Media Kit

UBIQUINOL.ORG

This media kit has been assembled in order to share recent news coverage of Ubiquinol, as well as relevant educational and informational resources that can be used to spread the word about Ubiquinol. All content should be helpful in gaining a better understanding of Ubiquinol and its many benefits to overall health and well-being. Should you need more information beyond what is provided here, or if you have any questions about Ubiquinol or other available resources, please contact:

Danielle Elderkin
Cover Story Communications
800-928-6613, ext. 1
danielle@coverstorycom.com

John Jarmul
Kaneka
jjarmul@kanekatexas.com

About Ubiquinol

Ubiquinol is made exclusively in the USA by Kaneka, the leader in CoQ10 ingredients worldwide. Ubiquinol helps sustain the body's natural energy, protect cells from damage, slow the aging process, and promote the overall health of the heart and other vital organs. It is the advanced form of CoQ10 that is more easily utilized in the body, especially for people with compromised immune systems or those over 30 years of age. It is manufactured by Kaneka, the same company that commercialized the first CoQ10 more than 30 years ago as a prescription pharmaceutical in Japan. For more information and the latest clinical research on Ubiquinol, please visit www.ubiquinol.org.

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Benefits of Ubiquinol

For more than 30 years, CoQ10 has been one of the most popular heart health supplements in the world. The CoQ10 that has been on the market is actually the oxidized or inactive form of CoQ10 and must first be converted to Ubiquinol by the body. Although researchers have known about Ubiquinol for years, it is only recently available as a dietary supplement. Found naturally in the body, it is responsible for energy production and antioxidant protection for vital organs such as the heart. Ubiquinol has been shown in every major clinical trial to far outperform conventional CoQ10.

Benefits to taking Ubiquinol include:

Promoting heart health

Ubiquinol is essential for heart health because it provides cellular energy to the heart, the organ in the body that requires the most energy to perform at its best. Unlike conventional CoQ10, Ubiquinol is an antioxidant, so it provides even more protection to the heart.

Accompanying statin drugs

Ubiquinol also is ideal for persons on cholesterol-lowering statin drugs. In addition to reducing the amount of bad cholesterol in the liver, statin drugs can reduce the amount of CoQ10 in the liver as well. A lack of CoQ10 in the body can lead to chronic fatigue and muscle pains.

Sustaining natural energy

Health conditions such as stress, fatigue and aging diminish the amount of Ubiquinol found in the body. Ubiquinol is a key component in 95 percent of the body's energy production. Taking an Ubiquinol supplement helps to restore optimal levels the body needs to feel healthy and energized. Although most will not get a stimulant effect from taking Ubiquinol, many describe the energy benefits from Ubiquinol as feeling a lack of tiredness that they usually experience throughout the day.

Promoting healthy vital organs

Supplementing with Ubiquinol will restore healthy levels of CoQ10 in plasma and organs for more efficient energy production. This typically results in more energy and stamina, as well as better overall health.

Slowing of the aging process

Ubiquinol is the strongest known lipid soluble antioxidant. It protects cells against damage from free radicals and oxidative stress, which are associated with the aging process and many age-related conditions.

Clinical Trials

Heart Health

Study: Supplemental ubiquinol in patients with advanced congestive heart failure.

Journal: Biofactors. 2008;32(1-4):119-28.

Authors: Langsjoen PH, Langsjoen AM

Department: East Texas Medical Center and Trinity Mother Francis Hospital, TX, USA.

Summary/comments: An initial group of subjects with end stage congestive heart failure (NYHA Class IV) were being given an average of 450 mg per day of ubiquinone. Despite the supplemental ubiquinone, blood values were a mean of 1.6 mcg/mL plasma. Dr Langsjoen changed subjects to the ubiquinol form (average of 580 mg/day) and found blood values rose from 1.6 microg/ml up to 6.5 microg/ml. The researchers noted remarkable clinical improvement with NYHA class improving from a mean of IV to a mean of II, and mean Ejection Fraction improved from 22% (10-35%) up to 39% (10-60%).

