

# **Cardio4Life** Ingredients

## **L-Arginine**

Arginine is a semi-essential amino acid that has shown promise in the prevention of atherosclerosis (blockage of the arteries). L-arginine is pure 100% free form arginine and is the precursor for endothelium-derived nitric oxide (EDNO). Three scientists were awarded the *Nobel Prize In Medicine* in 1998 for discovering nitric oxide's role as a vasodilator. In a healthy endothelium (inner wall of a blood vessel), nitric oxide (NO) will keep vessels pliable and elastic, dilate (open up) blood vessels keeping blood flowing smoothly, relax blood vessels, keep platelets and white blood cells calm and prevent them from sticking to the vessel wall, prevent oxidation, slow plaque growth, suppress atherosclerosis and melt away plaque that already exists.

After arginine is consumed in foods and in supplements, it makes its way into the bloodstream and circulates throughout the body. As it enters the endothelial cells that line the smooth muscle walls of blood vessels, an enzymatic reaction occurs that converts arginine to nitric oxide. As the levels of arginine rise in the body, so does your production of nitric oxide, which in turn can have a dramatic and positive effect on your cardiovascular health.

There are over 85,000 medically published clinical studies attesting to the fact that arginine will help lower blood, lower cholesterol and triglycerides, improve diabetes, improve sexual function, reduce blood clots and strokes, improve congestive heart failure, improve wound healing, improve liver and kidney function, improve memory and cognitive functions, increase human growth hormone (HGH), improve muscle growth and performance, and much more.

## **L-Citrulline**

An amino acid which promotes energy, stimulates the immune system, and detoxifies ammonia, which damages living cells. L-citrulline is closely related to L-arginine and is found in many of the same protein-rich foods. In your body, L-citrulline is converted into L-arginine, which in turn increases the production of nitric oxide. This "turbo-charging" effect of the L-citrulline/L-arginine recycling pathway can, in fact, substantially increase nitric oxide production.

## **Vitamin D3**

Vitamin D, calciferol, is a fat-soluble vitamin. D3 is normally produced in the skin by the action of sunlight, but is also obtained from certain foods. Dietary source are limited however, according to the American researchers. A glass of milk, for instance, contains only 100 units of the vitamin.

The major biologic function of vitamin D is to maintain normal blood levels of calcium and phosphorus. Vitamin D aids in the absorption of calcium, helping to form and maintain strong bones. It promotes bone mineralization in concert with a number of other vitamins, minerals, and hormones. Without vitamin D, bones can become thin, brittle, soft, or misshapen. Vitamin D prevents rickets in children and osteomalacia in adults, which are skeletal diseases that result in defects that weaken bones.

Researchers found the "natural" form of the vitamin, known as D3, can dramatically reduce the chances of developing breast, ovarian and colon cancer, as well as others. Taking 1000 international units of the vitamin daily could lower an individual's cancer risk by 50-per cent, they said. A new study has linked a lack of sunshine, the body's most natural source of vitamin D, to the prevalence of cardiovascular disease, especially among people of color.

Factors that affect sunlight, and therefore vitamin D production, are tied to a patient's cardiovascular risks. In other words, the more sunlight you get, the better your cardiovascular health will be. These factors can include time of year, altitude, and geographical location.

There are a number of physiological mechanisms triggered by vitamin D production through sunlight exposure or dietary supplementation that act to fight heart disease, according to the study:

- An increase in the body's natural anti-inflammatory cytokines.
- The suppression of vascular calcification.
- The inhibition of vascular smooth muscle growth.

Getting the right amount of vitamin D treats and prevents a variety of ailments and diseases including:

- Protection against multiple sclerosis (MS)
- Prevention of diabetes
- Signals colon, breast and prostate cells to stop growing and succumb to programmed cell death.
- Prevents hip and knee arthritis, infertility, PMS, fatigue, depression, obesity, Autoimmune Disorders - Multiple Sclerosis, Sjogren's Syndrome, Rheumatoid Arthritis, Thyroiditis and Cohn's Disease.

