

HERBCLIP

FILE: · Resveratrol
· Grapes (*Vitis vinifera*)
· Chemoprevention

DATE: November 8, 1997

HC 110875

RE: **Resveratrol in Grapes and Wine May Inhibit Cancer**

Jang, Meishiang, Lining Cai, George O. Udeani, Karla V. Slowing, Cathy F. Thomas, Christopher W. W. Beecher, Harry H.S. Fong, Norman R. Farnsworth, A. Douglas Kinghorn, Rajendra G. Mehta, Richard C. Moon, and John M. Pezzuto. Cancer Chemopreventive Activity of Resveratrol, a Natural Product Derived From Grapes. *Science*, Vol. 275, January 10, 1997, pp. 218-220.

Recer, Paul. Study: Grapes May Help Curb Cancer. (Associated Press). *Austin American-Statesman*, January 10, 1997, pg. A2.

Brody, Jane. Substance Common In Grapes and Wine is Cancer Inhibitor. *New York Times*, January 11, 1997, pg. A1.

These three articles follow original research material on resveratrol, a substance found in grape skin, from its appearance in a scholarly journal to its interpretation by the popular media. Resveratrol has been found to have cancer chemopreventive activity in all three major stages of carcinogenesis—initiation, promotion and progression.

Working under John Pezzuto, researchers at the University of Illinois at Chicago tested resveratrol in cell cultures and lab animals. Resveratrol's antioxidant, antimutagen and phase-II enzyme-inducing actions inhibit tumor initiation. The chemical inhibits cyclooxygenase (COX), significant to tumor anti-promotion because COX catalyzes the development of pro-inflammatory substances "such as prostaglandins, which can stimulate cell growth and suppress immune surveillance," and can activate carcinogens. Finally, resveratrol induced differentiation in human leukemia cancer cells, causing them to revert to a non-cancerous state.

Two newspaper articles represented these findings somewhat differently. The first, published by the Associated Press, is optimistically titled "Grapes May Help Curb Cancer." "The finding doesn't mean eternal health is in the bottom of a wine bottle, but the study does show that a diet loaded with fruits

and vegetables is a good defense against cancer," it says. The reader is left with the general impression that it is possible to ingest cancer-preventive qualities with red wine and grapes.

The second article, by veteran health food writer Jane Brody, is more cautious—and informative. The article is titled "Substance Common in Grapes and Wine is Cancer Inhibitor." "Grapes and red wine, already heralded for their potential to prevent heart disease, may also harbor a potent cancer inhibitor...But it is not yet known whether eating grapes or drinking red wine results in biologically useful levels of resveratrol in a person's blood," she warns.

Brody reads the findings carefully and adds her knowledge of similar research. She notes that "researchers have not yet demonstrated that resveratrol, which is soluble in alcohol but not water, is absorbed by humans who consume it through food or wine."

The AP reporter ends with "all wines have some resveratrol...but the highest concentration is in red wine—the type of wine linked to lowering heart attack risk." Brody clarifies the findings of the older heart disease research and interviews the primary researcher, Dr. David Goldberg.

Acknowledging resveratrol's demonstrated inhibition of blood cholesterol levels, Dr. Goldberg adds that "in human studies, the effects of red wine and white wine on coagulation were indistinguishable, suggesting that the effects we observed were due to alcohol content, not resveratrol." He clarifies that "when we gave volunteers huge amounts of red wine high in resveratrol, we were unable to detect the compound in their blood...it doesn't matter how potent a compound is in the test tube. If it doesn't get into the bloodstream, it won't have any effect."

Pezzuto himself is quoted in the AP article looking hopefully forward to a day when "we will be taking a dietary supplement as a cancer preventive." In the article he published in *Science*, Pezzuto optimistically suggests that resveratrol seekers consider "foods and nonalcoholic beverages derived from grapes" as alternative sources, "in light of the adverse health effects of long-term alcohol consumption." —*Betsy Levy*

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