



COQ10A (H-42): sc-67295

BACKGROUND

COQ10A (coenzyme Q₁₀, homolog A) is a 247 amino acid protein encoded by the human gene COQ10A. COQ10A is a mitochondrial protein that belongs to the CoQ₁₀ family. COQ10A is an essential biological cofactor which increases brain mitochondrial concentration and exerts neuroprotective effects. Plasma COQ10A levels decrease in patients with advanced chronic heart failure (CHF) while COQ10A levels in hyperthyroid patients are found among the lowest detected in human diseases. Likewise, COQ10A is elevated in hypothyroid subjects, also in subclinical conditions, suggesting the usefulness of this index in assessing metabolic status in thyroid disorders. It is believed that secretion of adrenal hormones is in some way related to COQ10A levels, both in augmented and reduced conditions. However, since thyroid hormones have an important role in modulating COQ10A levels and metabolism, when coexistent, thyroid deficiency seems to play a prevalent role in comparison with adrenal deficiency.

REFERENCES

- Sander, S., Coleman, C.I., Patel, A.A., Kluger, J. and White, C.M. 2006. The impact of coenzyme Q₁₀ on systolic function in patients with chronic heart failure. *J. Card. Fail.* 12: 464-472.
- Niklowitz, P., Menke, T., Giffei, J. and Andler, W. 2006. Coenzyme Q₁₀ in maternal plasma and milk throughout early lactation. *Biofactors* 25: 67-72.
- Li, G., Zou, L.Y., Cao, C.M. and Yang, E.S. 2006. Coenzyme Q₁₀ protects SHSY5Y neuronal cells from β -Amyloid toxicity and oxygen-glucose deprivation by inhibiting the opening of the mitochondrial permeability transition pore. *Biofactors* 25: 97-107.
- Mancini, A., Bianchi, A., Fusco, A., Sacco, E., Leone, E., Tilaro, L., Porcelli, T., Giampietro, A., Principi, F., De Marinis, L. and Littarru, G.P. 2006. Coenzyme Q₁₀ evaluation in pituitary-adrenal axis disease: preliminary data. *Biofactors*. 25: 197-199.
- Mancini, A., Corbo, G.M., Gaballo, A., Valente, S., Gigliotti, P., Cimino, V., De Marinis, L., Principi, F. and Littarru, G.P. 2006. Relationships between plasma CoQ₁₀ levels and thyroid hormones in chronic obstructive pulmonary disease. *Biofactors* 25: 201-204.
- Sekine, K., Ota, N., Nishii, M., Uetake, T. and Shimadzu, M. 2006. Estimation of plasma and saliva levels of coenzyme Q₁₀ and influence of oral supplementation. *Biofactors* 25: 205-211.
- Belardinelli, R., Muçaj, A., Lacalaprice, F., Solenghi, M., Seddaiu, G., Principi, F., Tiano, L. and Littarru, G.P. 2006. Coenzyme Q₁₀ and exercise training in chronic heart failure. *Eur. Heart J.* 27: 2675-2681.
- Caner, M., Sonmez, B., Kurnaz, O., Aldemir, C., Salar, S., Altug, T., Bilir, A. and Altinoz, M.A. 2007. Atorvastatin has cardiac safety at intensive cholesterol-reducing protocols for long term, yet its cancer-treatment doses with chemotherapy may cause cardiomyopathy even under coenzyme Q₁₀ protection. *Cell Biochem. Funct.* 25: 463-472.

CHROMOSOMAL LOCATION

Genetic locus: COQ10A (human) mapping to 12q13.2; Coq10a (mouse) mapping to 10 D3.

SOURCE

COQ10A (H-42) is a rabbit polyclonal antibody raised against amino acids 40-81 mapping near the N-terminus of COQ10A of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COQ10A (H-42) is recommended for detection of COQ10A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 μ g per 100–500 μ g 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 COQ10A siRNA (h): sc-62140 and COQ10A siRNA (m): sc-62141.

Molecular Weight of COQ10A: 27 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.