## **Vitamin E**

Is a powerful fat-soluble antioxidant that protects cell membrane from environmental pollution and from dietary and metabolic free radicals. This prevents the oxidation of polyunsaturated fatty acids and cholesterol. By decreasing LDL cholesterol and plaque deposits on the walls of the arteries, it is one of the most important nutrients in reducing probability of heart attack, stroke and atherosclerosis. Vitamin E also helps alleviate respiratory problems and boost your immune system's ability to fight off infectious disease.

## **Vitamin C (50% ascorbic acid & 50% Ester C)**

Unlike most animals we cannot manufacture our own vitamin C and we must obtain it through our diet or in the form of supplementation. Also, stress – whether chemical, emotional, or physiological – depletes the body of vitamin C at a significantly increased rate.

Vitamin C works both inside and outside cells as your body's first line of antioxidant protection. Not only does it neutralize harmful free radicals, it also prevents the formation of free radicals that initiate artery blockage by damaging artery walls. Studies

at UCLA have shown that vitamin C inhibits the oxidation of the LDL cholesterol that leads to the buildup of plaque in the arteries, thus reducing heart attacks in men by 50%.

Vitamin C protects against the harmful effects of pollution, helps to prevent cancer, protects against infection, and enhances immunity. Vitamin C is essential in the formation of collagen and protects against blood clotting and bruising, and promotes the healing of wounds and burns.

Vitamin C is also a key link within important enzymatic reactions, it helps regenerate oxidized vitamin E, increases the absorption of iron, and is involved in the production of hormones that regulate stress and inflammation, including adrenaline and corticosteroids.

At present, the weight of evidence concerning the bioavailability of Ester-C seems to indicate it is different from that of normal vitamin C, and it appears to benefit from the presence of the threonate and other vitamin C metabolites which help improve its absorption and tissue uptake. Ester C gives 24 hour immune system support without any stomach irritation.

### **B1 (thiamine)**

This vitamin enhances circulation and assists in blood formation, carbohydrate metabolism, and the production of hydrochloric acid, which is important for proper digestion. Thiamine also optimizes cognitive activity and brain function. It has a positive effect on energy, growth, normal appetite, learning capacity and is needed for muscle tone on the intestines, stomach, and heart. Thiamine also acts as an antioxidant, protecting the body from the degenerative effects of aging, alcohol consumption, and smoking.

### **B2 (riboflavin)**

This vitamin is necessary for blood cell formation, antibody production, cell respiration and growth. It alleviates eye fatigue and is important in the prevention and treatment of cataracts. It aids in the metabolism of carbohydrates, fats, and proteins. Vitamin B2 is essential for energy production and in regenerating glutathione, one of the main cellular protectors against free-radical damage.

### **B3 (niacinamide)**

This vitamin is needed for proper circulation and healthy skin. It also aids in the functioning of the nervous system. This vitamin is an antioxidant and is involved in the regulation of blood sugar and detoxification. It has been shown to exert a favorable effect on cholesterol levels.

### **B5 (pantothenic acid)**

This vitamin is involved in energy production and is considered the “anti- stress” vitamin because of its importance for optimal adrenal function. It is required by all cells of the body and is concentrated in the organs. It is also involved in the production of neurotransmitters.

## **B6 (pyridoxine)**

This vitamin is involved in more bodily functions than almost any other single nutrient. It affects both physical and mental health. Vitamin B6 is extremely important for the formation of proteins and structural compounds, neurotransmitters, red blood cells and prostaglandins. It is also critical in maintaining hormonal balance and proper immune function. Vitamin B6 plays a role in cancer immunity and aids in the prevention of arteriosclerosis. It inhibits the formation of a toxic chemical called homocysteine, which attacks the heart muscle and allows the deposition of cholesterol around the heart muscle. Vitamin B6 is also helpful in the in the treatment of allergies, arthritis, and asthma.

## **B12 (methylcobalamin)**

This vitamin plays a critical role in proper energy metabolism and immune and nerve function. It is essential to the manufacture and normal functioning of blood cells and for the production of nucleic acids, which make up DNA. B12 also helps maintain proper mental functioning and mood. Vitamin B12 is needed to prevent anemia. It aids folic acid in regulating the formation of red blood cells, and helps in the utilization of iron. It aids cell formation and cellular longevity. Vitamin B12 is linked to the production of acetylcholine, a neurotransmitter that assists memory and learning. Only tiny doses of B12 are needed to experience its benefits, but it is essential that you get enough B12 every day.

