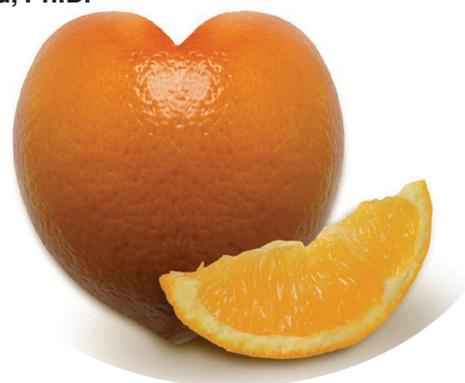


Sytrinol

a novel heart health breakthrough

by Zheng-Xian Liu, Ph.D.



Background

Cardiovascular disease (CVD) is the number one cause of death in the U.S., and two major risk factors for this disease are high blood cholesterol and inflammation. According to the American Heart Association, about 20 percent of Americans have high blood cholesterol, and 80 percent of people with high cholesterol do not have it under control. Furthermore, CVD is the primary or contributing cause to more than 1.4 million deaths in the U.S. each year. The cost of CVD the past two years has reached over \$770 billion, including health expenditures and lost productivity resulting from morbidity and mortality. Lowering blood cholesterol and triglyceride to healthy levels is an advised strategy to help reduce the risk of CVD.

Cholesterol and Triglycerides

Cholesterol is a waxy, fat-like substance needed for certain body functions, but too much is unhealthy. Triglycerides are another type of fat measured in the blood. Both are transported in the bloodstream on molecules called lipoproteins—either low-density lipoproteins (LDL) or high-density lipoproteins (HDL) in the case of cholesterol and very low-density lipoproteins (VLDL) in the case of triglycerides. High LDL cholesterol and triglyceride levels are associated with an increased risk of atherosclerosis and heart disease. That's why LDL is often called bad cholesterol. Conversely, high levels of HDL cholesterol (the "good" cholesterol) help lower the risk of cardiovascular diseases. The National Heart, Lung, and Blood Institute recently revised its guidelines for healthy cholesterol and triglyceride levels (less than 150 mg/dl). By actually lowering the cut-off point for total cholesterol and LDL cholesterol, these recommendations suggest a need for greater focus in the U.S. on reducing and maintaining healthy cholesterol and triglyceride levels.

Sytrinol™ — Patented Synergistic Formula

Sytrinol is a patented proprietary formula derived from natural citrus polymethoxylated flavones (PMFs) and palm tocotrienols exclusively marketed worldwide by SourceOne™ Global Partners for use in dietary supplements. This combination results in a synergistic effect for significantly lowering total cholesterol, LDL cholesterol, and triglyceride levels. Sytrinol has also been shown to increase HDL levels. Additionally, Sytrinol is a powerful antioxidant with numerous heart health benefits including the reduction of arterial plaque, improved glycemic control and reduced blood platelet aggregation.

Polymethoxylated Flavones (PMFs)

Polymethoxylated Flavones are extremely bioactive and potent bioflavonoids found in citrus fruits. This is especially true for tangeretin and nobiletin, two of the most common and potent

flavonoids found in nutrient-rich foods. More than 25 years of documented research provides evidence that these particular bioflavonoids deliver heart health benefits.

Specific PMFs, including nobiletin and tangeretin, have been found to help lower LDL cholesterol by inhibiting the creation of its building blocks: apolipoprotein B and triglycerides. Apolipoprotein B is considered the primary building block, making up almost 90 percent of the LDL cholesterol complex. Interestingly, triglycerides are one of the key contributors to the formation of apolipoprotein B. Triglycerides are also one of the primary risk factors in metabolic syndrome and type II diabetes.

In vitro, Sytrinol was shown to help maintain healthy inflammatory responses by influencing cytokine activity—cytokines such as interleukin-6 and interleukins 1-beta. Sytrinol was shown to influence t-lymphocyte mitogenic response and thymidine uptake by activated lymphocytes.

Palm Tocotrienols

Palm tocotrienols, along with tocopherols, are members of the vitamin E family and are extracted from the fruit of the palm tree. Like vitamin E, palm tocotrienols control anti-inflammatory responses and degrade HMG-CoA reductase, a key enzyme in our bodies used by the liver to produce cholesterol. New data on the biological activity of tocotrienols in the prevention of neurodegenerative and cardiovascular disorders, along with its antioxidant and chemotherapeutic properties, have raised tocotrienols to a new level of prominence in the scientific community.

A whole new perspective has developed on the role tocotrienols play in heart health and their importance as a supplement to a healthy diet. Some of the key areas of interest have centered on its role in maintaining and supporting a healthy cardiovascular system by lowering cholesterol, inhibiting arterial plaque formation and reducing blood platelet aggregation. In a recent study published in the *Journal of Atherosclerosis*, researchers at the Kyoto Prefectural University of Medicine in Japan found that tocotrienols were more effective than vitamin E in reducing the expression of adhesion molecules which leads to plaque formation. The study revealed that tocotrienols accumulate at levels which are 25–95 times greater than alpha tocopherol in human aortic endothelial cells.

Tocotrienols are also potent antioxidants. In human studies, researchers observed that alpha tocotrienols decreased the oxidation of LDL. High LDL levels are a risk factor in cardiovascular disease, particularly when they have been oxidized by reactive oxygen species. The antioxidant properties of tocotrienols can mitigate the damage caused by these compounds while protecting cell membranes for better cellular communication.

