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Super Antioxidant

The Super Antioxidant formula is a combination of two powerful antioxidants compounds which work together to protect our body from the harmful effects of free radicals.

What are antioxidants and free radicals?

Within the human body, millions of processes are occurring at all times. These processes require oxygen. Unfortunately, that same life giving oxygen can create harmful side effects, or oxidant substances, which cause cell damage and lead to chronic disease.

The oxidants substances are commonly known as "free radicals". Free radicals are produced in many different ways; exposure to the sun or pollution, stress, things that we put into our body, such as alcoholic beverages, unhealthy foods, and cigarette smoke.

In much the same way as oxidation creates rust, causing a breakdown on the surface. Oxidation inside the body causes a breakdown of cells. Free radicals produced by this breakdown attack healthy cells, usually DNA as well as proteins and fats. This chain of events weakens immunological functions as well as speeding up the aging process of the body. The effects of the free radicals damage are linked to many chronic diseases such as cataracts, various forms of cancer, and heart disease. Some studies indicate possible links to arthritis, diabetics and many other conditions.

Antioxidants, or anti-oxidation agents, are molecules which can safely interact with free radicals and terminate the chain reaction before vital molecules are damaged. By this, they reduce the effect of dangerous oxidants and decreasing their destructive power. Antioxidants can also help repair damage already sustained by cells and improve the health of the body.

Certain antioxidant enzymes are produced within the body. Other antioxidant agents are found in foods mainly in fruits and vegetables especially those with bright red, orange green or purple colors.

Pomegranate

One of the most promising heart-protective agents to emerge in recent years is pomegranate. Packed with unique antioxidants that include a wide range of compounds such as polyphenols, tannins, and anthocyanedins, guard the body's inertial cells walls of the arteries against free-radical assault, pomegranate has been shown to prevent—and even reverse—cardiovascular disease.

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Scientists believe pomegranate works through several mechanisms to fight cardiovascular disease by:

- reducing oxidative stress
- supporting the synthesis and activity of nitric oxide
- inhibiting the oxidation of potentially harmful LDL (low-density lipoprotein)

Reducing oxidative stress and inflammatory damage in blood vessels is a well-documented way to lower the risk of cardiovascular disease. Mounting evidence suggests that compounds in pomegranate are cardio protective by virtue of their powerful antioxidant and anti-inflammatory effects.

In a study done at the University of Napoli Italy, researchers tested the effects of pomegranate juice on samples of human cells that line blood vessels. The cells were exposed to excessive physical stress, such as might occur with high blood pressure. Cells that were treated with pomegranate juice had less evidence of damage from the stress. In addition, tests on mice showed that pomegranate juice significantly slowed hardening of the arteries that developed from high cholesterol.

Supporting the action of nitric oxide is another way to protect the cardiovascular system. Under normal healthy conditions, sufficient endothelium-derived Nitric oxide is produced and maintained to elicit its normal physiological actions. However, under conditions of oxidative stress, accelerated destruction of NO occurs, which is generally associated with the initiation and development of a host of cardiovascular diseases. When scientists tested pomegranate against other antioxidants, they found that it helped enhance the biological actions of nitric oxide, thus conferring significant cardio protection.

Preventing dangerous LDL oxidation is also crucial to protecting the blood vessels of the heart. Oxidized LDL can severely damage cardiovascular health by injuring cells that line the coronary arteries, leading to inflammation and narrowing that can precipitate a heart attack. Aviram and coworkers reported in the "American Journal of Clinical Nutrition" in 2000 that fatty materials such as cholesterol that exist in the arteries are the main causes of atherosclerosis. The effect of pomegranate juice consumption reducing LDL helps to prevent and reduces the risk of developing atherosclerosis. Pomegranate juice helps clean out the arteries of damaging materials.