Cyanocobalamin is the most commonly supplemented form of vitamin B12, but you might be surprised to discover that this form of vitamin B12 does not actually occur in plants or animal tissues. In other words, outside of the chemically synthesized cyanocobalamin that you encounter as B12 in most vitamin supplements, you would be extremely hard pressed to find this compound in nature (in fact you would not be able to find it). As the name implies, cyanocobalamin contains a cyanide molecule. Most people are familiar with cyanide as a poisonous substance. Although the amount of cyanide in a normal B12 supplement is small and from a toxicology point, viewed as insignificant, your body will still need to remove and eliminate this compound. This removal is accomplished through your detoxification systems with substances like glutathione being very important for the elimination of the cyanide.

Compared with cyanocobalamin, it appears that methylcobalamin is better absorbed and retained in higher amounts within your tissues. In simple terms, they are used much more effectively. In general, methylcobalamin is used primarily in your liver, brain and nervous system.

Methylcobalamin is the specific form of B12 needed for nervous system health. Because of this it should be the first form of this vitamin thought of when interested in attempting to optimize the health of the nervous system with vitamin supplementation. Indications of a potential deficiency of B12 in the nervous system might include numbness, tingling, loss of feeling sensation, burning sensations, muscle cramps, nerve pain and slowness of reflexes.

### **So if you experience:**

- Tiredness and feelings of weakness
- Less-than-optimal nervous system functioning

- Hard time sleeping
- Less-than-optimal eye health
- Loss of appetite and unintended weight loss
- Occasional constipation and gas
- Feelings of mild moodiness
- Less-than-optimal memory
- A tendency toward nervousness
- Less-than-optimal balance
- Less-than-optimal liver or heart health
- Premature grey hair
- Occasional digestive issues

**...you may need to supplement with vitamin B-12**

### **Folic Acid**

This vitamin is considered a brain food and is needed for energy production and the formation of red blood cells. It is the most commonly deficient vitamin in the world. Studies have demonstrated that it is difficult to get an adequate amount of folic acid from food alone because it only 50% absorbed. As a supplement, however, folic acid is 100% absorbed. Taking supplemental folic acid, along with B6 and B12, will substantially reduce your homocysteine levels. When homocysteine builds up inside cells and spills into the bloodstream, it damages arteries and reduces the integrity of vessel walls, laying the groundwork for the accumulation of deposits and blockage of the arteries.

Elevated homocysteine levels are likely responsible for 30% to 50% of the heart attacks and heart deaths that occur each year. Vitamins B6, B12 and folic acid play a crucial role in preventing the buildup of this toxic substance. Folic acid is especially important for women of childbearing age to guard against one of the worst tragedies a new mother can face – giving birth to a child with *spina bifida* or other neural tube defects. Only folic acid, taken as a supplement, has been shown to substantially reduce the risk. Folic acid may also help depression and anxiety.

### **CoQ10**

Coenzyme Q10 is involved in energy production at the cellular level, is vital for sustaining life and is found in greatest abundance in the heart. The heart requires more CoQ10 to provide energy needed to pump blood throughout the body. It is also most sensitive to CoQ10 deficiency. Numerous clinical trials have shown that patients with congestive heart failure have low CoQ10 blood levels. Generally, the worse the heart condition, the lower the CoQ10 level. In addition, studies have shown that when administered orally, CoQ10 is an effective therapeutic agent in the prevention and treatment of heart disease.

Clinical studies have also shown that CoQ10 can treat periodontal disease. CoQ10 is also being investigated in treating cancer, diabetes, neurodegenerative diseases like Parkinson's, Huntington's and Alzheimer's and even immune system disorders including AIDS.

### **Omega 3**

Omega EFA's (essential fatty acids) are vital to good health, but they must be acquired through our diets or supplementation because the body is unable to manufacture EFA's itself. Leading doctors estimate that upwards of 80% of North Americans are deficient of these Omegas and there is a direct correlation with this deficiency in Omegas and the modern proliferation of fat-related diseases such as heart disease, cancer and adult onset diabetes.

