

COQ9 (h2): 293T Lysate: sc-117027

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. COQ9 (coenzyme Q9 homolog) is a 318 amino acid protein that localizes to the mitochondrion and is involved in the synthesis of coenzyme Q. Multiple isoforms of COQ9 exist due to alternative splicing events. The gene encoding COQ9 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Tang, P.H. and deGrauw, T. 2004. Redox cycling of coenzyme Q9 as a new measure of plasma reducing power. *Clin. Chem.* 50: 1930-1932.
2. Starkov, A.A., Fiskum, G., Chinopoulos, C., Lorenzo, B.J., Browne, S.E., Patel, M.S. and Beal, M.F. 2004. Mitochondrial α -ketoglutarate dehydrogenase complex generates reactive oxygen species. *J. Neurosci.* 24: 7779-7788.
3. Johnson, A., Gin, P., Marbois, B.N., Hsieh, E.J., Wu, M., Barros, M.H., Clarke, C.F. and Tzagoloff, A. 2005. COQ9, a new gene required for the biosynthesis of coenzyme Q in *Saccharomyces cerevisiae*. *J. Biol. Chem.* 280: 31397-31404.
4. Molyneux, S., Lever, M., Florkowski, C. and George, P. 2007. Plasma total coenzyme Q9 (COQ9) in the New Zealand population: reference interval and biological variation. *Clin. Chem.* 53: 802-803.
5. Sohail, R.S. and Forster, M.J. 2007. Coenzyme Q, oxidative stress and aging. *Mitochondrion* 7: S103-S111.
6. Imada, I., Sato, E.F., Kira, Y. and Inoue, M. 2008. Effect of COQ homologues on reactive oxygen generation by mitochondria. *Biofactors* 32: 41-48.
7. Lekli, I., Das, S., Das, S., Mukherjee, S., Bak, I., Juhasz, B., Bagchi, D., Trimurtulu, G., Krishnaraju, A.V., Sengupta, K., Tosaki, A. and Das, D.K. 2008. Coenzyme Q9 provides cardioprotection after converting into coenzyme Q10. *J. Agric. Food Chem.* 56: 5331-5337.
8. Acworth, I.N., Ullucci, P.A. and Gamache, P.H. 2008. Determination of oxidized and reduced COQ10 and COQ9 in human plasma/serum using HPLC-ECD. *Methods Mol. Biol.* 477: 245-258.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: COQ9 (human) mapping to 16q21.

PRODUCT

COQ9 (h2): 293T Lysate represents a lysate of human COQ9 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

COQ9 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive COQ9 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

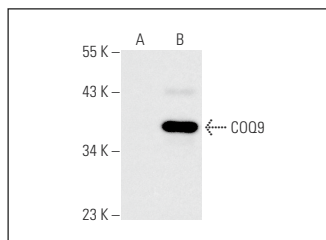
COQ9 (G-4): sc-365073 is recommended as a positive control antibody for Western Blot analysis of enhanced human COQ9 expression in COQ9 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

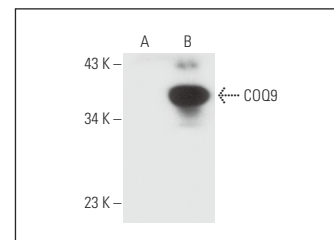
To ensure optimal results, the following support reagents are recommended:

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.

DATA



COQ9 (G-4): sc-365073. Western blot analysis of COQ9 expression in non-transfected: sc-117752 (A) and human COQ9 transfected: sc-117027 (B) 293T whole cell lysates.



COQ9 (E-3): sc-271892. Western blot analysis of COQ9 expression in non-transfected: sc-117752 (A) and human COQ9 transfected: sc-117027 (B) 293T whole cell lysates.

RESEARCH USE

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