Resveratrol

Nature's Longevity Nutrient and Anti-Cancer Weapon

Increasing Your Life Span. What if you could have a longer, healthier life – *to the point of doubling your life span*? Science is now uncovering nature's longevity secrets, locked away inside plant molecules.

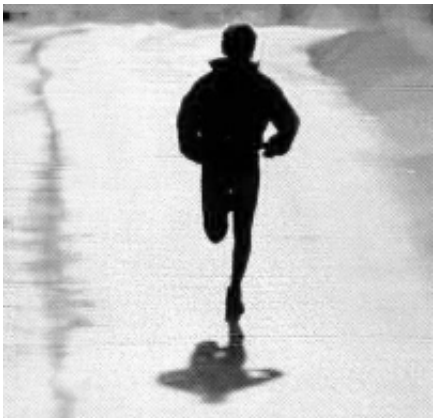
Over 750 scientific studies have demonstrated the health-promoting properties of a special plant compound called **resveratrol**. A recent landmark study (2003) demonstrated that resveratrol was able to extend the life span of yeast cells by an ***incredible 60-80%.*** This study showed resveratrol was able to activate a "longevity gene" that is normally expressed (activated) only during caloric restriction (such as fasting). Since caloric restriction is known to extend maximum lifespan in mammals (such as mice), scientists speculated that humans also might be able to derive significant health and longevity benefits by orally supplementing with resveratrol.

Although this study focused on yeast, a very simple life form compared to humans, the life-extending results are believed to be applicable to humans since both yeast and humans have the same type of longevity gene. Other studies have shown that resveratrol is effective against many types of chronic diseases in humans, including cardiovascular disease, inflammatory conditions, age-related illnesses and even the ultimate chronic degenerative disease, cancer.

Resveratrol's Remarkable Benefits

The Anti-Aging Effect. Scientific studies performed with both animals and living cells have proven that resveratrol is able to promote more efficient intracellular repair, create healthier blood vessels and protect brain tissue. Research demonstrates resveratrol is able to deeply affect the center of a living cell's nucleus to provide significant antioxidant protection as well as increasing cellular longevity. It activates an enzyme that prolongs the cell's life, thus allowing more time for the cell to repair its DNA and live longer before the final activation of the cell's P-53 self-destruct gene.[1]

The Unique Molecular Structure of Resveratrol. The unique, natural molecular structure of resveratrol appears to be the key to its remarkable function not its antioxidant capacity. It works by increasing the rate of deacetylation. Acetylation and deacetylation reactions turn genes "on" and "off".[2,3]



Resveratrol's Powerful Benefits

- Activates the "longevity gene," known to prolong life and health
- Inhibits cancer cell activity also reverses the cancer process
- Protects against cardiovascular disease
- Reverses arterial damage and age-related illnesses
- Outperforms Viagra's circulatory effect, boosts Nitric Oxide
- Buys the cell more time for DNA repair
- Clears the cell of DNA debris up to 60%
- A natural anti-inflammatory agent and a powerful antioxidant

Turning Off the Cancer Genes. In a normal, healthy body reactions called acetylation and deacetylation turn a gene on or off. However, in cancer, cells begin runaway activation of their own "cancer genes," promoting the spread of diseased cells. By controlling deacetylation and by activating the longevity gene, resveratrol has the potential to stop the cancer process and provide serious longevity benefits.[4,5,6]

Reversing DNA Mistakes. A primary cause of aging (and ultimately death), is the gradual loss of the ability of older cells to precisely replicate their own DNA in every new cell. As DNA "mistakes" as well as little pieces of unusable DNA fragments accumulate, this garbled DNA debris eventually halts the cell's proper functioning. This clogging of the cell with DNA "trash" finally leads to the cell's deterioration and death. However, resveratrol is able to reduce the amount of DNA mistakes and debris by an ***unprecedented 60%*** through its ability to stimulate the longevity gene. This is why resveratrol represents a **giant step forward** slowing the aging process.