Furthermore, these doctors believe that by simply supplementing the Omegas into one diet can dramatically reduce the onset of these deadly diseases.

Over 2,000 scientific studies have demonstrated the wide range of problems associated with Omega-3 deficiencies. The American diet is almost devoid of Omega 3's, except for certain types of fish. In fact, researchers believe that about 60% of Americans are deficient in Omega-3 fatty acids, and another 20% have so little that test methods cannot even detect any in their blood.

The human brain is more than 60% structural fat, just as your muscles are made of protein and your bones are made of calcium. But it's not just any fat that our brains are made of. It has to be certain types of fats, and we no longer eat these types of fats like we used to.

Worse, we eat man-made trans-fats and excessive amounts of saturated fats and vegetable oils high in Omega-6 fatty acids, all of which interfere with our body's attempt to utilize the tiny amount of Omega-3 fats that it gets.

Symptoms of fatty acid deficiency in our brain include irritability, attention deficit, hyperactivity, violent behavior, depression, food cravings and dyslexia. Imagine a child in school learning math. The act of learning requires the brain to form new neural pathways. The Omega 3 fatty acid called DHA is needed, especially for the delicate neural synapses, which are composed entirely of DHA. This child, like the vast majority of U.S. children, eats almost no Omega-3 fatty acids. What does the brain do?

Again, it struggles and finally uses other types of fats, which are the wrong shape. The neural network develops slowly and is defective. The child has learning and memory problems as well as behavior problems. In Japan parents have been giving their kids DHA supplements for years to improve their grades.

Other parts of our bodies also need Omega-3 fatty acids. Symptoms of fatty acid deficiency include a variety of skin problems such as dry skin, eczema, thick patches of pale skin, cracked skin on heels or fingertips, dandruff, alligator skin and "chicken skin" on back of arms.

Signs of fatty acid deficiency elsewhere in our bodies include frequent urination, brittle (easily frayed) nails, dry, unmanageable hair, dry eyes, poor wound healing, frequent infections, excessive thirst, fatigue, lowered immunity and allergies.

Extensive and strong evidence has shown that omega-3 fats can be very highly effective at helping to:

- Prevent heart disease and stroke
- Prevent sudden cardiac death (SCO)
- Prevent & reverse arrhythmias (irregular heart beat)
- Prevent cancer-breast, ovarian, colon, prostate and pancreatic
- Prevent diabetes
- Fight depression
- Fight inflammatory diseases
- Fight weight gain
- Fight eczema
- Fight arthritis
- Fight memory problems
- Fight allergies
- Fight lupus
- Fight ulcerative colitis
- Fight learning disorders—dyslexia, ADD, ADHD
- Fight violent behavior

Within the next 5 or 10 years the population at large will become familiar with the issue of fatty acid deficiency and the harm caused by trans fats, and there will be significant changes in the way food is formulated and marketed.

Regularly consuming fish oil and clean, healthy fish is usually one of the strongest recommendations I can advise, as most of you reading this report are dangerously deficient in omega-3s from marine life. However, be warned that fish would be one of the planet's healthiest foods and best sources of

Omega fatty acids, except for one very dangerous and sad issue—nearly ALL fish from ALL sources (ocean, lakes, rivers, & farm-raised) are now highly contaminated by mercury and other toxins.

Therefore, **I strongly urge you NOT to eat any fish unless you are absolutely certain it has been proven free of dangerous levels of mercury, PCBs, etc.**

*Cardio4Life™* contains exciting new plant oil called Perilla oil (4:1) that packs a real punch. Perilla is a rich source of Omega 3 fatty acids and phytochemicals. Gram for gram, Perilla oil contains more Omega 3 (alpha-linolenic acid) than flaxseed oil and fish oil and without the gastrointestinal side effects. *Cardio4Life™* has 500 mg of Perilla oil per serving.

### **Resveratrol**

The answer to the so-called "French Paradox" may be found in red wine. More specifically, it may reside in small doses of resveratrol, a natural constituent of grapes, pomegranates, red wine and other foods, according to a new study by an international team of researchers.

