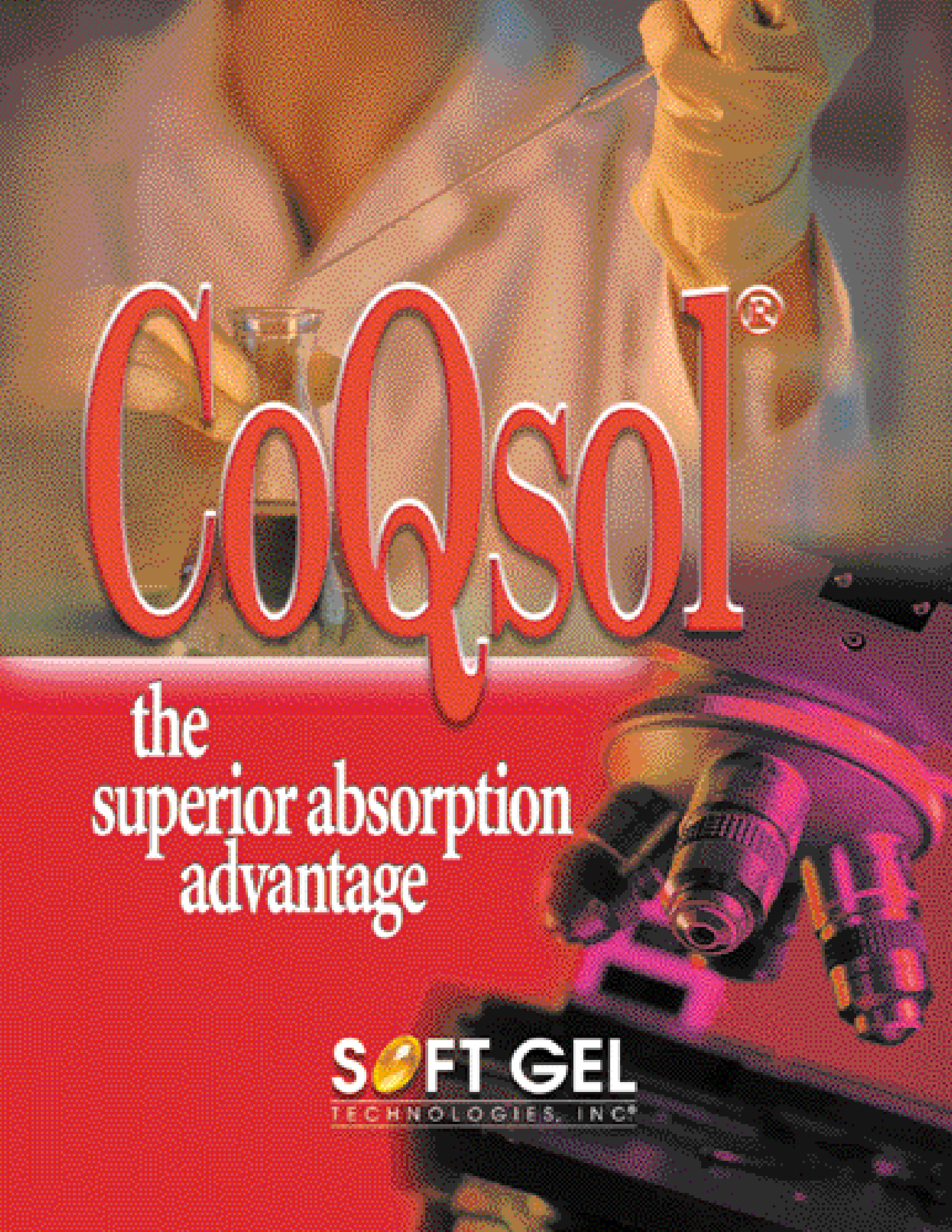

CoQsol®
the superior absorption advantage
SOFT GEL
TECHNOLOGIES, INC®

Since the discovery of CoQ_{10}, investigative inquiry into its clinical value has lead to widespread use and substantiation of its benefits for human health. CoQ_{10} has proven to be effective in supporting heart health, oral health and helping to increase energy levels. Recent clinical data has also shown that CoQ_{10} is beneficial as adjunct therapy for those taking certain cholesterol-lowering pharmaceuticals. Scientific research has confirmed that CoQ_{10} is one of the most valuable nutraceuticals on the market today.

The CoQsol® Lipid Advantage

The old chemistry rule on solubility neatly defines the superior advantage of Soft Gel Technologies, Inc.® CoQsol®…like dissolves like. Absorption of CoQsol® occurs across the lipid membrane of the small intestine. Because of the oil based proprietary formulation of CoQsol®, absorption is enhanced.

