

# Resveratrol, Anti-Aging & the Fight Against Cancer

**How recent advances in scientific research hold great promise in man's quest to slow aging, prevent disease and treat cancers.**

**By Joshua Chamberlain**

*Science Correspondent*

*Contributing Editor*

*ResveratrolSupplementNews.org*

**a publication of ResveratrolSupplementNews.org**



# Resveratrol, Anti-Aging & the Fight Against Cancer

**How recent advances in scientific research hold great promise in man's quest to slow aging, prevent disease and treat cancers.**

**By Joshua Chamberlain**

*Science Correspondent*

*Contributing Editor*

*ResveratrolSupplementNews.org*

**N**umerous theories aim to scientifically explain how Resveratrol promotes longevity. Known anti-inflammatory and antioxidant characteristics point to proven health benefits resulting in longer lives. But studies show a much more dramatic effect that has not yet been explained so simply. One possible explanation of Resveratrol's power is that it can improve the function and efficiency of mitochondria, organelles in the cytoplasm of cells that are responsible for energy production. The process by which mitochondria become more efficient can be explained by comparison to events of the calorie restriction diet.

## **Calorie Restriction & Anti-aging**

For decades, scientists have known that reducing calories by 30 to 40 percent dramatically slows the rate of aging. This calorie restriction, when not associated with malnutrition, is proven to improve health parameters and extend a healthy life span in mammals. In humans, calorie restriction lowers cholesterol, fasting glucose, and blood pressure. Added benefits include improved memory, decreased insulin levels, and reduced inflammation. Through calorie restriction research, scientists identified the enzyme Sir2, or "silent information regulator 2," as the key to life extension. An experiment done on fruit flies found that without Sir2, the usual benefits of calorie restriction were not seen. In mammals, the Sir2 gene that has comparable enzymatic activity is known as SIRT1. Calorie restriction likely presents its benefits via SIRT1 activation. Dr. David Sinclair at Harvard Medical School showed the SIRT1 gene was activated by a calorie restriction diet, protecting cells from dying in stressful environments.



**CONTINUED...**

Researchers theorize that Resveratrol is able to stimulate sirtuin, the protein produced by the SIRT1 gene that is responsible for regulating metabolism. This could explain the similarities between biochemical effects of calorie restriction and Resveratrol supplementation. The increased activity of SIRT1 is thought to boost the number and activity of mitochondria, providing increased energy. Since the efficiency of mitochondria deteriorate with age, added Resveratrol may explain the anti-aging results seen in multiple studies. Although studies show that Resveratrol may be activating SIRT1 in mice, it has not been proven with the clarity that would persuade a biochemist. Whether Resveratrol acts directly or indirectly through SIRT1 is a subject of debate, and studies to prove or disprove the theory are currently underway.

### **How are Animal and Human Anti-Aging Studies Linked?**

Although human studies are lacking, a link has been made between SIRT1 and metabolism efficiency in humans. Subjects born with a certain variation of the SIRT1 gene naturally burned energy more efficiently, indicating the same pathway as in the animal studies.

Resveratrol also works to prevent cell damage caused by free radicals. Free radicals resulting from such environmental stresses as pollution and sunlight are unstable atoms that can lead to cancer and aging. Powerful antioxidants present in Resveratrol neutralize these free radicals and slow or prevent damage to cells.

From antioxidants stabilizing molecules to its success in lowering the risk of prostate cancer, the proven benefits of Resveratrol are impressive. Interesting statistics on the effects of the drug in lab animals show notable potential, and information from human clinical studies will soon be available. Future data on how the drug interacts with DNA shows great promise.

**CONTINUED...**

**“ In other words, it's a major pharmaceutical company who's betting that natural substances which we're looking towards for cancer prevention and other preventions, will be effective in reducing the health care crisis perhaps and the preventive medicine we're all after.”**

DR. JOSEPH MAROON, F.A.C.S.  
Author, *“The Longevity Factor: How Resveratrol and Red Wine Activate Genes for a Longer and Healthier Life”*  
Heindl Scholar in Neuroscience,  
University of Pittsburgh Medical Center  
Team Neurosurgeon,  
The Pittsburgh Steelers,  
The National Football League

