

# CoQ Absorb™



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CoQ Absorb provides a unique combination of ubiquinol and trans-geranylgeraniol (GG). This powerful formulation enhances both the extracellular and intracellular delivery of ubiquinol, the reduced, bioactive form of coenzyme Q10 or ubiquinone (marketed as CoQ10). Ubiquinol is an important antioxidant involved in mitochondrial energy production, as well as cell signaling, cellular metabolism and membrane transport. Named for its ubiquitousness, ubiquinol occurs in all cells, and is the only endogenously created lipid-soluble antioxidant.

By its nature, coenzyme Q10 poses challenges for creating an absorbable and bioavailable product. Manufacturers face issues related oxidation and/or crystallization of the product, as well as complications delivering this large molecule intracellularly where it's most beneficial. In addition, since it's normally endogenously produced, much of the transport moves from inside to outside the cell. Therefore, additional measures are required to work against the transport gradient.

Alight's CoQ Absorb™ overcomes these challenges, resulting in a superior, clinically-effective product. Multiple additional measures were taken in this blend to enhance absorption, such as using the reduced form, creating a stable solution, and adding GG and quillaja for maximum effect.

## Supplement Facts

Serving Size 1 softgel

| Amount Per Serving                  | % Daily Value |
|-------------------------------------|---------------|
| DuoQuinol® Blend                    | 278 mg *      |
| Ubiquinol                           | 100 mg *      |
| Trans-Geranylgeraniol (as GG-Gold®) | 60 mg *       |

\*Daily Value not established.

**Other Ingredients:** Medium chain triglycerides, bovine gelatin, glycerine, purified water, quillaja extract, ascorbyl palmitate, annatto (color).

GG-Gold™ and DuoQuinol™ are trademarks of American River Nutrition, LLC and protected by US Patents 6,350,453; 7,989,006; and pending patents.

## Reduced Form

While there are two forms of coenzyme Q10, ubiquinol and ubiquinone, there may be advantages to supplementing in the form of ubiquinol. Ubiquinol is the reduced form, whereas ubiquinone is the oxidized version of this coenzyme. While interconversions of ubiquinol and ubiquinone occur during metabolic processes, the body appears to preferentially distribute ubiquinol. The form found in the blood and tissues is primarily ubiquinol, whereas ubiquinone is minimally represented. Ubiquinone is elevated in inflammatory conditions, such as diabetes, and may be either a consequence or causal factor in cell senescence.

During gastrointestinal absorption, the majority of ubiquinol is absorbed unchanged, with only a small portion becoming oxidized. Whereas, the majority of ubiquinone must be reduced, depleting the body's antioxidant reserve. This becomes more problematic in inflammatory states of the gut, as seen in people exposed to mycotoxins and endotoxins from a damp or water-damaged building.

## Recommended Use

Take one softgel per day with a meal, or as directed by a health care practitioner.

Does not contain gluten, dairy, soy or GMOs.

The ubiquinol in Alight's CoQ Absorb™ is sourced as DuoQuinol™, an innovative, patent-pending form, created to overcome the absorption challenges posed by coenzyme Q10 supplementation. Most coenzyme Q10 supplements require supraphysiologic doses in order to achieve a high enough plasma concentration so as to induce passive diffusion into the cell. The efficient transport of DuoQuinol™ through cell membranes precludes the need for macrodosing, making CoQ Absorb™ one of the most economical CoQ10 supplements available.

## Stable Solution

The stable solution created by this innovative blend prevents crystallization and oxidation of ubiquinol. The stability is reached by adding geranylgeraniol (GG), ascorbyl palmitate, quillaja extract, medium-chain triglycerides, and glycerine to the ubiquinol to maintain its solubility.

The combination enables ubiquinol absorption to be approximately 100% higher than the ubiquinol alone, almost 20% higher than other leading brands of solubilized ubiquinol. Gastrointestinal (GI) absorption was determined by:

- Bioaccessibility, which estimates the percent of the nutrient solubilized/micellized for absorption in the GI cells.
- Transport coefficient in the GI cells.
- Transport coefficient into general circulation, which accounts for loss due to liver metabolism.

Bioaccessibility of ubiquinol in the DuoQuinol™ matrix was estimated at 1.73%, with a protocol defined by McClements, et. al, which uses three processing chambers with distinct environments to mimic human digestion in the mouth, stomach, and intestine.\*

## Maximum Absorption

Mycotoxins impede lymphatic and biliary absorption of fat-soluble nutrients, including coenzyme Q10. In addition, this large molecule is poorly absorbed in tissues such as the brain and muscle. The inclusion of GG provides the perfect complementary solution to this problem.

GG is sourced as the patented annatto seed extract GG-Gold™, a natural source that's well tolerated by sensitive patients. GG is a physiologically essential, naturally occurring terpenoid found in many plants. It serves as a critical endogenous precursor to essential components, such as many cell metabolites and signaling molecules, including carotenoids.

Ubiquinol and GG work synergistically. Not only does GG promote efficient cellular permeability of ubiquinol, it acts as a precursor in the synthesis of ubiquinol, resulting in increased endogenous coenzyme Q10 synthesis. The combination therefore has a doubling effect in the absorption and bioavailability of ubiquinol.

Quillaja is an extract from the bark of the Quillaja Saponaria tree, commonly used as an emulsifier in foods. Quillaja extract has been added to further enhance absorption and bioavailability.

The patent-pending proprietary blend of ubiquinol, GG, ascorbyl palmitate, quillaja extract, medium-chain triglycerides, and glycerine creates a stable solution that prevents crystallization and oxidation of ubiquinol.

## Myoprotective

Probably the most significant myoprotective effect of coenzyme Q10 is of cardiac muscle. Considered “the heart antioxidant,” CoQ10 significantly protects from oxidative stress by attenuating decreases in antioxidant enzymes. Animal models report that it protects against apoptotic myocardial cell death by regulating Bcl-2 gene expression. Given as a pre-treatment before heart surgery in rats, coenzyme Q10 reduced the cytopathological changes seen in reperfusion injury caused by cardiac ischemia followed by reperfusion.

Coenzyme Q10 is frequently used to mitigate the negative side-effects of statins, such as muscle pain, weakness, cramps, and becoming easily fatigued, by rescuing mitochondrial respiratory activity. GG offers an additive effect. GG can mitigate the statin-related downregulation of coenzyme Q10 synthesis, without reducing the drug’s efficacy in lowering cholesterol.

## Protective Against Mycotoxins

Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) has been correlated to a history of chronic exposure to environmental mold from damp or water-damaged buildings, finding a high prevalence of mycotoxins compared to controls. Study findings support the use of CoQ10 plus NADH supplementation as a potentially safe therapeutic option for reducing perceived cognitive fatigue and improving the health-related quality of life in ME/CFS patients.

Coenzyme Q10 is also protective to the systems involved in detoxifying mycotoxins, which sustain profound oxidative stress injury in the process of modifying and/or excreting these toxins. Animal studies report numerous protective effects supplementing CoQ10, such as hepatoprotection against Ochratoxin and Trichothecenes; nephroprotection against Ochratoxin and Citrinin, significantly reducing the severity of kidney lesions; and cytoprotection through glutathione preservation.

## Therapeutic Differences by Composition



The ubiquinol in this product is produced from ubiquinone through an innovative patented process without the use of petrochemicals, with the presence of GG and ascorbyl palmitate.

For more information about Alight Health Formulas™, email [contact@alighthealthformulas.com](mailto:contact@alighthealthformulas.com)

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