

Red Wine, Resveratrol Protect Against Food-Borne Illness

New research has uncovered yet another benefit of red wine and resveratrol—that of combating potentially fatal food-borne illnesses.*

A team from the University of Missouri discovered that red wines, particularly Cabernet, Zinfandel, and Merlot, inhibited food-borne pathogens including *E. coli*, *Salmonella*, *Listeria*, and *H. pylori*, without harming beneficial probiotic bacteria. The most promising results were seen with *H. pylori*, which causes stomach ulcers.

Ethanol (the alcohol that occurs in wine), pH levels, and resveratrol were separately found to have similar effects. Grape juice was also effective, but not white wine.

The researchers stated that phytochemicals in red wine, resveratrol being the main one, play a role not just as antioxidants but also inhibit food-borne pathogens. They concluded, “Now, we’re concentrating mainly on the resveratrol effects on these pathogens.”

—Dayna Dye

* Available at: http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=487122&i_page_id=1770. Accessed October 12, 2007.



INHIBITING 5-LIPOXYGENASE PROMOTES PROSTATE CANCER CELL DEATH

Administering a 5-lipoxygenase inhibitor to prostate cancer cells promotes massive programmed cell death, according to a study from the *Proceedings of the National Academy of Sciences*.¹

The enzyme 5-lipoxygenase (5-LOX) converts dietary arachidonic acid to 5-hydroperoxyarachidonate (5-HPETE), which is rapidly converted to 5-hydroxyeicosatetraenoic acid (5-HETE), a survival factor for human prostate cancer cells.^{1,2} Arachidonic acid is an omega-6 fatty acid common in the Western diet. The same pathway that produces 5-HETE also leads to the production of pro-inflammatory leukotrienes, which have been implicated in a number of inflammatory conditions, including asthma, allergies, atherosclerosis, osteoporosis and, possibly, tumor formation.^{3,4}

When scientists administered a 5-LOX inhibitor to prostate cancer cells growing in culture, 5-HETE production was completely blocked, inducing “massive apoptosis [programmed cell death] in both hormone-responsive and hormone-nonresponsive human prostate cancer cells.”¹

The herb *Boswellia serrata*, in the form of 5-Loxin™, provides a natural strategy for blocking the 5-LOX enzyme.⁵

—Dale Kiefer

1. Ghosh J, Myers CE. Inhibition of arachidonate 5-lipoxygenase triggers massive apoptosis in human prostate cancer cells. *Proc Natl Acad Sci U S A*. 1998 Oct 27;95(22):13182-7.
2. Gupta S, Srivastava M, Ahmad N, Sakamoto K, Bostwick DG, Mukhtar H. Lipoxygenase-5 is overexpressed in prostate adenocarcinoma. *Cancer*. 2001 Feb 15;91(4):737-43.
3. Radmark O, Werz O, Steinhilber D, Samuelsson B. 5-Lipoxygenase: regulation of expression and enzyme activity. *Trends Biochem Sci*. 2007 Jul;32(7):332-41.
4. Werz O, Steinhilber D. Development of 5-lipoxygenase inhibitors—lessons from cellular enzyme regulation. *Biochem Pharmacol*. 2005 Aug 1;70(3):327-33.
5. Ammon HP. Boswellic acids (components of frankincense) as the active principle in treatment of chronic inflammatory diseases. *Wien Med Wochenschr*. 2002;152(15-16):373-8.

N-Acetyl Cysteine May Curb Gambling Addiction

A new study reveals that the amino acid *N*-acetyl cysteine (NAC) may help to curb addictive behavior in compulsive gamblers.*

Researchers from the University of Minnesota gave increasing doses of NAC to 27 pathological gamblers for eight weeks, with a mean dose of nearly 1,500 mg/day. At the end of treatment, 16 out of 27 (60%) participants reported a reduced urge to gamble. Of these 16 responders, 13 entered a placebo-controlled phase for a further six weeks. During this phase, 83% of those who received NAC responded favorably, compared with only 28.6% of the placebo group.

N-acetyl cysteine may help control addiction by its effect on glutamate, a brain chemical which is frequently associated with reward. “It looks very promising,” stated Dr. Grant, the study’s author. “We were able to reduce people’s urges to gamble... This research could be encouraging for a lot of addictions,” he concluded.

—Dayna Dye

* Grant JE, Kim SW, Odlaug BL. *N*-acetyl cysteine, a glutamate-modulating agent, in the treatment of pathological gambling: a pilot study. *Biol Psychiatry*. 2007 Sep 15;62(6):652-7.

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