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/19096107

Study: Supplemental Ubiquinol in the Treatment of Heart Failure; Five Year Experience

Authors: Langsjoen PH and Langsjoen AM
Presented at the 6th Conference of the International Coenzyme Q10 Association, Brussels, Belgium.

Summary/comments: Based on the initial study published in 2008, Dr Langsjoen expanded the number of patients on ubiquinol. For a variety of markers associated with cardiovascular function ranging from plasma CoQ10 levels to ejection fraction, the ubiquinol form showed better benefit with less amounts required. For instance, ejection fractions were at 40.9% for ubiquinone and 47.8% for ubiquinol; NYHA Class on ubiquinol was 1.6, while subjects on ubiquinone were at 2.5.

Study: Supplementation with the reduced form of Coenzyme Q10 decelerates phenotypic characteristics of senescence and induces a peroxisome proliferatoractivated receptor-alpha gene expression signature in SAMP1 mice.

Journal: Mol Nutr Food Res. 2010 Jun;54(6):805-15.

Authors: Schmelzer C, Kubo H, Mori M, Sawashita J, Kitano M, Hosoe K, Boomgaarden I, Doring F, Higuchi K.

Department: Institute of Human Nutrition and Food Science, Molecular Prevention, Christian-Albrechts-University of Kiel, Heinrich-Hecht-Platz 10, Kiel, Germany. Summary/comments: In this study, the researchers conducted broad genome expression profiling in various tissues (liver, kidney, heart and brain) of SAMP1 mice supplemented with ubiquinol or ubiquinone. The scientists detected the presence of redox-sensitive genes, specifically ubiquinol-dependent gene networks that are involved in inflammation and lipid metabolism. These ubiquinolsensitive genes involved in cholesterol and lipid metabolism were not effected by ubiquinone. The research also indicated that, in comparison to ubiquinone, ubiquinol supplementation was more effective at increasing total CoQ10 levels in the liver.

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/19960455

Brain & Neurological Health

Study: Therapeutic effects of coenzyme Q10 (CoQ10) and reduced CoQ10 in the MPTP model of Parkinsonism.

Journal: J Neurochem. 2008 Mar;104(6):1613-21. Epub 2007 Oct 31.

Authors: Cleren C, Yang L, Lorenzo B, Calingasan NY, Schomer A, Sireci A, Wille EJ, Beal MF. Department of Neurology and Neuroscience, Weill Medical College of Cornell University, New York-Presbyterian Hospital, New York, New York 10021, USA.

Summary/comments: Beal offered his group's most recent findings on mitochondrial dysfunction and neurodegenerative diseases, specifically involving animal models of Parkinson's and Huntington's disease to compare ubiquinol and conventional CoQ10. In one of the animal models, they utilized a neurotoxin called MPTP, which induces effects in the brain that are analogous to clinical and biochemical changes seen in patients with Parkinson's disease. The rodents treated with CoQ10 (both ubiquinone and ubiquinol forms) had significantly less formation of alpha synuclein aggregates, which is a major pathological hallmark found in Parkinson's disease patients. Additionally, the scientists noted that the ubiquinol form resulted in higher plasma levels and exerted a greater neuroprotective effect against the damaging effect of MPTP.

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/17973981

Study: Levels of reduced and oxidized coenzymeQ-10 and 8-hydroxy-2 - deoxyguanosine in the cerebrospinal fluid of patients with living Parkinson's disease demonstrate that mitochondrial oxidative damage and/or oxidative DNA damage contributes to the neurodegenerative process.

Journal: Neuroscience Letters. 2010, 469: 159-163

Authors: Isobe T, Abe T, Terayama Y

Department: Department of Neurology, Iwate Medical University, 19-1 Uchimaru, Morioka, Iwate 020-0805, Japan.

