

COQ10A (S-14): sc-65057

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

1. Sander, S., et al. 2006. The impact of coenzyme Q₁₀ on systolic function in patients with chronic heart failure. *J. Card. Fail.* 12: 464-472.
2. Niklowitz, P., et al. 2006. Coenzyme Q₁₀ in maternal plasma and milk throughout early lactation. *Biofactors* 25: 67-72.
3. Li, G., et al. 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.
4. Mancini, A., et al. 2006. Coenzyme Q₁₀ evaluation in pituitary-adrenal axis disease: preliminary data. *Biofactors* 25: 197-199.
5. Mancini, A., et al. 2006. Relationships between plasma CoQ₁₀ levels and thyroid hormones in chronic obstructive pulmonary disease. *Biofactors* 25: 201-204.
6. Sekine, K., et al. 2006. Estimation of plasma and saliva levels of coenzyme Q10 and influence of oral supplementation. *Biofactors* 25: 205-211.
7. Belardinelli, R., et al. 2006. Coenzyme Q₁₀ and exercise training in chronic heart failure. *Eur. Heart J.* 27: 2675-2681.
8. Caner, M., et al. 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 12q13.3; Coq10a (mouse) mapping to 10 D3.

SOURCE

COQ10A (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of COQ10A of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-65057 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COQ10A (S-14) 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), 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).

COQ10A (S-14) is also recommended for detection of COQ10A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for COQ10A siRNA (h): sc-62140, COQ10A siRNA (m): sc-62141, COQ10A shRNA Plasmid (h): sc-62140-SH, COQ10A shRNA Plasmid (m): sc-62141-SH, COQ10A shRNA (h) Lentiviral Particles: sc-62140-V and COQ10A shRNA (m) Lentiviral Particles: sc-62141-V.

Molecular Weight of COQ10A: 27 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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.

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.