



## MitoQ - Advanced CoQ technology

Mitochondria generate a lot of free radicals so need a constant supply of antioxidants to keep these free radicals in check. MitoQ is an antioxidant that has been formulated to get past the inner mitochondrial membrane to end up deep within the mitochondria. It releases the active form of coenzyme Q10 right at the major site of free radical production, and reduces oxidative stress.

Mitochondria are one of the most important components of a cell. Without them, many crucial biochemical processes would not happen. Not only do they host cellular respiration, the process by which our bodies convert food into energy for the cell, they also send messages to other components within the cell, tailor the cell to perform specific functions, and control both cell growth and cell self-destruction.

Being responsible for so much comes at a cost. Biochemical reactions generate free radicals as by-products. While free radicals do have some important benefits when present in the right numbers, overproduction of free radicals can lead to severe damage of the cell. Unfortunately, over production commonly occurs. Aging, exposure to environmental toxins and pollution and a poor diet can all increase levels of free radicals in our body or cause underproduction of our

body's own antioxidants, such as coenzyme Q10 (Co Q10). When free radicals are left unchecked this can lead to oxidative stress.

Which is why developing compounds that target mitochondria makes a lot of sense. Because so many different biochemical processes occur within mitochondria, they generate a lot of free radicals. Mito-Q is a revolutionary mitochondrial-targeted compound that acts directly in mitochondria as an antioxidant against free radicals.

MitoQ is produced by binding a form of Co Q10 called ubiquinone, to a fat soluble, positively-charged molecule. This positively charged molecule is able to flow directly into the mitochondria and through the normally impermeable inner membrane to end up deep inside the mitochondria.

The inside of the mitochondria and inner membrane is the major site for biochemical reactions inside the mitochondria, including cellular respiration. This puts MitoQ exactly where it is needed the most, at concentrations several

hundred-fold higher than if it just stayed in the blood. A reaction inside the inner membrane converts the ubiquinone in MitoQ into ubiquinol, the antioxidant and active form of Co Q10. This allows it to neutralise free radicals that accumulate within the mitochondria.

MitoQ is one of the most-studied mitochondrial-targeted antioxidants. Research has shown that after oral administration, MitoQ rapidly accumulates in mitochondria-rich tissue such as the heart, brain, skeletal muscle, liver, and kidney and supports a range of conditions associated with oxidative stress.

You can boost your own natural levels of Co Q10 with MitoQ. When taken alongside a healthy diet and exercise it can reduce damage to your cells inflicted by free radicals.

## **Bibliography**

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