Summary/comments: Researchers from Iwate Medical University in Japan examined ubiquinone and ubiquinol levels in the cerebrospinal fluid from a small number of untreated Parkinson's Disease patients, in order to ascertain the oxidative balance. There was no correlation between the content of ubiquinone (oxidized CoQ10) and age of the patients. However, the Parkinson's Disease patients did have higher concentrations of ubiquinone relative to the control group, and the %CoQ10 (which is the percentage of ubiquinone to Total CoQ10) was also higher. This shift from the ubiquinol to the ubiquinone form may mark the extent of oxidative stress and, conversely, the level of antioxidant protection.

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/19944739

Antioxidants & Aging

Study: Reduced coenzyme Q10 supplementation decelerates senescence in SAMP1 mice.

Journal: Experimental Gerontology 41 (2006) 130–140

Authors: Yan J, Fujii K, Yao J, Kishida H, Hosoe K, Sawashita J, Takeda T, Mori M, Higuchi K Department of Aging Biology, Institute on Aging and Adaptation, Shinshu University Graduate School of Medicine, 3-1-1, Asahi, Matsumoto 390-8621, Japan.

Summary/comments: Scientists from Shinshu University (Department of Aging Biology) investigated the effects of ubiquinol on a senescence-accelerated mouse strain called SAMP1. Ubiquinol improved the behavior and appearance of the SAMP1 mice, and delayed senescence during middle-age.

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/16387461

Study: Redox status of coenzyme Q10 is associated with chronological age.

Journal: J Am Geriatr Soc. 2007 Jul;55(7):1141-2.

Authors: Wada H, Goto H, Hagiwara S, Yamamoto Y. Department of Respiratory Medicine, Kyorin University, School of Medicine, Tokyo, Japan.

Summary/comments: Research has continued to uncover the association between oxidative stress and aging, and recent work done at Kyorin University in Japan demonstrates that ubiquinol is involved. The blood levels of the both forms of CoQ10 in subjects in different ages was examined. They found that aged subjects not only have reduced CoQ10 biosynthesis, but their ability to convert ubiquinone to ubiquinol is also diminished.

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/17608895

Study: Coenzyme Q10 (Ubiquinol-10) Supplementation Improves Oxidative Imbalance in Children With Trisomy 21

Journal: Pediatr Neurol. 2007 Dec;37(6):398-403

Authors: Miles MV, Patterson BJ, Chalfonte-Evans ML, Horn PS, Hicke FJ, Schapiro MB, Steele PE, Tang PH, Hotze SL

Department: Division of Pathology and Laboratory Medicine, Cincinnati Children's Hospital Medical Center and University of Cincinnati Medical Center, Cincinnati, OH 45229-3039, USA.

Summary/comments: This is the first study to indicate a pro-oxidant state in plasma of children with trisomy 21, as assessed by ubiquinol-10: total coenzyme Q10 ratio. The scientists found the redox status of coenzyme Q10 in children with trisomy 21 is significantly altered compared with that of healthy children. In addition, after 3 months of supplementation with ubiquinol, the antioxidant:oxidant imbalance was positively affected in most of these children. Though this did not prove a clinical effect, the results provide a foundation for further research.

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/18021919

Study: Oxidative burden in prediabetic and diabetic individuals: evidence from plasma coenzyme Q10

Journal: Diabetic Medicine. 2006, 23: 1344-1349

Authors: Lim SC, Tan HH, Goh SK, Subramaniam T, Sum CF, Tan IK, Lee BL, Ong CN

Department: Department of Medicine, Alexandra Hospital, Singapore 159964, Republic of Singapore.

Summary/comments: Singaporean researchers demonstrated that ubiquinol ratios are low in diabetics, however the extent of ubiquinol loss is very severe: diabetics exhibited approximately 75% less ubiquinol as opposed to control (nondiabetic) subjects (chart below). These diabetics were defined by a fasting plasma glucose of ≥ 6.9 mmol/L (blood glucose of ≥ 124 mg/dL). This research demonstrates that the diabetic's oxidative stress may causes the conversion of ubiquinol to ubiquinone.

