# Co-Enzyme Q10 Slow Release



60 vegetable capsupes / Code FE1782

**Co-Enzyme Q10 Slow Release** is an emulsion of Coenzyme Q10 or ubiquinone (100 mg per capsule) and pea protein, free of GMOs (genetically modified organisms), which provides greater **bioavailability**.



**FORMAT:** 60 vegetable capsules

#### **FORMULA**

**Ingredients:** Co-enzyme Q10 (ubiquinone-10), bulking agent (microcrystalline cellulose), pea protein, anti-caking agents (silicon dioxide and magnesium salts of fatty acids), vegetable capsule (glazing agent: hydroxypropylmethylcellulose, humectant: purified water)

Nutritional information:	2 capsules
Co-enzime Q <sub>10</sub> (ubiquinone-10)	200 mg

#### **Cautions:**

Consult a health-care practitioner prior to use if you are pregnant or breast-feeding, or if you are being treated with medication, especially blood pressure medication or blood thinners.

### Recommended daily dose:

1 capsule two or three times daily. Do not exceed the stated recommended daily dose.

#### Indications and uses:

- Cardiovascular disorders: including hypertension, angina pectoris and congestive heart failure.
- Age-related decline in cognitive and immune system function.
- It can improve memory and spatial learning and positively affects physical exercise, decreasing oxidative damage at all times.
- Powerful antioxidant.

#### **DETAILS:**

Coenzyme Q10, also known as ubiquinone, is a vitamin-like substance synthesised by the body that plays a critical role in energy production at the cellular level. The synthesis of this coenzyme is sometimes impaired by diet, genetic defects, age or increased tissue requirements.

The extended-release **Co-Enzyme Q10 Slow Release** is a highly bioavailable form with a wide range of therapeutic benefits with pea protein, free of GMOs (genetically modified organisms). Pea protein prolongs the exposure of coenzyme Q10 within the villi of the small intestine. A 90% of nutrients are absorbed by intestinal villi; thus, the contact time with the membrane leads to an increase in the concentration of coenzyme Q10 for sustained therapeutic action.

Once assimilated in the body, coenzyme Q10 triggers the production of energy within the mitochondria of all cells. It is also converted to ubiquinol for extracellular antioxidant protection.

**Co-Enzyme Q10 Slow Release** is an excellent therapeutic option for the age-related decline in the production of this critical compound. Among its many benefits are cardiovascular wellness and reducing the frequency of migraines. It can also be used to counteract the deterioration of coenzyme Q10 production, a side effect of taking statins (drugs for hypercholesterolaemia).

Plant-based **Co-Enzyme Q10 Slow Release** increases your ability to fight disease and also increases energy production to significantly improve your quality of life.

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#### **INGREDIENTS:**

<u>COENZYME Q10</u>: is a fat-soluble benzoquinone with 10 isoprenyls in the side chain and is found in most body tissues, particularly in the heart, pancreas, kidney, liver and lungs. It is a key component of the mitochondrial respiratory chain for the synthesis of adenosine triphosphate (ATP). Coenzyme Q10 is particularly involved in energy production with a high metabolic demand, which is necessary for cell function <sup>(1)</sup>.

Coenzyme Q10 is recognised as an intracellular antioxidant that protects membrane phospholipids, mitochondrial membrane protein and low-density lipoprotein from oxidative radical-induced damage <sup>(2)</sup>. It can be synthesised in tissue from farnesyl diphosphate and tyrosine and can be obtained from the consumption of meat, poultry, fish, vegetables and fruits; however, the total absorption of coenzyme Q10 from food is thought to be less than 10% <sup>(3)</sup>.

It plays an important role in the age-related immune system and in the ageing process. It is effective in protecting keratinocytes induced by UVA rays and in reducing photoaging with a reduction in wrinkle depth and epithelial turnover time <sup>(3)</sup>.

Many studies have documented a deficiency of coenzyme Q10 in patients with cardiovascular disease (including hypertension, angina pectoris and congestive heart failure) and the benefits of treating these patients with coenzyme Q10 supplementation, decreasing oxidative stress and increasing antioxidant enzyme activity <sup>(4,5)</sup>.

Studies of patients suffering from stable angina pectoris show that a supplement of coenzyme Q10, 150 mg a day for four weeks reduces the frequency of angina attacks by 53% (4).

According to one study, supplementing the diet with CoQ10 may have a positive effect on certain age-related psychomotor and cognitive functions. Research suggests that CoQ10 improves spatial learning and memory while decreasing oxidative damage when administered in relatively high doses <sup>(6,7)</sup>.

Several studies have suggested that CoQ10 supplementation has a positive effect on physical activity, affirming the relationship between blood levels of Q10 and maximal oxygen consumption. For this reason, this enzyme is essential whenever the body is subject to physical exertion <sup>(2)</sup>.

Statins are associated with decreased levels of this coenzyme, as both cholesterol and CoQ10 are synthesised from the same substance (mevalonate).

#### References:

<sup>1)</sup> Littarru, Gian Paolo, and Luca Tiano. "Bioenergetic and antioxidant properties of coenzyme Q 10: recent developments." Molecular biotechnology 37.1 (2007): 31-37.

<sup>2)</sup> Overvad, Kim, et al. "Coenzyme Q 10 in health and disease." European Journal of Clinical Nutrition 53.10 (1999): 764-770.

<sup>3)</sup> Hoppe, U., et al. "Coenzyme Q {10}, a cutaneous antioxidant and energizer." Biofactors 9.2-4 (1999): 371-378.

<sup>4)</sup> Lee, Bor-Jen, et al. "Coenzyme Q10 supplementation reduces oxidative stress and increases antioxidant enzyme activity in patients with coronary artery disease." Nutrition 28.3 (2012): 250-255.

<sup>5)</sup> Rundek, Tatjana, et al. "Atorvastatin decreases the coenzyme Q10 level in the blood of patients at risk for cardiovascular disease and stroke." Archives of neurology 61.6 (2004): 889-892.

<sup>6)</sup> Mancuso, Michelangelo, et al. "Coenzyme Q10 in neuromuscular and neurodegenerative disorders." Current drug targets 11.1 (2010): 111-121.

<sup>7)</sup> Matthews, Russell T., et al. "Coenzyme Q10 administration increases brain mitochondrial concentrations and exerts neuroprotective effects." Proceedings of the National Academy of Sciences 95.15 (1998): 8892-8897.

<sup>8)</sup> Caso, Giuseppe, et al. "Effect of coenzyme q10 on myopathic symptoms in patients treated with statins." The American journal of cardiology 99.10 (2007): 1409-1412.

<sup>9)</sup> Marcoff, Leo, and Paul D. Thompson. "The role of coenzyme Q10 in statin-associated myopathy: a systematic review." Journal of the American College of Cardiology 49.23 (2007): 2231-2237.