Coenzyme Q10 (CoQ10) is a fat-soluble, high molecular weight compound produced by the body for the basic functioning of cells. It plays a central role in cellular energy metabolism that produces adenosine triphosphate (ATP), the energy currency for muscle contraction and other cellular processes. CoQ10 gets its name from the word ubiquitin because it is present everywhere in the human body.

CoQ10 Demystified...

CoQ10 exists in both ubiquinone and ubiquinol forms. In mitochondrial electron transport system, CoQ10 undergoes continuous reversible redox changes. It is converted to ubiquinol (reduced form) when it accepts electrons and to ubiquinone (oxidized form) when it donates electrons. This unique mechanism for regeneration from ubiquinone suggests that it has a unique role in the human body.

Research indicates that ubiquinol is more efficient in inhibiting lipid peroxidation (free radical generation) than alpha-tocopherol, lycopene or beta-carotene. Research suggests that ubiquinol is more efficient in inhibiting lipid peroxidation than alpha tocopherol, lycopene or beta-carotene. As an antioxidant, CoQ10 regulates membrane fluidity, recycles radical forms of vitamin C and E and protects membrane phospholipids against peroxidation (the process whereby free radicals “steal” electrons from the lipids in cell membranes which can result in cell damage).

Why is CoQ10 Important?

CoQ10 is synthesized in the same pathway as cholesterol, and therefore also involves the HMG CoA reductase enzyme. CoQ10 production is negatively affected by use of statin drugs because they interfere with this enzyme by design. Research suggests that some cholesterol-lowering statin drugs decrease serum CoQ10 levels by as much as 40%. Other drugs (gemfibrozil, Atorvastatin, beta blockers) have been found to decrease serum CoQ10 levels.

Who Should Take CoQ10?

Supplementation with CoQ10 has been shown in research studies to provide a wide range of health benefits and may help support the following:

 USDA National Health and Nutrition Examination Survey

- Cardiometabolic health
- Hypertension
- Aging
- Fatigue
- Dental health
- Eye health
- Renal health
- Migraine
- Neuromuscular health
- Statin therapy
- Chemotherapy
- Genetic CoQ10 deficiencies
- Male infertility

References
Q•Avail™ 60 mg and 100 mg

Research proves that Q•Avail™ has over two times greater peak absorption than other CoQ10 delivery methods. Q•Avail™ material, naturally fermented CoQ10 from Japan, is crystal-free, with no solvents, and is lipid stabilized to prevent recrystallization. It also utilizes 3 lipids to optimize absorption and aid in dissolving the CoQ10. Due to its greater absorption, you may require only 1/3 to 1/2 of the typical dosage.

Recommended Use: As a dietary supplement, take one or more softgels daily with meals or as directed by your health care practitioner.

Serving Size: 1 softgel
One softgel contains:
Coenzyme Q10 (Japanese, Naturally Fermented) 60 mg
Polyglycerol esters of fatty acids, natural citrus oil extract, gelatin, soy lecithin and annatto extract. Contains soy.

Q•Avail™ 100 mg

One softgel contains:
Coenzyme Q10 (Japanese, Naturally Fermented) 100 mg
Polyglycerol esters of fatty acids, natural citrus oil extract, gelatin, soy lecithin and annatto extract. Contains soy.

Q-Avail Nano 100 mg

One softgel contains:
Natural Coenzyme Q10 (Ubiquinone) 100 mg
Dextrose, silica, natural citrus oil extract, gelatin, soy lecithin and annatto extract. Contains soy.

Q-Avail Nano 200 mg

One softgel contains:
Natural Coenzyme Q10 (Ubiquinone) 200 mg
Dextrose, silica, natural citrus oil extract, gelatin, soy lecithin and annatto extract. Contains soy.

Q-Avail Nano Powder

One gram contains:
Natural Coenzyme Q10 (Ubiquinone) 500 mg
Dextrose, silica, natural citrus oil extract, gelatin, soy lecithin and annatto extract. Contains soy.

CoQnol™ (ubiquinol) 50 mg and 100 mg

This technology takes an insoluble, poorly-absorbed lipophilic (fat dissolve) ingredient (CoQ10) and water solubilizes it. Once exposed to the aqueous environment in the stomach, the material self-assembles into tiny fluid droplets. These droplets are very similar to the nano-sized fluid droplets, or micelles, that the body normally manages to create when digesting high-fat foods in order to make them easier to absorb. This nano droplet should not be confused with solid nano particles.

Q-Avail Nano Powder provides an instantly water soluble powder that delivers 140 mg of Q-Avail Nano (CoQ10) per gram. Its delivery system has been shown to significantly increase absorption and bioavailability.

Recommended Use: As a dietary supplement, take one or more softgels daily with meals or as directed by your health care practitioner.

Serving Size: 1 softgel
One gram contains:
Natural Coenzyme Q10 (Ubiquinone) 500 mg
Dextrose, silica, natural citrus oil extract, gelatin, soy lecithin and annatto extract. Contains soy.

How does nano-emulsion technology work?

In a recent study, the bioavailability of the patented colloidal Q-Avail® technology (used on our Q-Avail® Nano line) was investigated along with 3 other commercially available products. Twenty healthy male and female subjects participated in a double blind, controlled, single-dose (125 mg) bioavailability study. The plasma concentration of colloidal CoQ10 remained well above the levels of the other products throughout the 24-hour period.

CoQ10 serum levels (mcg/ml)

In summary, our Q-Avail® Nano Powder is a highly bioavailable form of CoQ10 with a pleasant taste and the convenience of mixing with water, juice, or any liquid (including smoothies).

DFH conducted a recent in vivo (animal) study comparing the absorption of Q-Avail® Nano 100 mg and Q-Avail® Nano 200 mg with Q-Avail® Nano Powder 100 mg (see Fig 2). While the results show that these formulations are absorbed similarly, it is the Q-Avail® delivery system used on our Q-Avail® Nano softgels and Q-Avail® Nano Powder that produces a tremendous increase in serum levels at the 6 hour mark and an impressive increase from 1 to 24 hours. As shown in the chart below, six hours after ingestion, the Q-Avail® Nano Powder provided the highest level of absorption.

In summary, our Q-Avail® Nano Powder is a highly bioavailable form of CoQ10 with a pleasant taste and the convenience of mixing with water, juice, or any liquid (including smoothies).

Q-Avail® product usage

Maintenance and general CoQ10 dosing needs

Water soluble CoQ10 for aggressive dosing applications:
• cardiovascular disease
• high performance athletes
• increased antioxidant needs

CoQnol™ (50mg and 100mg)

As ubiquinone conversion to ubiquinol may diminish with age, resulting in diminished protection against oxidative stress and reduced energy levels, CoQnol™ (ubiquinol) may provide a strong initial stage defense against cellular oxidative damage and requires supplementation to maintain optimum health. Consider taking CoQnol™ along with Q•Avail, highly absorbable ubiquinone.

The results of the 28-day steady state study showed that at the end of 28 days there were adequate improvements in blood serum CoQ10 levels. Researchers at East Texas Medical Center found that patients with advanced congestive heart failure taking high doses of ubiquinone CoQ10 were not able to achieve adequate improvements in blood serum CoQ10 levels.12 When switched to ubiquinol, blood CoQ10 levels improved dramatically with a consequential improvement in clinical symptoms and left ventricular function. 

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