Blood Glucose	≤ 99 mg/dL	101 – 124 mg/dL	≥ 124 mg/dL
Ubiquinol ratio (%) Male	93 ± 6	43 ± 25	24 ± 11
Ubiquinol ratio (%) Female	95 ± 6	41 ± 15	29 ± 16

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/17116186

Study: Plasma ubiquinone to ubiquinol ratio in patients with hepatitis, cirrhosis, and hepatoma, and in patients treated with percutaneous transluminal coronary reperfusion.

Journal: Biofactors. 1999;9(2-4):241-6.

Authors: Yamamoto Y, Yamashita S

Department: Research Center for Advanced Science and Technology, University of Tokyo, Japan.

Summary/comments: Scientists found a loss of ubiquinol with subjects that have certain types of liver disease. Certain liver conditions are also known to have elevated oxidative stress, as witnessed by the increase in biomarkers such as TBARS (serum thiobarbituric acid reactive substances). Researchers at the University of Tokyo showed that patients with hepatitis, cirrhosis, and hepatoma all exhibited a decrease in the ubiquinol ratio percent (chart below), while the total levels of amounts of CoQ10 (ubiquinol + ubiquinone) was not reduced. These studies demonstrate that as the level of oxidative stress increases, the ratio of the ubiquinol:ubiquinone declines. This is both an indication that these type of physical states particularly require ubiquinol and provides support for the use of the ratio as a biomarker of oxidative stress.

	Control (n=16)	Hepatitis (n=28)	Cirrhosis (n=16)	Hepatoma (n=20)
Ubiquinol Ratio (%)	93.6	87.1	89.4	81.1
Decline	-	6.5	4.2	12.5

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/10416036

Study: Renal preservation effect of ubiquinol, the reduced form of coenzyme Q10.

Journal: Clinical and Experimental Nephrology

Authors: Ishikawa A, Kawarazaki H, Ando K, Fujita M, Fujita T, Homma Y

Department: Department of Urology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo, 113-8655, Japan.

Summary/comments: Researchers from the University of Tokyo have been examining the role of antioxidants in Chronic Kidney Disease. As a preliminary study, an animal model of chronic kidney disease was developed. Three experimental groups were created: a control group, a high salt diet group, and a high salt diet plus ubiquinol group. In comparison to the control group, the high salt diet increased oxidative stress (measured by the generation of superoxide anion in kidney tissue), increased hypertension, and induced albuminuria. However, the high salt diet plus ubiquinol group exhibited results indicating significant renoprotection by ubiquinol, including decreased generation of superoxide anion (antioxidant effect), decreased urinary albumin, and amelioration of hypertension. This study marks the first experimental research with the antioxidant ubiquinol in an animal model of chronic kidney disease.

Abstract link: http://www.ncbi.nlm.nih.gov/pubmed/20878200

Coenzyme Q10 (CoQ10): Ubiquinone vs. Ubiquinol

What is CoQ10?

CoQ10 is naturally produced by the body, helps prevent free-radical damage and is essential in cellular energy production. CoQ10 levels decrease as we age, and are especially low in people with compromised immune systems or medical conditions such as heart disease or diabetes. CoQ10 is difficult to get in sufficient amounts in food but can be replaced in the body by taking it as a supplement. CoQ10 can be found in two forms: Ubiquinone (CoQ10) and Ubiquinol.

What is the difference between conventional CoQ10 and Ubiquinol?

Conventional CoQ10 (Ubiquinone) and Ubiquinol are both forms of CoQ10. Ubiquinone is the oxidized form of CoQ10 with which consumers are most familiar; it has been available as a dietary supplement and studied for more than 30 years. Although researchers have known about Ubiquinol as long as they have Ubiquinone, Ubiquinol simply has not been commercially available due to its sensitivity and reactivity to light and air.