Cardiovascular Protection

Over the past decade interest in resveratrol research has exploded because of its great potential for reversing so many diseases, including the prevention of cardiovascular disease and because it has shown an almost non-existent toxicity at any dose. This is the perfect winning combination to battle chronic illness: remarkable effectiveness with high safety.

Reversing Arterial Damage. In cardiovascular disease, years of free radical damage can lead to thickening and hardening of the arteries. The cellular havoc from free radicals combined with infective agents such as nano-bacteria are known to cause restriction of arterial blood flow and arterial damage.[7,8] In a study published in *Free Radical Research (2000)*,[9] resveratrol was tested against vitamin E and a synthetic antioxidant, but resveratrol provided the best antioxidant defense for the arteries. Resveratrol was able to halt free radical damage and open abnormally narrowed arterial passageways.

Increasing Nitric Oxide. Nitric oxide production is a vital component of healthy heart and arterial function. It naturally dilates blood vessels to improve blood flow. In a 2003 study, a high cholesterol diet was shown to decrease nitric oxide about 33%.[10] Adding resveratrol significantly reversed the decrease of nitric oxide, acting similar to the drug, Viagra, in this regard. However, Viagra's action affects only small blood vessels while resveratrol is able to affect both the small as well as the main arteries. Resveratrol can also inhibit red blood cell-platelet adhesion and blood vessel constriction to produce an even more profound circulatory upregulation.

Neurodegenerative Protection

New research shows that literally all neurodegenerative diseases, including chronic brain-related concerns such as Alzheimer's disease, are driven by an ever escalating attack on the brain cells by two key elements: free radicals and excitotoxins (i.e. neuro-transmitters that act too long at cell neuroreceptors). These two unrelenting forces are commonly kept active in the body by chronic, low-grade infections (often overlooked or missed in medical diagnoses).[11] Free radicals and excitotoxins steadily escalate their attack, feeding on one another until they kill the cell. Unchecked, this process can lead to rapid neurodegeneration.

Protecting the Brain. Studies show that resveratrol may be a key compound that can halt this relentless, neurodegenerative process, especially for those with Alzheimer's disease or those at risk.[12] Resveratrol has been shown to protect the brain against oxidative stress, and in conjunction with other antioxidants like vitamins C and E, has been proven to provide an even greater measure of brain cell protection than with any single antioxidant alone.[13] For the most comprehensive free radical protection and acceleration of repair of DNA strand breaks, the best partner for resveratrol is living-source, stabilized DHLA (newly available). DHLA, the antioxidant superstar, is capable of quenching *every known* free radical in living tissue, and also regenerates vitamins E and C, CoQ-10, glutathione, NADH and NADPH. Together, resveratrol and DHLA may be able to deliver the best cellular protection for the body *yet discovered*.

Resveratrol is Proven To Inhibit:

(According to published research in cell cultures and animals)

- Colon cancer
- Neuroblastoma
- Esophageal cancer
- Breast cancer (all types)
- Prostate cancer (all types)
- Leukemia (various types)
- Skin cancer (including melanoma)
- Pancreas cancer
- Liver cancer
- Lung cancer
- Stomach cancer
- Oral cancer
- Cervical cancer
- Ovarian cancer
- Lymphoma (various types)
- Thyroid cancer

Anti-Inflammatory Effects

A recent Chinese research study[14] showed that resveratrol was able to reverse the inflammatory response seen in spinal cord injury at a level comparable to the steroid drug, Prednisone – but resveratrol also provided superior free radical protection and better energy compensation when given immediately after injury. Resveratrol is able to inhibit specific enzymes that change the way cells respond to injury.

It is therefore theorized that taking resveratrol supplementally could mean a protective effect against stroke or other injuries, especially to the brain. Another study demonstrated that rodents which were pretreated for 21 days with resveratrol had significantly less brain and motor damage after a stroke was initiated.