**“ Preclinical studies with SIRT1 activators have demonstrated potential importance in multiple disease areas, including Type 2 Diabetes and related complications, mitochondrial disorders, cardiovascular disease, inflammation, neurodegenerative diseases, and cancer. Early clinical studies have demonstrated promising results in Type 2 Diabetes.”**

SIRTRIS PHARMACEUTICALS  
A GlaxoSmithKline Company

**“ConsumerLab.com  
purchased resveratrol  
supplements from 14 leading  
suppliers and analyzed the  
supplements for the  
concentration of resveratrol —  
how much resveratrol was  
actually in the pill or capsule”**

JOSHUA CHAMBERLAIN  
Science Correspondent  
Contributing Editor  
ResveratrolSupplementNews.org

## Resveratrol and the FDA

Unfortunately, and as with all supplements, the claims made by manufacturers, retailers and distributors are not evaluated by the Food and Drug Administration (FDA). This fact has led to considerable confusion amongst consumers, further exacerbated by disreputable marketers who have employed unauthorized celebrity endorsements by Oprah Winfrey, Dr. Mehmet Oz and others.

Unlike foods and prescription and over-the-counter medicines, dietary supplements are not routinely tested, nor are they regulated by a federal government agency. Unfortunately this means that it is often difficult to know what is actually inside of a given supplement pill. While some manufacturers do provide pure, high quality supplements that contain the active ingredient(s) in the amount listed on the package, many manufacturers and retailers, sadly, do not.

## Unbiased Evaluations of Resveratrol Supplements

Fortunately, certain independent laboratories have risen to the challenge where government agencies have failed to provide guidance. One of the premiere laboratories leading this fight is ConsumerLab.com. ConsumerLab.com routinely performs independent chemical analyses of vitamins, herbs, and supplements — substances not routinely analyzed by federal authorities. ConsumerLab.com, LLC ("CL") is the industry-leading provider of independent laboratory test results and nutritional product information intended to guide consumers and healthcare professionals in their evaluations of health, wellness, and nutritional products.

## The Bad News About Resveratrol

Detailed in a recently published report, ConsumerLab.com purchased resveratrol supplements from 14 leading suppliers and analyzed the supplements for the concentration of resveratrol — how much resveratrol was actually in the pill or capsule. Of the products included in

CONTINUED...

their resveratrol analysis, CL found that two products, Life Extension Resveratrol Caps and Resvert™ from Young Again Nutrients contained only a fraction of the resveratrol that was claimed on the bottle. Moreover, Revatrol® from Renaissance Health Publishing was found to contain only 2.2 milligrams of resveratrol per caplet despite claiming 400 milligrams of a "red wine grape complex" on the packaging.

## The Good News About Resveratrol

Not all products fared poorly, in fact 11 out of the 14 supplements analyzed showed that they did indeed contain the amount of resveratrol that was listed on the bottle. Indeed, most resveratrol supplements actually contain the amount of resveratrol that is claimed in the packaging.

Another heartening finding was that most of the supplements tested passed fairly rigorous purity standards. Since plant-derived products can contain large amounts of the heavy metal elements such as lead and cadmium, one of the tests performed by ConsumerLab.com was to measure the levels of heavy metals present in the supplements. Fortunately most products were free of these contaminants.

## The Purest Resveratrol Supplement

Since the dosage of resveratrol varies widely across various supplements and among manufacturers, ConsumerLab.com provided the cost of 100 mg of resveratrol along with their chemical analysis. Of the products tested, Bioforte Resveratrol distributed by Biotivia, Ltd. provided the most pure resveratrol for the money. In fact, according to this study, the cost of Bioforte Resveratrol was about half the cost of the next least expensive competitor per 100 milligrams. Some products tested were up to one hundred times more expensive than the Biotivia product, including Resvera-Gold® and French Parad'ox Plus.

CONTINUED...

