

WISH

World Integrated Systems in Health
Dr. Sandra J. Bevacqua

Chemical Components of the Muscadine Grape used in Vivix (*Unique to Muscadine Grape)

- Chemical Constitutes:
 - Catechins
 - Resveratrol
 - Kaempferol
 - Myricetin
 - Quercetin
 - Ellagic Acid*
 - Ellagic acid glycosides
 - Ellagitannins*
 - Gallic acid
 - Anthocyanins*
 - Proanthocyanins*

Resveratrol

- Known for protecting plants against bacteria & fungi
- Anti-tumor activity, shown to arrest unregulated cell growth & induce apoptosis (cell death)

In animal studies Resveratrol has demonstrated:	
Changes associated with longer lifespan	Increased DNA stability
Increased insulin sensitivity	Improved cellular repair
Reduced cancer risk	Inhibits tumor initiation
Increased mitochondrial number	Reduced blood pressure, glucose, lipids
Improved motor function	Improved immunity
Increased aerobic capacity	Reduced IGF-1, decrease in inflammation
Protection against diet-induced obesity and insulin resistance	Increases Cardiovascular protection

- Interferes with pancreatic cell energy source effectively shutting off the pump that eliminates chemotherapy from the cell.
 - Turns on SIRT 1 & 2 genes to prolong life; acts like the calorie restriction diet.
- Many Resveratrol products (50%) are tainted with emodin (a laxative) Shaklee's is 98% pure! NO Emodin
- Thousands of references on Resveratrol – Google this: **Resveratrol cancer site:gov** and **Resveratrol diabetes site:gov** and **Resveratrol cardiovascular disease site:gov** to see research papers.
 - Anti-heart disease
 - Anti-cancer (see next page)
 - Protection from radiation - Wine Compound May Protect Against Radiation Exposure (<http://www.omhrc.gov/templates/news.aspx?ID=619612>)
 - Anti-diabetic - Study Demonstrates Improved Health, Survival In Aged Overweight Male Mice on Resveratrol (<http://www.nih.gov/news/pr/nov2006/nia-01.htm>)

Trans-Resveratrol

- Trans-Resveratrol is the more bio-available form of Resveratrol.
- Enhances endothelium-dependent vascular relaxation in response to acetylcholine in some animal models
- Positive influence on bone strength in these models
- Protective against environmental toxins

Anthocyanins

- Of the antioxidants they show the most ability to penetrate cell membranes and provide protection. They increase peripheral circulation, improve vision, enhance immunity and wound healing.
- Anthocyanins show promise against Obesity. (Regulation of adipocyte function by anthocyanins; possibility of preventing the metabolic syndrome. *J Agric Food Chem.* Feb 2008)
- Anthocyanins in Purple, Blue and Red Foods Fight Colon Cancer (Ohio State University Press release. <http://www.medopedia.com/anthocyanins-purple-blue-red-foods-fight-colon-cancer>)

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Ellagic Acid

- Has been shown to inactivate cancer-causing chemicals, and block carcinogens from attacking DNA (*Cancer Lett.* 30; 1986)
- Has anti-viral and antibacterial properties
- Reduces side effects from Chemo. (http://www.cancer.org/docroot/ETO/content/ETO_5_3x_Ellagic_Acid.asp)
- Impact of antioxidant supplementation on chemotherapeutic toxicity: a systematic review of the evidence from randomized controlled trials. (<http://www.ncbi.nlm.nih.gov/pubmed/18623084>)
- Support ellagic acid therapy in patients with hormone refractory prostate cancer (HRPC) on standard chemotherapy using Vinorelbine and Estramustine Phosphate. *Eur. Urol.* April 2005
- Protective effect of curcumin, ellagic acid and bixin on radiation induced genotoxicity. *J Exp Clin Cancer Res.* 1998

Proanthocyanins

- Powerful free radical scavengers and antioxidants
- Bioflavonoids: proanthocyanins and quercetin and their potential roles in treating musculoskeletal conditions. (<http://www.ncbi.nlm.nih.gov/pubmed/12113470>)
- Anti-inflammatory effect and mechanism of proanthocyaninidins from grape seeds. (http://grande.nal.usda.gov/ibids/index.php?mode2=detail&origin=ibids_references&throw=445347)

Anti-cancer Evidence

- Ellagic acid and quercetin interact synergistically with Resveratrol in the induction of apoptosis and cause transient cell cycle arrest in human leukemia cells. *Cancer Lett.* Feb 2005
- Induction of cell death in Caco-2 human colon carcinoma cells by ellagic acid rich fractions from muscadine grapes. *J Agric Food Chem.* July 2006
- Inhibition of prostate cancer growth by muscadine grape skin extract and Resveratrol through distinct mechanisms. *Cancer Res.* Sept 2007.
- Protective against variously chemically induced cancers. (Polyphenols as cancer chemopreventive agents. *J. Cell Biochem. Supp.* 1995)
- In vitro studies showing positive effect against a variety of cancers: Blood, Colon, Prostate, Breast
- Stimulating apoptosis while protecting normal healthy cells
- Inhibition of DNA synthesis in breast cancer cells, blood vessel growth in some tumors, and of enzymes involved in tumor spread.
- Researchers pinpoint how Resveratrol induces pancreatic cancer cell death. Research by Paul Okunieff, M.D. (http://www.redorbit.com/news/health/1312355/red_wine_can_kill_cancer_cells/index.html)
- Does Resveratrol Enhance the Effects of Radiation Therapy? (<http://www.cancerdecisions.com/033008.html>)
- Mounting evidence shows red wine antioxidant kills cancer (<http://www.physorg.com/news125673123.html>)
- Antioxidant Found in Grape Skins Could Destroy Cancer Cells when Teamed with Radiation (<http://www.cbsnews.com/stories/2008/03/27/health/webmd/main3973006.shtml>)
- Significant inhibitory effects on the prostate cancer cells studied in lab settings.
- Pancreatic cancer has been notoriously unresponsive to conventional treatment
 - Univ of Rochester Medical Center (Okunieff) has shown resveratrol can help destroy pancreatic cancer cells by reaching the cell's core energy source (mitochondria) and crippling its function.
 - The study also showed pancreatic cancer cells doubly assaulted – pretreated with resveratrol then irradiated – the combo induced apoptosis, an important goal in cancer treatment.
 - There has been much concern that antioxidants may protect cancer cells and therefore the use of antioxidants during chemo & radiation has been discouraged. Okunieff's study showed there is little evidence to support this fear.
 - The research suggests resveratrol not only reaches the intended target, injuring the nucleus of malignant cells, but at the same time protects normal tissue from the harmful effects of radiation.
 - Resveratrol seems to have a therapeutic gain by making tumor cells more sensitive to radiation and making normal tissue less sensitive.