Anti-Cancer Effects

Research shows resveratrol not only prevents cancer, but it has been proposed as an additional treatment for cancer.[15,16,17] This is because resveratrol has been shown to **slow or halt certain stages of cancer.** Resveratrol can inhibit cancer in a number of ways: it can block estrogen and androgen uptake (whether the cancer cells are estrogen receptor positive or negative); it can modulate gene expression; and it can cause cancer cell death by deacetylation. In Austria, elaborate studies have shown that resveratrol also **blocked the ability of cancer cells to metastasize** to the bone at a rate of 30 to 71%.[18]

Halting Cancer *Without* Harm. Resveratrol has been shown effective against a wide range of cancers, both during the preventative and treatment stages.[15,16,17] Its ability to stop cancer is connected to its ability to distinguish a cancer cell from a normal cell. Chemotherapeutic drugs are not specific in their action: they harm healthy cells in the body as well as cancer cells. In contrast, resveratrol does not damage healthy cells, but protects them while deactivating the cancer cells. Resveratrol's illustrious abilities also include being able to quench free radicals, activate or deactivate critical enzymes, genes, hormones and chemicals.

Studies have demonstrated that resveratrol produces a striking effect on cancer-related genes. Among other effects, resveratrol **activates tumor suppressor genes** and genes that detoxify chemicals. It also suppresses genes that enable cancer cells to communicate with each other.[19,20,21]

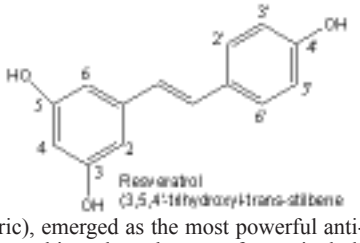
Prostate Cancer. Resveratrol has been shown to decrease an elevated PSA (prostate-specific antigen) in cancer cells. In one study, only four days of treatment with resveratrol **reduced PSA levels in prostate cancer cells by 80%**.[21,22] In addition, resveratrol has multiple, anti-prostate cancer effects: it can halt the growth of hormone-positive and negative cancers; it works via multiple mechanisms to stop cancer cells from multiplying; it is effective from the earliest to the latest stages of cancer; it can protect DNA from damage; and it may inhibit cancer metastasis.

Taking resveratrol in addition to key dietary recommendations can mean a decisive difference in the prognosis for prostate cancer. For example, consuming three or more glasses of milk a day more than doubles the risk of prostate cancer.[23] Thus, reducing or eliminating pasteurized milk consumption during treatment can expedite your progress.

I3C: Highly Effective Anti-Cancer Synergist. Another powerful phytonutrient complex called I3C (indole-3-carbinol extracted from broccoli) is an excellent synergistic partner for resveratrol. Both resveratrol and I3C have been proven to exert a striking effect on cancer-related genes and are able to block growth-promoting hormones.[24] Their ability to exert these effects *without toxicity* makes them an extremely desirable combination in prostate cancer and for cancer prevention in general.

All cell growth, including cancer cell growth, involves an enzyme known as ornithine decarboxylase. In a study by the National Cancer Institute, 90 potentially anti-cancer compounds were tested. I3C was one of eight that scored positively on all six tests, including the suppression of ornithine decarboxylase.[25]

Resveratrol's Polyphenols. Resveratrol and its related polyphenols also protect the cell's DNA, block cancer-causing chemicals and radiation, and fight free radicals and inflammation. Resveratrol activates the same anti-cancer gene that is activated by non-steroidal anti-inflammatory drugs (NSAIDs) – but without toxic side effects.[26] In one study, resveratrol along with quercetin and curcumin (from turmeric), emerged as the most powerful anti-cancer agents from 22 compounds that were subjected to a battery of tests, including their ability to suppress ornithine decarboxylase, scavenge free radicals and counteract carcinogens.