A Clinical Absorption Study for CoQsol®

Due to the unique blend of ingredients in CoQsol®, absorption is far greater than that of dry CoQ_{10} powder. With superior absorption, CoQsol® has the ability to aid in increased cellular energy production, and benefit those who suffer from health conditions related to the heart, immune system, brain, soft tissue, age degeneration, and low energy syndromes.

A randomized, placebo-controlled study was conducted to determine the differences in steady state and peak absorption characteristics between CoQsol® and dry CoQ_{10} powder in a two-piece hard shell capsule. The objectives to be analyzed are as follows:

- To measure and compare the steady state blood CoQ_{10} levels over a 30-day period, when administered 60 mg CoQsol® or CoQ_{10} per day.
- To determine and compare the intestinal peak absorption rate, change in absolute blood CoQ_{10} levels and amount of CoQ_{10} absorbed after 5 hours, when taking a single 30 mg dose of CoQsol® or CoQ_{10}.

Study Selection Criteria

Subjects were screened and chosen after a careful review of the following: medical history, normal basal blood CoQ_{10} level, physical exam and no previous CoQ_{10} supplementation. Professional athletes and vegetarians were not eligible for the study, due to their variance in CoQ_{10} metabolism. The study included 30 females and 6 males ranging in age from 22 - 58. The 36 volunteers were randomly divided into three groups. Researchers then confirmed a 20% or less variation of blood CoQ_{10} levels between the groups. This established a consistent base of comparison for the study results.

Study Procedure

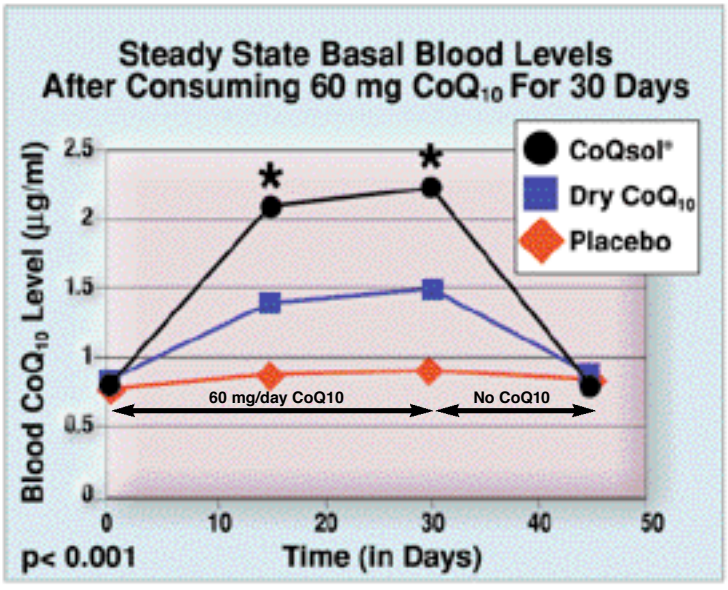
CoQ_{10} was administered in two forms along with a placebo. For the steady state blood CoQ_{10} portion of the study, Group I was given 60 mg/day CoQsol®. Group II received the same amount of CoQ_{10} as a dry powder in a two-piece hard shell capsule. On the last day of the steady state study, the peak absorption segment and its accompanying analyses commenced. Subjects received 30 mg of their respective forms of CoQ_{10}. The control group (Group III) received the placebo for both legs of the study.

- To measure steady state blood CoQ_{10} levels, 60 mg CoQsol®, 60 mg CoQ_{10} and placebo were taken for 30 days. Volunteers fasted and blood was drawn between 7:00 a.m. – 8:00 a.m. on days -7 (one week before the study began), 0, 15, 30, and 45 (15 days after discontinuing supplementation)
- To measure peak absorption, 30 mg CoQsol®, 30 mg CoQ_{10}, and placebo were given between 2:00 a.m. – 2:30 a.m. Volunteers fasted and blood samples were drawn from 7:00 a.m. – 7:30 a.m.

Study Observations - 30 Day Results

The average basal blood CoQ_{10} levels were near their peak at 15 days and continued to increase slightly over the remainder of the study. It was established that the average basal blood CoQ_{10} levels after 30 days for Group I increased by 165% (0.85 μg/ml to 2.26 μg/ml) as compared to an 80% increase (0.85 μg/ml to 1.5 μg/ml) experienced by Group II (Fig. 1). Statistical significance ($p< 0.001$) was demonstrated at both 15 and 30 days. Numerous clinical studies have shown that increased basal blood CoQ_{10} levels provide support during times of physical stress and illness.