**“If we are right, the impact on society could be as great as the development of antibiotics...”**

DR. DAVID SINCLAIR

*Co-founder, Sirtris Pharmaceuticals  
A GlaxoSmithKline Company*

*Professor of Pathology  
Harvard Medical School*

*Director of the Glenn Laboratories for  
the Biological Mechanisms of Aging*

**“Independent studies confirm that of CL-approved supplements, Biotivia Bioforte contains the most pure resveratrol at the lowest price. Its next closest competitor cost 40% more per 100 mg.”**

Test source: ConsumerLab.com

**“** *Milligram for milligram, Bioforte Resveratrol provides pure, age-defying, cancer-fighting resveratrol for the lowest price among the major manufacturers.”*

JOSHUA CHAMBERLAIN  
*Science Correspondent  
Contributing Editor  
ResveratrolSupplementNews.org*

## **The Best Resveratrol Supplement Available Today**

Since the scientific research on resveratrol shows that the benefits continue as long as you take the supplement, it is only practical and reasonable to find a supplement that is both affordable and of sufficiently high quality. Milligram for milligram, Bioforte Resveratrol provides pure, age-defying, cancer-fighting resveratrol for the lowest price among the major manufacturers. If you are thinking about trying resveratrol for the first time or you are looking for a manufacturer that provides a high quality preparation of resveratrol at a reasonable price, the ConsumerLab.com data strongly indicate that the best resveratrol supplement available right now is Bioforte Resveratrol by Biotivia, Ltd. ■

## References

- Cadenas, S. and Barja, G. Resveratrol, melatonin, vitamin E, and PBN protect against renal oxidative DNA damage induced by the kidney carcinogen KBrO<sub>3</sub>. *Free Radical Biology & Medicine*. 26, 1531-1537 (1999).
- Das DK, Maulik N. Resveratrol in cardioprotection: a therapeutic promise of alternative medicine. *Molecular Interventions* 6(1), 36-47. (2006).
- Hall, S.S. Longevity Research. In vino vitalis? Compounds activate life extending genes. *Science*. 301, 1165 (2003).
- Hattori, R., Otani, H., Maulik, N., and Das, D.K. Pharmacological preconditioning with resveratrol: Role of nitric oxide. *American Journal of Physiology - Heart and Circulatory Physiology*. 282, H1988-H1995 (2002).
- Mahady, G.B., Pendland, S.L., and Chadwick, L.R. Resveratrol and red wine extracts inhibit the growth of CagA+ strains of *Helicobacter pylori* in vitro. *American Journal of Gastroenterology*. 98, 1440-1441 (2003).
- Das, S., Bertelli, A.A., Bertelli, A., Maulik, N., and Das, D.K. Anti-inflammatory action of resveratrol: A novel mechanism of action. *Drugs Under Experimental and Clinical Research* (in press).
- Maulik, N., Tosaki, A., Elliott, G.T., Maulik, G., and Das, D.K. Induction of iNOS expression by monophosphoryl lipid A: A pharmacological approach for myocardial adaptation to ischemia. *Drugs Under Experimental and Clinical Research*. 24, 117-124 (1998).
- Markus, M.A., Morris, B.J. Resveratrol in prevention and treatment of common clinical conditions of aging. *Clinical Interventions in Aging*. 3(2) 331-9 (2008).
- Burns J, Gardner PT, O'Neil J, et al. (2000) Relationship among antioxidant activity, vasodilation capacity, and phenolic content of red wines. *Journal of Agricultural and Food Chemistry*. 48(2) 220-30.
- Leiro J, Alvarez E, Arranz JA, et al. Effects of cis-resveratrol on inflammatory murine macrophages: antioxidant activity and down-regulation of inflammatory genes. *Journal of Leukocyte Biology*. (2004) 75(6) 1156-65.
- Baur, J.A., Sinclair, D.A. (2006) Therapeutic potential of resveratrol: the in vivo evidence. *Nature Reviews Drug Discovery* 5(6) 493-506.

# Rated #1 Resveratrol for Purity and Price!

— Source: ConsumerLab.com (CL)

**“*Milligram for milligram, Bioforte Resveratrol provides pure, age-defying, cancer-fighting resveratrol for the lowest price among the major manufacturers.*”**

— Resveratrol Supplement News

Biotivia Bioforte 250mg Trans-Resveratrol  
Dietary Supplement, Capsules, 60-Count Bottle

List Price: \$39.95

Special Amazon Price:

+ FREE Shipping!\*

**\$27<sup>82</sup>**

***Lowest Price on the Web!***

ONLY AT

**amazon.com**<sup>®</sup>



**Order Now**



\*Price, availability and product are subject to change without prior notice. See amazon.com for complete details.  
©2009 ResveratrolSupplementNews.org. All trademarks are the properties of their respective owners.