- Ubiquinol has been shown to be more absorbable than conventional CoQ10 in every clinical trial to date.
- The body's ability to efficiently convert CoQ10 to its usable form Ubiquinol decreases as we age or develop health maladies.
- Ubiquinol is the predominant form of CoQ10 in a healthy body. In fact, over 90% of the CoQ10 in the plasma and tissue in a healthy person is in the Ubiquinol form.
- Any health benefit a CoQ10 supplement user has experienced in the past has been because the body was able to effectively convert it to the usable Ubiquinol form.

In the body, CoQ10 must be converted to its usable form Ubiquinol to provide antioxidant protection or generate cellular energy. In young healthy individuals, this conversion process is very efficient. However as we age or become health compromised, the body's ability to make this conversion diminishes. Because Ubiquinol is pre-converted, it is ready for immediate use by the body and therefore allows the body to utilize higher levels of CoQ10.

Ubiquinol delivers antioxidant protection that conventional CoQ10 cannot provide. Ubiquinol is one of the strongest lipid soluble antioxidants. It works hard to protect cells against damage from free radicals and oxidation, which are associated with the aging process and many age-related conditions.

History of Ubiquinol

While the benefits of Ubiquinol and its role in the body have been well known within the scientific community since the 1950s, it has only been commercially available since late 2006.

This is largely because it is a difficult supplement with which to work. Since Ubiquinol is such a powerful antioxidant, it is easily oxidized in the air and a challenge to keep stable in a dietary supplement. Several years ago, scientists at Kaneka, the world's largest CoQ10 manufacturer, perfected a stabilization process by which Ubiquinol remains in its reduced form.

Researchers have conducted all the necessary FDA safety and toxicity studies on Ubiquinol and no adverse side-effects or drug-drug interactions have been found to date.

In the past 50 years there have literally been thousands of clinical trials conducted with CoQ10 on everything from heart health to neurological function and beyond. As the Ubiquinol form has only been recently available, the clinical trials quickly ramping up rapidly and most researchers are acting quickly to duplicate successful CoQ10 studies with Ubiquinol. To date, every clinical trial has shown Ubiquinol to provide vastly superior results to that of conventional CoQ10. There are currently more than a dozen clinical trials being conducted on Ubiquinol in the U.S., many of which are FDA and NIH-funded studies.

Ubiquinol is the active antioxidant form of CoQ10. It is the form of CoQ10 that is used by the body to carry out its functions as an antioxidant and in cellular energy production. Any benefit that one has received from a CoQ10 supplement in the past has been because the body was able to effectively convert it to its active Ubiquinol form.

Ubiquinol Fact Sheet

What is Ubiquinol?

Ubiquinol is the reduced, active antioxidant form of Coenzyme Q10 (CoQ10). Produced naturally within the body, Ubiquinol is CoQ10 that has been converted ("reduced") for use in the cellular energy production process. In addition to its critical role in energy production, it is the strongest lipid-soluble antioxidant, protecting the body's cells from oxidative stress which can cause damage to proteins, lipids and DNA.

Why should I be concerned about declining Ubiquinol levels?

Declines in Ubiquinol result in less cellular energy and diminished protection against oxidative stress. Ubiquinol provides a strong first-stage defense against this cellular oxidative damage and needs to be replenished to maintain optimum health.

An increasing number of scientific reports indicate that dramatic decreases in Ubiquinone levels and increased oxidative stress are associated with the aging process and with many age-related conditions.

Why does supplementing with Ubiquinol become more important as I age?

As a healthy 20-year-old, you readily produce all of the CoQ10 you can use and efficiently convert it into Ubiquinol. In fact, the predominant form (over 90%) of CoQ10 in the plasma and tissues of a healthy individual is the reduced Ubiquinol form.