Resveratrol
(3,5,4'-trihydroxy-trans-stilbene

Other Key Synergists. When resveratrol is coupled with a whole range of essential synergists, co-factors and transporters, including quercetin, curcumin (from turmeric), I3C (a powerful, anti-hormonal agent),[24] the raw and fermented mycelial extracts of cordyceps, modified citrus pectin and others, the synergy of this **Super Nutrient combination may just be the best cancer-preventative approach available today**. Together these premier nutrients can initiate the body's most rapid shift back to ideal cellular resonance (which means best health). In addition, the use of internal and external detoxification can be a tremendous help to clear stagnant pathways in the body that have blocked the uptake of nutrients.

The Resveratrol Controversy

Recent research found that resveratrol, when taken orally, was rapidly broken down in the liver (through sulphation and glucuronidation) leading some researchers to believe that taking resveratrol yielded only negligible amounts of it to the body.[27] However, prior research (3 Italian studies)[28] showed that when resveratrol was combined with quercetin, a companion antioxidant to resveratrol, it significantly inhibited the breakdown of resveratrol and vastly improved its cellular bioavailability. Thus, taking resveratrol orally can really deliver significant health benefits.

Resveratrol is very sensitive to light and moisture however, so it can be easily spoiled if not properly processed and packaged. When resveratrol is preserved in organic alcohol or encapsulated with quercetin and packaged in high-barrier air and light bottles, resveratrol can be efficiently delivered through the blood to the cell, evading degradation at the liver.

Sources of Resveratrol

Resveratrol is a highly active, phytonutrient compound found in over 70 species of plants. As a defense against infection by fungus, various plants (often found in humid, moist climates) are known to produce resveratrol. The richest natural sources of resveratrol are dark grape extracts and giant knotweed (*Polygonnum cuspidatum*, a perennial shrub). For centuries, knotweed has been used in traditional medicines throughout Asia for liver and heart disorders.

How to Take Resveratrol

Recommended Amounts of Resveratrol. For adults or children (under 150 lbs): take 10 mg/day; if over 150 lbs, take 20 mg./day for general preventive and anti-aging support. For therapeutic support as needed in chronic disease and especially, cancer: take 30 to 40 mg/day. Don't forget that adequate packaging is needed for protection of resveratrol's potency.

Resveratrol in Liquid Form. To take resveratrol in liquid form preserved in certified organic alcohol, add ½ tsp (or more) of the resveratrol tincture to ¼ to ½ cup purified water, gently mix and then sip it over a few minutes rather than drinking it down quickly. Slow sipping is important because it maximizes the uptake of resveratrol directly into the blood circulation which predominantly bypasses the liver. (If the resveratrol liquid is drunk too quickly, then some will be routed to the liver, where it may undergo degradation by the processes of sulphation and glucaronidation, reducing its effectiveness.)

*Please Note: Avoid resveratrol preserved in *commercial* alcohol — otherwise, you may be consuming toxic pesticide/heavy metal residues as commonly found in commercial alcohol.

Resveratrol in Capsule Form. When resveratrol is taken in capsule form, it will be absorbed primarily from the small intestine through the hepatoportal artery where most of it will be carried to the liver. Once resveratrol arrives at the liver, if it is unprotected by special compounds such as quercetin, it may largely be degraded by the liver. Therefore, for the best absorption of resveratrol, quercetin should be present (in 4 to 6 times the amount of resveratrol) for maximum protection of the resveratrol from liver degradation.

Protecting Resveratrol's Potency. Resveratrol is highly sensitive to degradation by air and light. When resveratrol is preserved with organic alcohol and placed in a dark bottle, there is exquisite protection from air and light. When resveratrol is encapsulated as a dry powder, it must be densely packed to ensure adequate protection from air. It should also be bottled in a dark container such as Violite™ (patent-pending, deep violet color), known to block 100% of the light from 450 to 720 nanometers, which damages nutrients.

Special Considerations: Cancer. When cancer is present, the recommended daily dose of resveratrol is 30 to 40 mg (or more). In cancer, research shows that resveratrol works best (in either liquid or capsule form) when combined with the powerful, key synergists: quercetin, I3C, citrus pectin and others. For specific help in prostate cancer, resveratrol works best when combined with the key synergists, I3C, beta sitosterol, Pygeum Africanum as well as others.

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