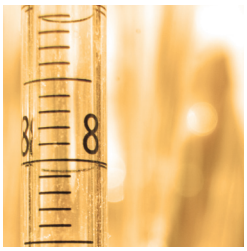

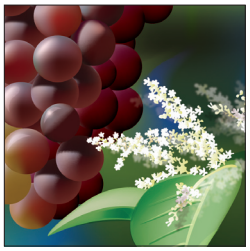

RESVERATROLRICH™ SUPER STRENGTH RESVERATROL CONCENTRATE

Antioxidant for good health

THE FRENCH PARADOX

Why is it that the people of France have a relatively low incidence of heart disease, even though French cuisine is famous for its buttery pastries, creamy sauces and other high-fat dishes? This phenomenon is sometimes referred to as the "French Paradox". One proposed explanation is that the French also love to drink red wine. Grapes are known to contain nutrients with significant health-promoting benefits. One of these nutrients is resveratrol (trans-resveratrol), which can improve cardiovascular health, and protect against neurological deterioration and other diseases of aging.

Recently, Harvard scientist Dr. David Sinclair found that resveratrol counteracted many of the negative effects of a high-fat diet. The study, published in the prestigious journal *Nature*, involved three groups of middle-aged mice. For one group, hydrogenated coconut oil was added to the standard mouse diet, increasing the total calories by 30%. A second group was fed the same high-fat diet plus a resveratrol supplement. Surprisingly, the mice receiving resveratrol performed as though they were younger, had no fat-related diseases, and had a 30% lower risk of death. Their longevity was equivalent to that of a third group of mice who received only the standard diet. When the mouse genes were examined, it was found that the high-fat diet had altered 155 gene-expression pathways, and that resveratrol had opposed 144 of these alterations (Sinclair).

THE GOODNESS IN GRAPES

Resveratrol is a type of polyphenol, an antioxidant compound found in certain plants. High concentrations of resveratrol are found in grapes and Japanese knotweed. It is also found in blueberries and bilberries, but in much lower concentrations. Resveratrol protects these plants from fungi, viruses and ultraviolet radiation. Because it is part of a plant's defenses, resveratrol is also called a phytoalexin, from the Greek *phyton* for plant and *alexin*, a protective substance. New research shows that resveratrol can also protect against diseases in animals and humans.

By taking resveratrol as a nutritional supplement, we can obtain its benefits without consuming a significant amount of wine each day. Using a supplement also ensures consistent potency. The amount of resveratrol found in grape skins varies according to the variety of grape, where it is grown, weather conditions, and the plant's exposure to pathogens.

Natural Factors ResveratrolRich Super Strength Resveratrol Concentrate is manufactured under GMP to ensure purity and a high potency of 250 mg of trans-resveratrol in each 500 mg vegetarian capsule. The resveratrol is extracted from the skins of red grapes (*Vitis vinifera*), grown in the Okanagan Valley of British Columbia, and from Japanese knotweed (*Polygonum cuspidatum*). The knotweed is highly purified to remove 99% of the emodin, a natural substance that can act as a laxative in some sensitive people. Knotweed is commonly used in traditional medicines for the liver and heart.

THE HEALTH BENEFITS OF RESVERATROLRICH

- Enhances longevity by reducing the risk of degenerative diseases
- Protects the lining of blood vessels
- Decreases platelet aggregation, thereby reducing the risk of heart attack and stroke
- Reduces stroke damage caused by free radicals
- Interferes with all three stages of cancer: initiation, promotion and progression
- Prevents brain injury due to plaque formation
- Blocks compounds that cause inflammation in rheumatoid arthritis
- Reduces insulin resistance, a factor in type 2 diabetes
- Prolongs the life of cells

ANTIOXIDANT DEFENCES FOR YOUR CELLS

Experiments using cell cultures in vitro indicate many mechanisms are involved in resveratrol's positive effects on health. Resveratrol stimulates a fourteen-fold increase in the activity of superoxide dismutase 2 (SOD2), an antioxidant which neutralizes superoxide free radicals, thereby preserving normal functioning of mitochondria within cells (Robb). Research from the University of Rochester on lung epithelial cells showed that resveratrol elevated intracellular levels of glutathione, an antioxidant that protects cells against damage caused by pollutants.