Writing in the online, open-access journal *Public Library of Science One*, the researchers report that low doses of resveratrol in the diet of middle-aged mice has a widespread influence on the genetic levers of aging and may confer special protection on the heart.

Specifically, the researchers found that low doses of resveratrol mimic the effects of what is known as caloric restriction - diets with 20-30 percent fewer calories than a typical diet - that in numerous studies has been shown to extend lifespan and blunt the effects of aging.

In short, a glass of wine or food or supplements that contain even small doses of resveratrol are likely to represent "a robust intervention in the retardation of cardiac-aging," the authors note.

That finding may also explain the remarkable heart health of people who live in some regions of France where diets are soaked in saturated fats but the incidence of heart disease, a major cause of mortality in the United States, is low. In France, meals are traditionally complemented with a glass of red wine.

This new resveratrol study is also important because it suggests that caloric restriction, which has been widely studied in animals from spiders to humans, and resveratrol may govern the same master genetic pathways related to aging.

"There must be a few master biochemical pathways activated in response to caloric restriction, which in turn activate many other pathways," explains Prolla. "And resveratrol seems to activate some of these master pathways as well."

The new findings, according to Weindruch and Prolla, provide strong evidence that resveratrol can improve quality of life through its influence on the different parameters of aging such as cardiac function.

### **Potassium**

This mineral is important for a healthy nervous system and regular heart rhythm. It helps prevent stroke, aids in proper muscle contraction, and works with sodium to control the body's water balance.

Potassium is important for chemical reactions within the cells and aids in maintain stable blood pressure and in transmitting electrical chemical impulses. It also regulates the transfer of nutrients through cell membranes.

### **Chromium Polynicotinate**

Because it is involved in metabolism of glucose, chromium (sometimes called glucose tolerance factor or GTF) is needed for energy. This essential mineral maintains stable blood sugar levels through proper insulin utilization, and can be helpful for people with diabetes and those with hypoglycemia.

A deficiency of chromium can lead to anxiety, fatigue, glucose intolerance (particularly in people with diabetes), inadequate metabolism of amino acids and an increase in arteriosclerosis.

Chromium has been used successfully to control blood cholesterol and glucose levels. It also promotes the loss of fat and an increase in lean muscle tissue. Studies also show chromium may increase longevity and help fight osteoporosis.

## **Magnesium**

Magnesium is essential for healthy heart function. It is crucial to produce the high-energy bonds that drive the energy machinery of your cells. More specifically magnesium will:

- Magnesium reduces blood pressure. Magnesium is nature's channel blocker. Calcium channel blockers alter the access of calcium into the cell, relaxing the smooth muscle in the artery wall and causing blood pressure to fall. Magnesium functions in much the same way—without dangerous side effects. Numerous studies have shown that supplementation with magnesium often causes a significant drop in blood pressure.
- Magnesium increases survival of heart attack victims. A heart attack patient should routinely get intravenous magnesium as soon as he hits the emergency room. Studies show that when a heart attack occurs, there is a massive dumping of magnesium from the heart muscle. This weakens the heart, making it vulnerable to fatal cardiac arrhythmias. Used appropriately, magnesium can be given without toxicity, with amazing survival benefits. In addition, intravenous magnesium can often eliminate cardiac arrhythmias when far more dangerous, conventional drugs fail. Dr. Michael Shechter found that magnesium added to the intravenous fluids of patients suffering from a heart attack improved survival by more than 800%! In the magnesium infusion group, there was only one death out of 50 patients, while in the 53 patients receiving a placebo there were nine deaths.
- Magnesium controls the skipping heart. Cardiac arrhythmia is a most frightening and dangerous manifestation in patients with heart disease. Given intravenously, magnesium is a powerful stabilizer of heart rhythm. Infusions have been shown to eliminate dangerous cardiac arrhythmias when more routine drugs have failed, and they are exceptionally safe. In a study published in the *Journal of the American Medical Association* (1992), researchers at the *Tufts University School of Medicine* in Boston demonstrated that intravenous infusions of two grams of magnesium to patients undergoing heart surgery dramatically improved their condition. The magnesium-treated patients had significantly decreased cardiac arrhythmia (16% compared to 34% for placebo) and had significantly stronger hearts after surgery as measured by the amount of blood the heart is able to pump. Patients who had very low magnesium levels after surgery had marked difficulty with breathing, and required mechanical assistance with a ventilator much more frequently than patients who had more normal magnesium levels.
- Magnesium helps shuttle potassium and sodium into and out of cells, maintaining proper membrane balance (homeostasis).