FIG 1

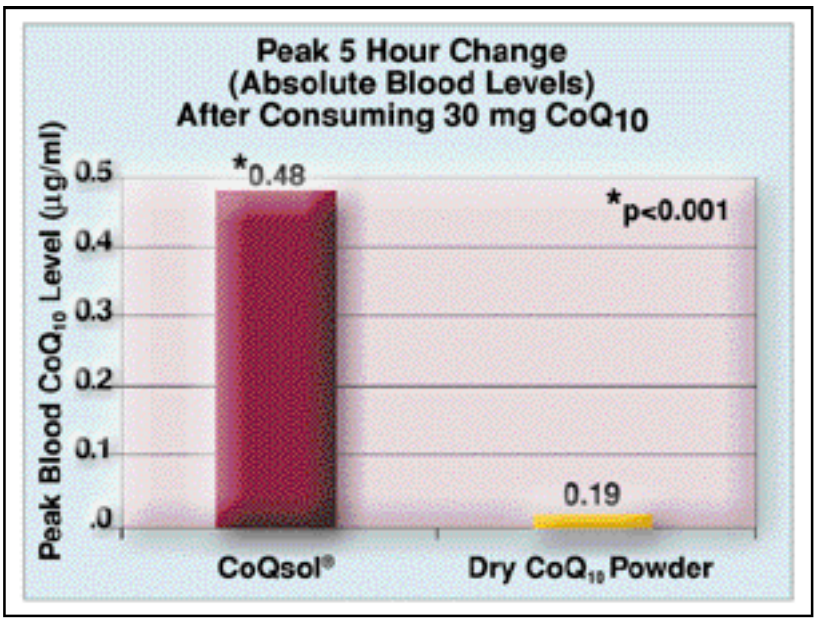


Dr. Karl Folkers conducted numerous studies on healthy individuals to establish normal absolute basal blood CoQ_{10} levels prior to supplementation. The level was determined to be 0.8 μg/ml blood.

Study Observations - 5 Hour Results

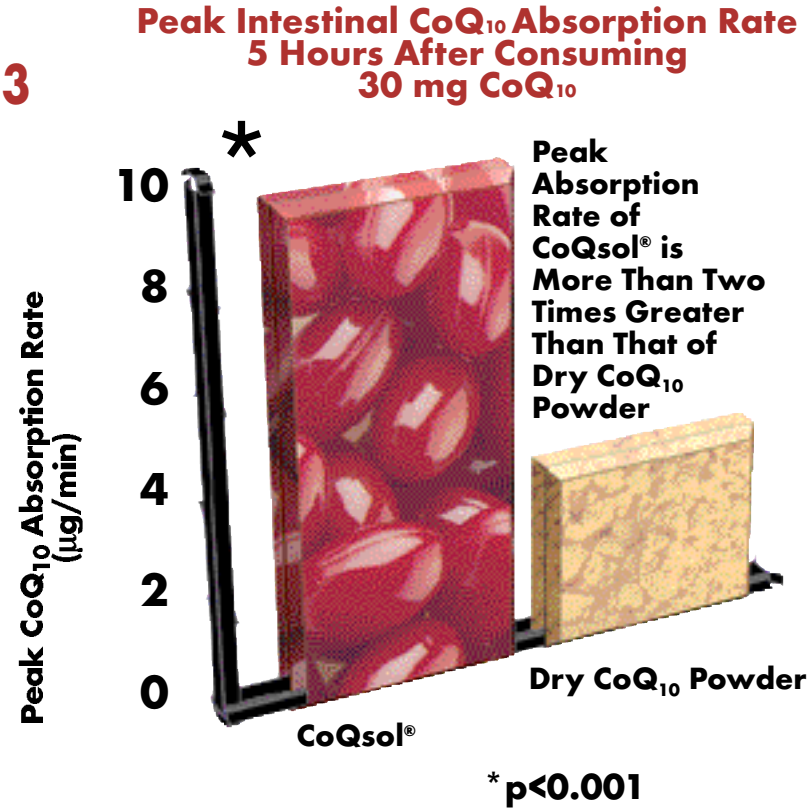
Five hours after the administration of 30 mg CoQsol®, peak absolute CoQ_{10} levels of Group I increased by 0.48 μg/ml blood compared to an increase of 0.19 μg/ml for Group II, which had received 30 mg dry CoQ_{10} powder in a two-piece hard shell capsule ($p<0.001$). The average absorption rate of Group I was 9.3 μg/min compared to that of Group II at 3.4 μg/min ($p<0.001$). The statistical significance between the two groups for both segments of the 5 hour study establish CoQsol® as a superior CoQ_{10} product (Figs. 2 and 3).