However, age and other factors can hinder the body's ability to produce and metabolize CoQ10. Some reasons for this include increased metabolic demand, insufficient dietary intake, oxidative stress, or any combination of these things. Some reports say this decline becomes apparent around 40 years old, although it can begin as early as 20 in some cases. As the body's ability to produce and reduce CoQ10 begins declining, supplementation with Ubiquinol becomes increasingly important to maintaining good health.

How do I know which form of CoQ10 is right for me?

For young, healthy individuals, conventional CoQ10 should usually be sufficient for supplementation needs. Healthy adults in their 20s can easily produce CoQ10 and convert it into Ubiquinol; thus, supplementing with conventional CoQ10 likely will be adequate to optimize their Ubiquinol and CoQ10 levels.

For individuals who are 30+, Ubiquinol is likely more beneficial since the body's ability to produce CoQ10 and convert it into Ubiquinol is diminished. Optimal Ubiquinol levels are important for those looking to support cardiovascular, neurological and liver health. Because Ubiquinol is pre-converted, it is ready for immediate use by the body, making it ideal for those unable to efficiently reduce CoQ10 in the body.

How much Ubiquinol should I take?

The recommended dose of Ubiquinol varies based on each individual's needs. However, those who are older or suspect they have decreased CoQ10 due to disease may want to start supplementing with 200 mg of Ubiquinol per day. Studies show that the CoQ10 plasma levels plateau at about two weeks at this dose. Then, 100 mg per day is a good maintenance dose.

Can I get Ubiquinol from the foods I eat?

You can get Ubiquinol as well as Ubiquinone in small amounts from your diet; however, you would have to eat the foods in such large amounts to meet your CoQ10 supplementation needs that it would not be feasible. And because the body's ability to convert Ubiquinone to Ubiquinol declines with age, food becomes a less practical source of Ubiquinol for older individuals and those suffering from age-related conditions.

What are the health benefits associated with Ubiquinol?

For those individuals who cannot efficiently convert CoQ10 to Ubiquinol, supplementing with Ubiquinol will restore healthy levels in plasma and organs for more efficient energy production. This should result in more energy and stamina as well as better overall health. Additionally, because Ubiquinol is an extremely powerful antioxidant, it offers a strong protective defense against oxidative stress and age-related conditions.

How long will I have to take Ubiquinol before feeling the benefits?

Ubiquinol is not a quick fix for those looking for increased energy. Unlike stimulants such as caffeine or sugar, which boost energy levels quickly and can cause a "crash" later, Ubiquinol offers sustained natural energy. Although each individual is different, it generally takes two to three weeks to restore optimal CoQ10 levels in blood plasma and tissues, most people will begin feeling the effects as their individual plasma levels start to increase, generally around the fifth day. Although many will not feel the difference noticeably, many comment that they first realize the positive effects when they forget to take it for a few days.

I've heard that Ubiquinol "sustains your natural energy." What does that mean?

Ubiquinol is required for the body to generate energy. Restoring this vital nutrient to optimal levels in people over 30 will restore the same type of youthful energy the body produced when it could efficiently convert CoQ10 to Ubiquinol and maintain adequate concentrations of Ubiquinol in plasma and tissues. Thus, supplementing with Ubiquinol is the ideal way to restore and sustain your natural energy.

What kind of clinical studies have been conducted on Ubiquinol?

In the past 50 years there have literally been thousands of clinical trials conducted with CoQ10 on everything from heart health to neurological function and beyond. As the Ubiquinol form has only been recently available, the clinical trials are ramping up rapidly and most researchers are acting quickly to duplicate successful CoQ10 studies with Ubiquinol. To date, every clinical trial has shown Ubiquinol to provide vastly superior results to that of conventional CoQ10. There are currently more than a dozen clinical trials being conducted on Ubiquinol in the U.S., many of which are FDA and NIH-funded studies. Researchers have also conducted all the necessary FDA safety and toxicity studies on Ubiquinol and no adverse side-effects or drug-drug interactions have been found to date.