

Resveratrol

Resveratrol may prevent breast cancer according to researchers at the University of Nebraska

Researchers at the University of Rochester announced the results of a new study where Resveratrol kills pancreatic cancer cells

Resveratrol is a ***powerful antioxidant*** that is produced by some plants to protect against environmental stresses. Perhaps the most notable producer of ***resveratrol*** is the grapevine, which produces large amounts of ***resveratrol*** in the skins of grapes to protect against fungal diseases and sun damage. The Muscadine grape contains the highest levels of ***resveratrol*** of any natural food.

Resveratrol may prevent ***breast cancer*** according to researchers at the University of Nebraska. According to the researchers, "***Resveratrol*** has the ability to prevent the first step that occurs when estrogen starts the process that leads to cancer...We believe that this could stop the whole progression that leads to ***breast cancer*** down the road". The study also found that relatively little ***resveratrol*** was needed to produce these health benefits; as little as 10 umol/L of ***resveratrol*** was effective (red wine contains between 9 and 28 umol/L of ***resveratrol***).

Resveratrol given to middle aged mice showed "very strong positive effects on preventing ***cardiovascular disease, reducing heart inflammation***, keeping bone health in terms of structure and function, and maintaining loco-motor and balance activity" according to studies conducted at the National Institute on Aging and Balance. The study found that ***resveratrol*** had the same positive effects on muscles, livers, bones, and hearts as did caloric restriction.

June 2008 - Researchers announced that ***Resveratrol*** given in relatively low doses to middle aged mice is effective in changing gene activity related to aging similar to mice on a calorie restricted diet (Caloric restriction is known to help mice and humans live healthier lives). Most impressive, ***Resveratrol***, like caloric restriction, blocked the decline in heart function typically associated with aging. Professor Tomas Prolla, the senior researcher, stated "***Resveratrol*** at low doses can retard some aspects of the aging process, including heart aging, and it may do so by mimicking some of the effects of caloric restriction, which is known to retard aging in several tissues and extend life span". Additionally Prolla said, "***Resveratrol*** is active in much lower doses than previously thought and mimics a significant fraction of the profile of caloric restriction at the gene expression level". Prolla also said, "I think there's a high likelihood that our findings are applicable to humans." (Editor's Note: the effective dose that mimicked caloric restriction in mice was 4.9 mg/kg of body weight, or about 343 mg. per day for humans (based on a 154 lb person)- this amount is easily achievable through dietary supplements from reputable companies).

May 2008 - Researchers from Taiwan announced the results from a study in which **Resveratrol** prevented and/or treated a drug resistant and deadly form of pneumonia in rodents. The researchers concluded that "these findings suggest that **Resveratrol** might be beneficial as a...treatment in patients at risk" from this form of pneumonia in addition to **Resveratrol's** "diverse biological effects including anti-cancer, anti-inflammation, anti-diabetes, and cancer chemoprevention".

May 2008 - GlaxoSmithKline announced its intention to buy Sirtris Pharmaceuticals for \$720 million. Sirtris is a global leader in **resveratrol** drug research and development. It is currently testing a resveratrol drug, SRT501, to treat type 2 diabetes. Based on past studies, many believe that **resveratrol** can & will be used to treat diseases of aging such as type 2 diabetes, cancer, Alzheimer's, and heart disease in the very near future. By paying an 84% premium for Sirtris (from the 4/22/08 closing stock price), Glaxo is signaling that it believes **resveratrol** & sirtuin activation present **very promising avenues for new therapies**.

April 2008 - Sirtris Pharmaceuticals announced the results from a new study that confirms that overexpression of the SIRT1 enzyme can suppress tumor formation and growth in a preclinical mouse model of colon cancer. This is the first *in-vivo* data showing that SIRT1 can suppress tumor cell development. **Resveratrol** is a known activator of SIRT1. This is just another indication that **Resveratrol** may be used to prevent and fight cancer in the very near future.

April 2008 - Sirtris Pharmaceuticals announced its formulation of **Resveratrol** lowers glucose in twice daily dosing trial. The company tested either 1.25 or 2.5 grams of **Resveratrol** given twice daily to **Type 2 Diabetic** patients and found that the patient group receiving 2.5 grams twice a day had statistically significant lower blood glucose levels while fasting and after meals (an important time for Type 2 Diabetics who need better control of blood sugar levels after eating). The 1.25 gram dosage twice a day showed a strong trend is lowering blood glucose levels while fasting and after meals as well. This is just more evidence that **Resveratrol may be used to treat Type 2 Diabetes in the very near future**.

March 2008 - Researchers at the University of Rochester announced the results of a new study where **Resveratrol kills pancreatic cancer cells** while protecting healthy cells from radiation treatment; **Resveratrol** acts by disabling the cancer cell's mitochondria (i.e. its power source). According to the study's lead author, Dr. Paul Okunieff, "**Resveratrol** seems to have a therapeutic gain by making tumor cells more sensitive to radiation and making normal tissue less sensitive". According to Dr. Okunieff, "**this research indicates that resveratrol has a promising future as part of the treatment for cancer.**"

March 2008 - British researchers announced that **Resveratrol** protects against cellular damage to blood vessels caused by high production of glucose in diabetes. These elevated levels of glucose can cause heart disease, kidney disease, and blindness. Dr. Matt Whiteman, lead researcher, stated, "...our research shows the link between high levels of glucose, its damaging effect on cell structure, and the ability of **resveratrol** to protect against and mend that damage." This is just the latest in a line of research that shows **Resveratrol** might very well be used to treat diabetes in the near future.

Recent studies have concluded that:

Adding **resveratrol** to the diet of yeast, fruit flies, worms, and a species of fish **increased their life spans up to 70%, 29%, 24%, & 50%** respectively

Resveratrol made **fat related deaths drop 31%** in obese mice. The **resveratrol** fed obese mice also performed much better in movement and agility tests than obese mice not fed **resveratrol**.

Mice fed **resveratrol** had **100% more endurance** than mice not fed **resveratrol** (i.e. they were able to run twice as far on a treadmill).

Resveratrol inhibits blood platelet aggregation that can lead to dangerous clots that can cause heart attacks and strokes.

Resveratrol is a **powerful antioxidant** that can help prevent cell damage caused by **free radicals** (*free radicals are unstable atoms caused in part by pollution, sunlight, and our bodies natural burning of fat that can lead to **cancer, aging, and brain degeneration***)

Resveratrol has been **proven to fight cancer** in vitro at all three stages; (1) initiation, (2) promotion, (&) progression.