FIG 2



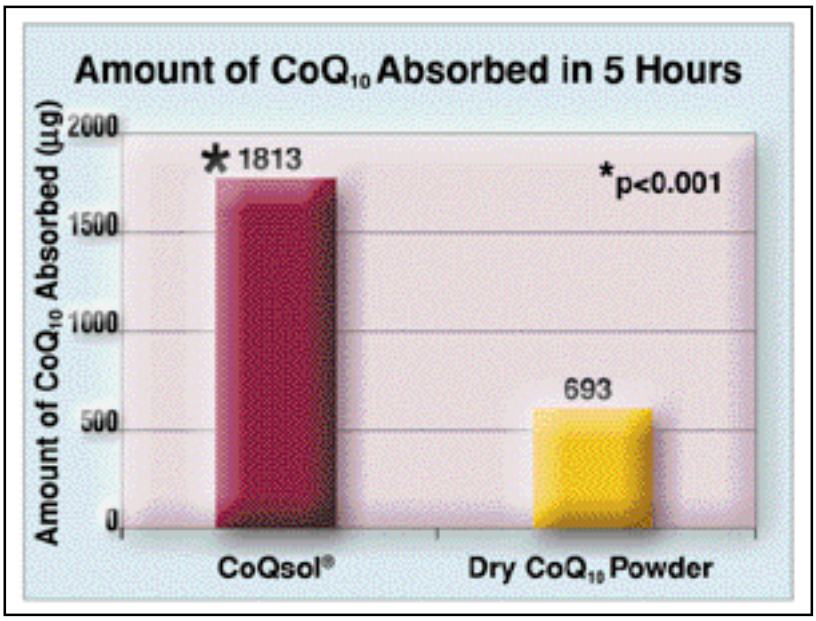
As an added benefit, 83% of volunteers in Group I (CoQsol®) experienced an increase in energy compared to only 30% in the dry CoQ_{10} pow - der group. Group III (placebo) did not experience any energy increase throughout the study.

FIG 3



A further analysis was conducted on the amount (μg) of CoQ_{10} absorbed after 5 hours (Fig. 4). The CoQsol® group absorbed 1,813 μg CoQ_{10}, a 161.6% difference ($p < 0.001$) over the dry CoQ_{10} powder group (693 μg).

FIG 4



Diseases of the Heart

CoQ_{10} deficiency with respect to heart disease has been well documented since the 1970's. The heart muscle is in constant need of a ready energy supply to efficiently pump blood throughout the body. The majority of cardiac tissue is abundant in mitochondria requiring ample and consistent levels of CoQ_{10} for proper functioning. It can thus be reasoned that CoQ_{10} is essential to support the workings of the heart.

CoQsol® and Statin Drugs

Hypercholesterolemia is endemic in the United States. Statins have become the prevalent form of treatment for this disease. These drugs effectively inhibit the endogenous synthesis of low density lipoproteins (LDL-C), also known as "bad cholesterol", but the metabolic pathway that produces cholesterol also produces CoQ_{10}. Long-term ingestion of statin drugs has shown a decrease in the production of CoQ_{10}. While these drugs are part of the arsenal to fight heart disease, their effect on decreasing CoQ_{10} levels cannot be ignored.

A clinical overview of statin therapy suggested that supplementation with CoQ_{10} may be beneficial for overall health. While supporting cellular energy demands, CoQ_{10} also acts as a potent antioxidant by helping to maintain the health of the lipid membrane by preventing lipid peroxidation.

Conclusion

As we age, endogenous CoQ_{10} production lessens and a trend toward decreased consumption of CoQ_{10} containing foods leaves the body vulnerable to a CoQ_{10} deficiency. The need for CoQ_{10} supplementation is indisputable. But not just CoQ_{10}, CoQ_{10} with superior absorption. The superior ability of CoQsol® to increase basal blood levels is what defines it as the best. Increasing intestinal absorption with CoQsol® allows the body to derive therapeutic benefits that would not otherwise be possible. Age, improper diet, drugs and various lifestyle choices can deplete CoQ_{10} levels. CoQsol® supplementation can support a healthy cardiovascular system, act as adjunct therapy while taking prescription medications, help to support the immune system, and provide a positive effect on many organ systems.

CoQsol® is effective as a single nutrient soft gel or can be blended with other powerful ingredients to make a unique turnkey formulation. CoQsol® is guaranteed to increase the sales of the various health categories in which it can be included. To discuss the potential of CoQsol® for your needs, contact Soft Gel Technologies, Inc.®

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