

News You Can Use

An important little ersatz vitamin - Co Enzyme Q10

Mitochondria are organelles found within certain cells of the body. They produce ATP adenosine triphosphate which is the power behind the cell, used by enzymes to perform a wide range of cellular functions. We cannot survive, even for a moment, without a sufficient supply of ATP.

We refer to the process of producing ATP as aerobic metabolism because it requires constant removal of excess electrons through the reduction of oxygen. The need for oxygen as an electron acceptor is the sole reason that we breathe air. In fact, the most immediate purpose of both our respiratory and circulatory systems is to deliver oxygen to the tissues for use by mitochondria and to eliminate carbon dioxide. By the way, the term "respiration" is synonymous with the phrase "cellular respiration." not inhaling and exhaling. That is breathing, not respiration.

Co Enzyme Q10 (sometimes called vitamin Q10) is like a vitamin found throughout the body, especially in the heart, liver, kidneys, and pancreas. It is manufactured in the body and also secured in small amounts through the consumption of meat and seafood. Levels are reported to decrease with age and are low in people with certain chronic diseases: heart disease, muscular dystrophy, Parkinson's disease, cancer, diabetes, and HIV/AIDS.

Researchers believe CoQ10 works by improving the function of mitochondria. CoQ10 is an important link in the chain of chemical reactions that produce energy and also acts as a potent anti-oxidant, mopping up potentially harmful chemicals in the body generated during normal metabolism. Normal levels of CoQ10 in blood and tissue are well established although some research shows that what is considered normal, is actually a low figure. Significantly decreased levels have been noted in a wide variety of diseases in both animal and human studies. CoQ10 deficiency may be caused by insufficient dietary intake, impairment in biosynthesis, excessive utilization by the body, or any combination of the three.

CoQ10 is highly concentrated in heart muscle cells due to the high-energy requirements of this type of cell. **CoQ10 is possibly effective for: conjunctive heart failure, decreased risk of heart problems in those with recent heart attack, Huntington's disease, to prevent blood vessel complications after heart bypass surgery, high blood pressure, in preventing migraines, Parkinson's disease (early stage), improved immune system (HIV/AIDS), and with muscular dystrophy.**

Some prescription drugs may lower CoQ10 levels. Statin drugs, for instance, can reduce serum levels of CoQ10 by up to 40%. Levels of CoQ10 can be increased with supplemental intake. In medicine, advances in drug therapy have reached a plateau. In fact, most new drugs are primarily variants of old ones. Impressive advances made by basic sciences, biochemists, and molecular biologists are



beginning to be appreciated by the medical profession and yet the enormous potential of these advances is untapped.

Over the past several years, there has been a steady increase in interest and awareness of nutritional supplements and vitamins. Along with this accelerated interest has come an understandable explosion in the number and complexity of questions raised by patients about vitamins in general.

Regarding CoQ10 - a fat-soluble vitamin-like substance present in every cell of the body, it serves as a coenzyme for several of the key enzymatic steps in the production of energy within the cell. It is naturally present in small amounts in a wide variety of foods but is particularly high in organ meats such as heart, liver and kidney, as well as beef, soy oil, sardines, mackerel, and peanuts. To put dietary CoQ10 intake into perspective, one pound of sardines, two pounds of beef, or two and one half pounds of peanuts, provide 30 mg of CoQ10. CoQ10 is also synthesized in all tissues and in healthy individuals normal levels are maintained both by CoQ10 intake and by the body's synthesis of CoQ10. It has no known toxicity or side effects.

Who should take CoQ10? Should a reasonably healthy person take CoQ10 to stay healthy or to become more robust? Should a person with an illness such as congestive heart failure take CoQ10? As with any change in nutrition, diet, medication, or even activity, CoQ10 should be discussed with one's physician. Published data on the dosage of CoQ10 relates almost exclusively to the treatment of disease states. There is no information on the use of CoQ10 for prevention of illness. This is an extremely important question which, to date, does not have an answer.

The dosage of CoQ10 used in clinical trials has evolved over the past 20 years. Initially, doses as small as 30 to 45 mg per day were associated with measurable clinical responses in patients with heart failure. More recent studies have used higher doses with improved clinical response, again in patients with heart failure. Most studies with CoQ10 involve the measurement of the level of CoQ10 in blood. CoQ10 shows a moderate variability in its absorption, with some patients attaining good blood levels of CoQ10 on 100 mg per day while others require two or three times this amount to attain the same blood level. CoQ10 is fat-soluble and absorption is significantly improved when it is chewed with a fat-containing food.

Although the Dietary Supplement Health and Education Act of 1994 does not allow claims for treatment of specific diseases in the United States, coenzyme Q10 has been cleared for treatment indications in other countries, such as for congestive heart failure (CHF) in Japan since 1974.

Benefits of Coenzyme Q10:

- *Supports energy production.**
- *Promotes healthy cardiovascular function.**
- *Exhibits antioxidant and neuroprotective properties.**
- *Helps maintain already normal-range blood pressure levels.**

Nature's Sunshine offers Co-Q10 75 [Circulatory, Vital Nutrition] which helps produce cellular energy and acts as an antioxidant. It also supports already-normal-range blood pressure levels. Many studies suggest that Co-Q10 supports cardiac function. As an antioxidant, Co-Q10 scavenges free radicals, protects cardiac cells and promotes the regeneration of vitamin E, another heart-healthy antioxidant.

Yours in Good Health!

Sincerely,

Dr. Jack and Chris Ritchason
Back to Herbs Team

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