Human studies of pomegranate juice have demonstrated even more dramatic effects, showing that pomegranate may actually reverse atherosclerosis. Israeli scientists studied patients with narrowing of their carotid arteries as a result of atherosclerosis.7 The carotid arteries in the neck are responsible for more than 80% of blood flow to the brain, and narrowing of these major vessels is a major risk factor for stroke. Among patients given daily pomegranate juice supplements (providing 78 mg of punicalagins) for one year,

atherosclerotic lesions in the common carotid artery decreased by 35% in size, while actually growing by 9% in a control group. Thus, pomegranate reversed existing atherosclerosis, which continued to worsen in those who did not consume pomegranate. Blood analysis showed that total antioxidant activity increased 130% in the pomegranate juice group, compared to before-treatment values. Finally, the participants' systolic blood pressure fell by an impressive 21% after one year of pomegranate juice supplementation.

Resveratrol

Moderate drinking of red wine has long been known to reduce the risk of heart disease. This is best known as "The French Paradox", that is, that the French, despite a diet rich in fat and particularly saturated fat, experience far less heart disease than other Westerners. The difference is believed to be their higher consumption of red wine.

Resveratrol (3,5,4'-trihydroxystilbene) is a polyphenol synthesized by several plants in response to adverse conditions (e.g., environmental stress or pathogenic attacks). It is classified as a phytoalexin, a class of natural, plant-derived antibiotics that serves as part of a plant's defensive mechanism. Resveratrol, also a very potent antioxidant, is found in numerous plant species such as mulberries, peanuts, and grape skin, and in less commonly known plants such as Japanese knotweed *(Polygonum cuspidatum).*

Numerous researches revealed that there are many health benefits from supplementing with resveratrol. At the early stage of findings, mice were confirmed to have had their life span increased through resveratrol and a significant reduction in the risk of obesity. Further researches conducted have demonstrated resveratrol to have biological activities against many of the chronic diseases of our time, including cardiovascular disease, cancer, and neurodegenerative disease.

Resveratrol cardio protective benefits include antiatherosclerotic effects, dilation of blood vessels, reducing platelet aggregation, lowering of blood pressure, reducing endothelin-1 (a potent vasoconstrictor), and antioxidant effects. As a potent, anti-oxidant resveratrol reduces oxidative stress and regenerates vitamin E, which further strengthens the anti-oxidant defense mechanism.

In 2010, a comprehensive study published in the *European Journal of Clinical Nutrition*, compiling over a decade of research in animal models, and in human supporting the claim that resveratrol benefits heart health. Furthermore, it goes on to identify specific ways in which resveratrol combats atherosclerosis, or plaque build-up in the arteries, thereby reducing risks for cardiovascular

In a significant number of studies, resveratrol was shown to change cholesterol in a way that benefits heart health. For example, the longest study at 20 weeks, showed a reduction in the LDL cholesterol, an increase in HDL cholesterol, and an overall lower cholesterol level in animals supplemented with resveratrol compared to the control group.

An Israeli team at Rambam Hospital reported that red wine may boost heart health by effecting gene signaling in cells lining of blood vessels that contribute to healthy cardiovascular function. The Israeli research focused on cells called endothelial progenitor cells (EPCs), which contribute to the healthy maintenance of the cells lining blood vessels (endothelial cells). After 21 days of consuming 250 mL red wine per day, the researchers noted that the number of EPCs increased, as did the production of nitric oxide, which plays a key role in relaxation of blood vessels (vasodilation).

Resveratrol has important antioxidant properties as well, according to research there is evidence that resveratrol is a potent inhibitor of the oxidation of polyunsaturated fatty acids (PUFA) found in LDL. In fact, resveratrol was shown to be more potent than flavonoids in preventing copper-catalyzed oxidation, and since LDL has high affinity for copper, this copper chelating activity prevents oxidative modification of LDL and stops further the damaging reactions that lead to chronic heart disease.

Finally, resveratrol has been shown to suppress inflammation by cutting off the chain reaction that produces inflammatory chemicals in the body. This is significant because inflammation is associated with the progression of atherosclerosis, the fatty plaque build- up that leads to stiff, narrow arteries, and ultimately, heart attacks and strokes.