Simplesa Resveratrol Plus

Resveratrol is a polyphenol that is found in seeds, roots and vines of various plants. Certain fruits have particularly high levels of resveratrol including grapes, which results in high levels of resveratrol in certain wines. Resveratrol gained notoriety as the answer to the French Paradox, the curious phenomenon that the French can eat fatty foods and drink copious amounts of wine and still have relatively low levels of heart disease. In actuality, the French Paradox is likely due to a number of lifestyle choices made by the French and those living around the Mediterranean (e.g., small meal size, regular exercise, etc.) Nevertheless, resveratrol remains an exciting focus of research and confers an impressive number of cardiovascular and health benefits on those who consume it chronically.

Resveratrol is a moderately potent antioxidant and can scavenge free radicals. More impressively, however, is that it can stimulate the body to release a number of other anti-inflammatory and antioxidant molecules. For example, resveratrol is well known to stimulate nitric oxide synthesis in blood vessels, which causes blood vessels to dilate. In addition, resveratrol stimulates glutathione peroxidase and glutathione reductase, which are potent, naturally occurring antioxidant enzymes in the body.

Resveratrol is also cardio-protective and neuro-protective, which means it can protect the heart and brain from certain forms of damage. When heart attack or stroke is simulated in laboratory animals, resveratrol can reduce the size of damaged areas of the heart and brain. Part of this effect may be due to its potent anti-inflammatory effects. Part of the damage that occurs after heart attack or stroke is that inflammatory cells migrate to the damaged area and, instead of helping, actually interfere with recovery. Resveratrol appears to be able to block this abnormal inflammatory reaction nearly as effectively as a powerful steroid, prednisone.

The natural product, resveratrol, protects against and fights cancer on several levels. Quite astonishingly, resveratrol may have the ability to tell cancer cells that they should die. Resveratrol is able to stimulate cancer cells to commit suicide, a programmed cell death called apoptosis. Resveratrol is also an anti-mutagen, which means it protects DNA from undergoing harmful mutations that may lead to cancer. In addition, resveratrol also prevents cancer cells from spreading, a process called metastasis. Therefore, resveratrol guards against and fights cancer by preventing cancer from starting, by causing cancer cells to commit suicide, and by preventing cancer cells from spreading throughout the body.

The only confirmed and reproducible way to extend life is to restrict caloric intake. The fewer calories one eats during their lifetime, the longer that person will live. Unfortunately, caloric restriction is also a fairly miserable way to live life. We do know that calorie restriction stimulates the family of molecules known as sirtuins, particularly SIRT1. SIRT1 improves DNA repair, makes apoptosis more efficient, improves insulin secretion, creates new mitochondria and blocks harmful inflammatory pathways. New evidence strongly suggests that resveratrol not only activates the same family of molecules (including SIRT1) but can do so nearly as well as calorie restriction. Therefore, resveratrol supplementation may confer the same benefit to longevity as calorie restriction without the hassle and suffering of consistent calorie restriction.

Pterostilbene: Like resveratrol, pterostilbene is found in grapes and other fruits. Pterostilbene is structurally similar to resveratrol and possesses many of the same biological effects. For example, pterostilbene also has anti-inflammatory and antioxidant properties, and creates these effects by stimulating antioxidant systems within the body. Pterostilbene decreases LDL (bad cholesterol) and increases HDL (good cholesterol) while reducing many of the inflammatory processes that contribute to atherosclerosis. The natural product has similar effects on other metabolic diseases such as diabetes in which it decreases oxidative stress and helps to lower circulating blood sugar levels and hemoglobin A1C. Since pterostilbene is more readily absorbed by the body than resveratrol, many researchers have focused on pterostilbene as a target molecule for scientific study and drug design.

Polydatin: Polydatin is also closely related in chemical structure to resveratrol and pterostilbene. Supplementation with polydatin has been shown to reduce insulin resistance and fat levels in the liver, two of the principal problems in type 2 diabetes and obesity. Polydatin may be helpful in diseases contained within metabolic syndrome, namely obesity, cardiovascular disease and diabetes. In addition to being a natural anti-inflammatory, this molecule may improve the way sugar and cholesterol in the blood is processed.

Quercetin and oligomeric proanthocyanidins (OPCs): These related compounds derived from seeds and bark are powerful antioxidants. However, these naturally derived products also have unique anti-aging properties. Quercetin, for example, suppresses tumor genes while increasing the expression of anti-tumor genes in cells. Oligomeric proanthocyanidins have anti-inflammatory and anti-diabetic effects and may reduce the risk of certain cancers. Interestingly, quercetin seems to confer the same benefits to longevity as calorie restriction without the need to restrict calorie intake.

Pine bark extract: Pine bark extract, derived from *Pinus tabulaeformis or Pinus pinaster*, is rich in polyphenols. It is an especially useful source of pycnogenol and proanthocyanidins, which are potent antioxidants and may be particularly helpful in inflammatory illnesses such as diabetes, heart disease and arthritis. Certain extracts of pine bark, particularly pycnogenol and the related procyanidins, improve the efficacy of immune system cells including B cells and T cells, while minimizing the harmful effects of the macrophage "oxidative burst" and subsequent DNA damage caused by it. In other words, pine bark extract boosts the effective parts of the immune system (i.e., immune response) while protecting against the consequences of an overactive immune system (i.e., inflammation).

Fisetin: Fisetin is a flavonoid structurally unrelated to resveratrol but also found in various fruits and vegetables. Fisetin possesses a number of interesting biological properties, most notably its beneficial effects on aging. Fisetin blocks an enzyme in cells called PARP-1. PARP-1 is one of the enzymes that determine how many times a cell will reproduce and how long a cell will survive. Molecules that block PARP-1, like fisetin, prolong the life of cells. Consequently, researchers use fisetin as a way to increase the longevity of cells. Research suggests that PARP-1 inhibition with compounds like fisetin may hold the key to increased lifespan.

Vitamin C: Vitamin C is a potent, natural antioxidant that is an excellent complement to resveratrol and resveratrol-like compounds.

Synergistic effects: Resveratrol confers many health benefits and protects the heart and brain from the effects of aging and certain diseases. However, clinical trials with resveratrol have been somewhat disappointing because the doses of resveratrol required for many of these health benefits are quite high. One successful way to compensate for this is to add complementary molecules related to resveratrol such as pterostilbene and polydatin. These natural compounds are better absorbed by the body and they amplify and extend the effects of resveratrol.

The only definitive, reproducible way to extend life is to restrict the number of calories that one eats over his/her lifetime. However, long-term calorie restriction is a very difficult lifestyle choice that few have been able to successfully follow. Fortunately, scientists are discovering molecules that mimic this calorie restriction effect. Quercetin and fisetin extend the longevity of cells through separate mechanisms (SIRT-1 and PARP-1, respectively). Therefore, these natural, anti-aging compounds work synergistically to extend the life of cells.

Extended longevity is meaningless in someone who is ill or aging unhealthily. Therefore, Simplesa Resveratrol Plus contains molecules that have been shown to reduce the risk of cancer (i.e., OPCs) and to hone the immune system (i.e., pine bark extract). Thus, the supplement is designed to extend life, a life that is one less likely to be plagued with cancer or inflammatory diseases.