## **Selenium**

Studies now show that people living in areas with low levels of selenium in their soil have increased incidences of cancer and heart disease.

- Selenium has important antioxidant properties. It is essential for generating glutathione, which mops up hydrogen peroxide, a potent free radical produced in your body by normal metabolic processes.
- Studies have shown a link between low levels of Selenium and a high rate of heart

disease and that individuals suffering from heart disease responded well to Selenium supplementation.

- Selenium facilitates the quick repair of free radical damage to the DNA molecule. Our current understanding of cancer is that a damaged DNA molecule replicates, carrying with it a “spark” that ignites growth of a tumor. If adequate selenium is present, however, the DNA molecule is repaired and normal cellular function ensues.
- Selenium initiates apoptosis, or cell death, in cancerous and precancerous cells. Cancer cells generally divide rapidly and early. Selenium appears to kill cancer cells before they replicate, thereby short-circuiting the generation of malignancy, tumor growth and cancer spread.

### **OPCs**

Oligomeric proanthocyanidins (OPCs) are naturally occurring substances found throughout plant life; however, the two main sources are pine bark extract (Pycnogenol) and grape seed extract. They are unique flavonols that have powerful antioxidant capabilities and excellent bioavailability. Clinical tests suggest that OPCs may be 50 times more potent than vitamin E and 20 times more potent than vitamin C in terms of bio-available antioxidant activity. In addition to their antioxidant activity, they strengthen and repair connective tissue, including that of the cardiovascular system, as they moderate allergic and inflammatory responses by reducing histamine production.

Because they neutralize free radicals, antioxidants are considered nitric oxide’s watchdogs, stabilizing and protecting nitric oxide during its brief existence (nitric oxide only has a life span of a couple of seconds)—even extending its life!

### **Fulvic Minerals**

A natural extract from ancient plant deposit that was created 75 million years ago in the upper cretaceous period, consist of an immense arsenal and array of naturally occurring phytochemicals, biochemicals, supercharged antioxidants, free-radical scavengers, super oxide dismutases, nutrients, enzymes, hormones, amino acids, antibiotics, antivirals, and antifungals.

Fulvic Acids greatly enhance the bioavailability of important trace minerals. Regenerate and prolong the residence time of essential nutrients in the cells. Modify the damage or toxic compounds such as heavy metals and free radicals. Enhance the permeability for digestive, circulatory, and cell membranes. As the most powerful, natural electrolyte known, fulvic acid restores electrical balance to damaged cells, neutralizes toxins and can eliminate food poisoning within minutes. To the science of living cells, fulvic acids are vital in bringing substantial amounts of nutrients and minerals into water solution and delivering their living energies to the living cells.

Fulvic acid minerals are thought, by leading natural health experts, to be one of the most important "missing links" in the modern food chain. Medical and agricultural research continues to conclusively point to one fact: fulvic acid minerals either directly or indirectly hold the keys and solutions to many of the world's health problem.

Fulvic mineral complexes are the world's finest electrolyte, which improves energy function, increases assimilation, stimulates metabolism, restores electrochemical balance, reduces high blood pressure, enhances nutrients, and helps rebuild the immune system.

### **AstraGin™**

*AstraGin™* is the first and only natural food ingredient that has shown in cell, animal and human clinical studies to significantly improve the absorption of many life supporting and health promoting nutrients; such as, amino acids, glucose, and vitamins, into cells, by allowing greater amount of these nutrients to pass from the blood stream into cells.

*AstraGin™* provides for truly improved bioavailability and hence improvement in overall health, fitness, energy, endurance, sense of well being, blood sugar balance, and lean body mass.

