chain that participates in aerobic cellular respiration within mitochondria and is essential for ATP-dependent energy production. COQ consists of a hydrophobic isoprenoid tail, which anchors it to the membrane, and a quinone head group, which is responsible for the activity of COQ in the respiratory chain. COQ3 (coenzyme Q3 homolog), also known as hexaprenyldihydroxybenzoate methyltransferase or DHHB methyltransferase (DHHB-MT), mitochondrial is a 369 amino acid protein that localizes to the mitochondrial matrix. COQ3 is a methyltransferase required for two steps in the biosynthesis of coenzyme Q.

REFERENCES

- Jonassen, T. and Clarke, C.F. 2000. Isolation and functional expression of human COQ3, a gene encoding a methyltransferase required for ubiquinone biosynthesis. *J. Biol. Chem.* 275: 12381-12387.
- Wiemann, S., et al. 2001. Toward a catalog of human genes and proteins: sequencing and analysis of 500 novel complete protein coding human cDNAs. *Genome Res.* 11: 422-435.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 605196. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Hsieh, E.J., et al. 2007. *Saccharomyces cerevisiae* COQ9 polypeptide is a subunit of the mitochondrial coenzyme Q biosynthetic complex. *Arch. Biochem. Biophys.* 463: 19-26.
- Franke, B., et al. 2009. An association study of 45 folate-related genes in spina bifida: involvement of cubilin (CUBN) and tRNA aspartic acid methyltransferase 1 (TRDMT1). *Birth Defects Res. A Clin. Mol. Teratol.* 85: 216-226.

CHROMOSOMAL LOCATION

Genetic locus: COQ3 (human) mapping to 6q16.2; Coq3 (mouse) mapping to 4 A3.

SOURCE

COQ3 (F-8) is a mouse monoclonal antibody raised against amino acids 148-242 mapping within an internal region of COQ3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

COQ3 (F-8) is recommended for detection of COQ3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for COQ3 siRNA (h): sc-72973, COQ3 siRNA (m): sc-72974, COQ3 shRNA Plasmid (h): sc-72973-SH, COQ3 shRNA Plasmid (m): sc-72974-SH, COQ3 shRNA (h) Lentiviral Particles: sc-72973-V and COQ3 shRNA (m) Lentiviral Particles: sc-72974-V.

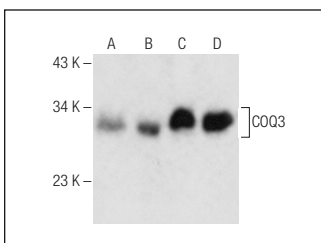
Molecular Weight of COQ3: 41 kDa.

Positive Controls: COQ3 (h): 293 Lysate: sc-158390, HL-60 whole cell lysate: sc-2209 or CCRF-CEM cell lysate: sc-2225.

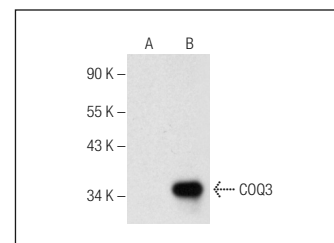
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



COQ3 (F-8): sc-376774. Western blot analysis of COQ3 expression in HL-60 (A), CCRF-CEM (B), T-47D (C) and T84 (D) whole cell lysates.



COQ3 (F-8): sc-376774. Western blot analysis of COQ3 expression in non-transfected: sc-110760 (A) and human COQ3 transfected: sc-158390 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

- Yen, H.C., et al. 2020. Characterization of human mitochondrial PDSS and COQ proteins and their roles in maintaining coenzyme Q10 levels and each other's stability. *Biochim. Biophys. Acta Bioenerg.* 1861: 148192.

RESEARCH USE

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