A Novel Combination

Separately, PMFs and tocotrienols are both proven and powerful natural products. But scientists observed a synergistic effect when these ingredients were combined in patented Sytrinol. To prove their point, researchers looked at more than 250 test-tube, pharmacological and human clinical studies on PMFs and palm tocotrienols to determine the optimal levels of each to support heart health. Three recent clinical studies offer compelling evidence that patented Sytrinol supports heart health naturally.

Table 1. Sytrinol four week results clinical study I, II, & III on blood lipid profiles

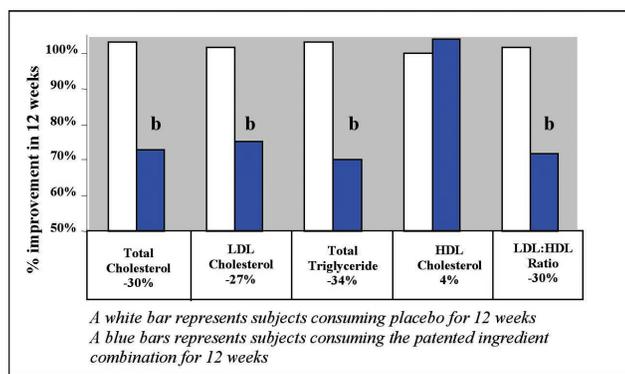
Measured Endpoints	Clinical Study I % change 4-weeks	Clinical Study II % change 4-weeks	Clinical Study III % change 4-weeks
Total Cholesterol	-25% ^b	-20% ^b	-25% ^b
LDL Cholesterol	-19% ^b	-22% ^b	-23% ^b
Total Triglycerides	-24% ^b	-28% ^b	-29% ^b
HDL Cholesterol	nc	3%	4%
LDL/HDL Ratio	-19% ^b	-24% ^b	-26% ^b

Clinical Research

The first clinical trial consisting of 60 adults showed that four weeks of treatment with 300 mg of patented Sytrinol daily significantly decreased levels of total cholesterol (-25 percent), LDL cholesterol (-19 percent), and triglycerides (-24 percent).

In the second trial, 10 adults with elevated cholesterol levels benefited after only four weeks of treatment with 300 mg per day of the patented combination. Treatment with PMFs and palm tocotrienols effectively decreased levels of plasma total cholesterol (-20 percent), LDL (-22 percent), and apolipoprotein B (-21 percent), an important structural protein of HDL.

Graph 1. Sytrinol study III results



Researchers recently completed the third clinical trial, a 12-week placebo-controlled study involving 120 men and women with moderately elevated cholesterol levels (total cholesterol above 230 mg/dl and LDL greater than 155 mg/daily). Compared to placebo, persons taking the patented PMF and palm tocotrienol combination (Sytrinol) experienced a decrease of 30 percent in total cholesterol, 27 percent in LDL cholesterol, and 34 percent in total triglycerides. In addition, HDL levels increased 4 percent, resulting in a significant 29 percent improvement in the LDL to HDL ratio.

Natural alternatives to help maintain a healthy heart exist in many forms. Unfortunately, some products claim to be clinically proven; however, the ingredient used in the trial is not available to the consumer. Furthermore, too often the effective dose used in the clinical trials is not the same dosage that is found in supplements on retail shelves. SourceOne provides a consistent and reliable supply of Sytrinol to leading brands, the same ingredient at the same effective dose used in clinical trials.

Sytrinol for Glycemic Control

As well as proving to be a novel cholesterol and triglyceride lowering supplement, Sytrinol also improves glycemic control in individuals with metabolic syndrome, as presented at the Canadian Federation of Biological Societies 48th Annual Meeting in Guelph, Ontario. To investigate this effect, 10 cholesterol study subjects, who also had metabolic syndrome, participated in two 2-h standard 25 g oral glucose tolerance tests (OGTT), one before the start of treatment with either Sytrinol or placebo, and one at the end of the four-week supplementation period. During the second OGTT, subjects ingested the last daily dose of capsules together with the standard glucose drink. Administration of Sytrinol, as compared to placebo, was associated with more pronounced tendency to improved OGTT insulin responses (including a 17 percent reduction of postprandial insulin peak, an 11 percent reduction in insulin area curve under the curve, and a 53 percent delay in the time of insulin peak appearance) and with the less pronounced positive effect on OGTT glucose profile (a 43 percent delay in glucose peak appearance without changes in postprandial glucose concentrations). The observed beneficial effects were significantly correlated with the subject's body mass index (BMI).

Cholesstrinol™

Sytrinol, combined with SterolSource™ plant sterols (exclusively supplied by SourceOne™), relates to the two sources of cholesterol—the first is food, the second is your body. Sytrinol deals with cholesterol produced by your body, based upon family history. All natural plant sterols are clinically proven to block the absorption of cholesterol in the food we eat, therefore reducing LDL and total cholesterol in the blood. Their chemical structure is very similar to cholesterol and competes for the same absorption sites in the intestine. When sterols are consumed with cholesterol containing foods, the sterols attach themselves to these sites, thereby blocking the uptake of cholesterol. The two sources of cholesterol are at the heart of this patent pending combination, branded and trademarked Cholesstrinol. (US Patent Pending 60/560,284—Sytrinol/Plant Sterol combination)

Zheng-Xian Liu, Ph.D., is a scientific consultant with more than 18 years of experience in the nutraceutical business and more than 34 years of experience in R&D. He received a doctorate in biochemistry and nutrition at Virginia Polytechnic Institute and State University. He was an NIH post-doctorate research fellow at Duke University Medical Center, specializing in free radical biochemistry, and a Pratt research fellow in nutrition. He also served as a member of the editorial board of the *Journal of Advancement in Medicine* and has published more than 60 papers in peer-reviewed scientific journals.