SUPPORTS HEALTHY AGING AND LONGEVITY

Resveratrol has been found to improve age-related health conditions and increase longevity. The research groups of Howitz and Sinclair found that resveratrol increased the longevity of yeast, nematode worms and fruit flies. Sinclair's mouse study found that resveratrol did not extend the life of mice on a healthy diet; however it did reduce the effects of over-eating that could shorten the normal

lifespan. The first evidence for resveratrol extending the life of vertebrates came in an Italian study in 2006. They found that a high dose of resveratrol given to fish of the short-lived species, *Nothobranchius furzeri*, increased the median lifespan by 56% (Valenzano).

Calorie restriction is also known to improve age-related health conditions and increase longevity in some animals. Mice eating a nutritious diet containing 40% fewer calories than the standard diet live up to 50% longer. In humans, restricting calories is known to lower blood pressure and LDL ("bad") cholesterol levels, while raising the levels of HDL ("good") cholesterol. Calorie restriction activates a gene called SIRT1, which enhances energy production in cellular mitochondria. Sinclair's research shows that resveratrol also activates SIRT1, and this may be one of the mechanisms by which resveratrol supports healthy aging and longevity (Sinclair).

Resveratrol may also improve health and extend lifespan via its antioxidant effects, which neutralize free radicals before they can damage DNA and cause cancer. Research at Stony Brook University, New York, showed that regular consumption of red wine containing resveratrol is linked with a 68% lower risk of colon cancer (Anderson). Animal studies have also found that resveratrol has anti-cancer properties. The strongest effects have been seen where the resveratrol dose comes into direct contact with the tumour area, such as skin cancers (topical application) or gastrointestinal cancers (oral dose). Topical resveratrol prevented development of skin cancer in mice that had been treated with a carcinogen (Jang). Several studies found that small doses of resveratrol prevented development of intestinal and colon cancer in rats. Human clinical trials are now investigating resveratrol's effects on colon and skin cancer.

Beyond being an antioxidant, resveratrol affects cancer development in several other ways. It inhibits COX1, an enzyme that increases inflammatory substances which promote tumour growth, and induces human cell proliferation, which reduces cancer progression. Resveratrol may also sensitize cells to cancer therapy agents, thus improving their effectiveness. It has also been found to inhibit angiogenesis, the development of new blood vessels that would feed tumours (Bråkenhielm).

CARDIOVASCULAR HEALTH

Consistent with the French Paradox, research indicates that resveratrol may reduce the risk of cardiovascular disease. One factor in atherosclerosis is the oxidation of cholesterol caused by free radicals and other toxins. In a Canadian study, resveratrol's antioxidant properties lowered the oxidation rate of LDL cholesterol caused by copper, and enhanced the flushing of cholesterol out of the cells (Berrougui).

Endothelial dysfunction, or damage to the lining of blood vessels, is a significant factor in atherosclerosis. Researchers in China studied human veins in vitro and found that resveratrol suppressed the generation of free radical superoxide anions and enhanced the nitric oxide levels in the endothelium. Higher nitric oxide causes smooth muscle relaxation in blood vessels, allowing greater blood flow. These effects were found to be dose-dependent, confirming that resveratrol was a causal agent in protecting the endothelium (Xu). One cause of endothelial damage is type 2 diabetes, and researchers studying mice have also found that resveratrol can reduce insulin resistance, a precursor to type 2 diabetes.

NEUROLOGICAL DISEASES

The formation of plaque in the brain is a component of Alzheimer's and other neurodegenerative diseases. New research at Cornell University has found that dietary supplementation with resveratrol greatly reduced plaque formation in the brains of mice. Plaque was reduced by 90% in the hypothalamus, 89% in the striatum, and 48% in the medial cortex. Resveratrol's ability to chelate and remove copper may be the mechanism by which it can protect the brain (Karuppagounder).

Resveratrol "may help minimize the damage to the brain when a stroke occurs," according to Grace Sun, the lead researcher in an animal study at the University of Missouri where they found that resveratrol can stop free radicals from doing further damage to brain cells after a stroke. The resveratrol "was helpful if taken both before and after a stroke (Sun)."

DOSAGE

One capsule daily or as directed by a health care practitioner.

SAFETY

Pregnancy and lactation: Pregnant or lactating women should discuss taking ResveratrolRich with their health care practitioner.
Children: Resveratrol is not recommended for children as it may inhibit some growth factors.
Drug interactions: Consult a health care practitioner prior to use if you are taking anticoagulant or antiplatelet medications, or if you are diabetic.
Contraindications: Large doses of resveratrol may interfere with wound healing. Do not use prior to surgery.

ResveratrolRich provides 250 mg of trans-resveratrol, a powerful antioxidant that promotes healthy aging by supporting the cardiovascular system, protecting the brain, and reducing free radical damage that can lead to cancer and other degenerative diseases.

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