*AstraGin™* is a proprietary, all natural plant based formulation derived from highly purified *Panax notoginseng* and *Astragalus membranaceus*, using pharmaceutical grade extraction and processing technology. *AstraGin™* increases chemicals in the human body called “transporter” and “mRNA”. These chemicals determine how much or how little specific nutrients are absorbed into the intestinal cells and thus are available to support and promote our health and well being.

*AstraGin™* is clinically proven to:

- Increase amino acid absorption by 62%
- Increase vitamin absorption by 50%
- Increase glucose absorption by 57%
- Increase insulin sensitivity by 38%
- Increase ATP production by 18%
- Decrease blood sugar by 19%
- Increase glycogen in muscle (24 hours after strenuous exercise) by 60%

### **Fructooligo Saccharide**

Fructooligo Saccharide is a unique prebiotic fiber blend with various sweet characteristics. Fructooligo Saccharide is a clean white powder with a sweet perception that imparts no flavor to a formulation and no perceptible aftertaste.

Fructooligosaccharides (FOS) refer to a class of non-digestible carbohydrates or sugars that occur naturally in a wide variety of foods throughout the plant kingdom. Since they are non-digestible, they pass through the human digestive virtually unchanged. When the fructooligosaccharides reach the colon, they are used by the good or beneficial bacteria found there (known as bifidobacteria or bifidus) for growth and multiplication. A healthy population of these beneficial bacteria in the digestive tract enhances the digestion and absorption of nutrients, detoxification and elimination processes, and helps boost the immune system.

Since fructooligosaccharides are non-digestible, they provide almost no calories and are thus used as substitute sweeteners. Fructooligosaccharides have approximately one-half the sweetness of sugar. They are also being added to a variety of food products because they provide a combination of sweetness and low calories plus the additional health benefits that have been mentioned.

Fructooligo Saccharide is manufactured using a unique blend of dietary fiber, proprietary soy extract, and glycolate (potato starch). The soy segment is naturally derived from the soy bean plant and is certified non-genetically modified and grown under biological conditions.

The active principle of Fructooligo Saccharide, is non-digestible short-chain polymer that is a nutrient, or prebiotic, to the “beneficial bacteria,” particularly bifidobacteria and lactobacillus, located in the large intestine. This bacteria growth helps maintain and stabilize intestinal flora. One to three grams will produce a five times increase in beneficial bacteria.

Intestinal flora provides many benefits including:

- Nutritionally support digestive transit time and thus support regularity
- Assist and strengthen the immune system
- Help protect the intestine through the barrier effect of bifidobacteria
- Assist in controlling the formation of free radicals

In addition, the bifidobacteria metabolize the dietary fiber and produce short-chain fatty acids that have many beneficial effects, such as:

- Help provide B vitamins
- Help in the improved absorption of calcium
- Help balance lipid and cholesterol metabolism
- Help produce beneficial enzymes

### **Stevia**

Stevia Rebaudiana is an herb in the Chrysanthemum family which grows wild as a small shrub in parts of Paraguay and Brazil. The glycosides in its leaves, including up to 10% Stevioside, account for its incredible sweetness, making it unique among the nearly 300 species of Stevia plants.

There are indications that Stevia (or Ca-he-he) has been used to sweeten a native beverage called mate since Pre-Columbian times.

However, a Natural Scientist names Antonio Bertoni first recorded its usage by native tribes in 1887.

The crude Stevia leaves and herbal powder (green) are reported to be 10-15 times sweeter than table sugar. The refined extracts of Stevia called steviosides (a white powder, 85-95% Steviosides) claim to be 200-300 times sweeter than table sugar.

Stevia has virtually zero calories and may lower blood sugar levels making it safe for diabetics.



**Because you only have one heart!**

### **About the Author:**

Harry Elwardt is a naturopathic doctor with a PhD in Health & Nutrition. He is also the author of the book, "***Let's STOP the #1 Killer of Americans TODAY!***" Dr. Elwardt has declared war on heart disease and travels the country lecturing on what Americans can do to prevent and reverse this merciless killer. If you would like to schedule Dr. Elwardt to lecture and conduct heart screenings in your church or business establishment, email him at [drharry@comcast.net](mailto:drharry@comcast.net)