

Resveratrol May Protect Against Alcoholic Fatty Liver Disease

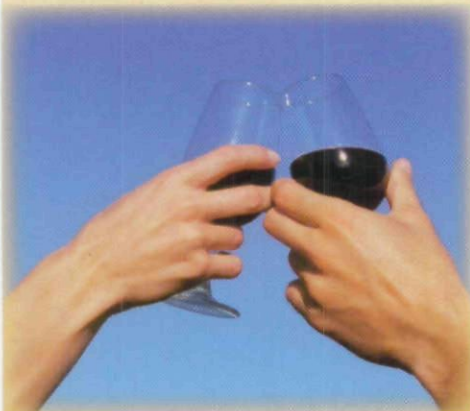
A recent issue of the *American Journal of Physiology-Gastrointestinal and Liver Physiology* reported the finding of researchers at the University of South Florida Health Sciences Center in Tampa of a protective effect for resveratrol against alcoholic fatty liver disease in mice.*

Laboratory research has associated alcoholic fatty liver with the inhibition of two signaling molecules, SIRT1 and AMPK, which regulate the liver's fat metabolism pathways. Dr. Min You and colleagues fed mice low-fat diets supplemented with or without ethanol (alcohol) and/or a low or high dose of resveratrol, and measured the expression of SIRT1 and AMPK in the animals' livers. They confirmed that resveratrol activated SIRT1 and AMPK in the mice that received alcohol, which prevented fatty liver.

"Our study suggests that resveratrol may serve as a promising agent for preventing or treating human alcoholic fatty liver disease," the authors concluded.

—Dayna Dye

* Ajmo JM, Liang X, Rogers CQ, Pennock B, You M. Resveratrol alleviates alcoholic fatty liver in mice. *Am J Physiol Gastrointest Liver Physiol*. 2008 Oct;295(4):G833-42.



Lutein, Zeaxanthin May Protect Against Colon Cancer

The carotenoid pigments lutein and zeaxanthin may work together to help prevent colon cancer, according to a new laboratory study.¹ These antioxidants are best known for their importance in reducing the risk of cataracts and age-related macular degeneration.²

Korean researchers extracted several bioactive carotenoid compounds, including lutein and zeaxanthin, from two common types of algae. Using a standard laboratory test, the researchers then measured the extracts' effects on human colon cancer cells growing in test tubes. Both extracts inhibited cancer cell growth and induced cells to undergo apoptosis, or programmed "cellular suicide."¹

Although lutein and zeaxanthin are most often cited as crucial eye-health nutrients, the results were not unexpected. Evidence from epidemiological studies suggests that fruit and vegetable-rich diets, which provide high levels of these and other carotenoids, are associated with a reduced risk of various types of cancer.³



—Dale Kiefer

1. Cha KH, Koo SY, Lee DU. Antiproliferative effects of carotenoids extracted from *Chlorella ellipsoidea* and *Chlorella vulgaris* on human colon cancer cells. *J Agric Food Chem*. 2008 Oct 23.
2. Rhone M, Basu A. Phytochemicals and age-related eye diseases. *Nutr Rev*. 2008 Aug;66(8):465-72.
3. Muller K, Carpenter KL, Challis IR, Skepper JN, Arends MJ. Carotenoids induce apoptosis in the T-lymphoblast cell line Jurkat E6.1. *Free Radic Res*. 2002 Jul;36(7):791-802.

Sunlight Exposure, Lack of Antioxidants Increase Macular Degeneration Risk

A new study suggests that protecting the eyes from sunlight exposure (using protective sunglasses and/or hats, for example) and consuming high levels of dietary antioxidants may significantly reduce the risk of developing age-related macular degeneration, a leading cause of blindness.*

British researchers examined 4,400 older people participating in the European Eye Study for signs of the vision-blurring disease. The scientists also assessed estimated lifetime exposure to sunlight, and measured blood antioxidant levels, including vitamin C, vitamin E, zeaxanthin, and zinc.

Among subjects with the lowest combined antioxidant levels, sunlight exposure was significantly associated with elevated risk of developing advanced macular degeneration. Although the results did not establish that sunlight exposure causes age-related macular degeneration, researchers noted the findings did suggest that in order to safeguard visual health, "people in the general population should use [eye] protection and follow dietary recommendations for the key antioxidant nutrients."

—Dale Kiefer

* Fletcher AE, Bentham GC, Agnew M, et al. Sunlight exposure, antioxidants, and age-related macular degeneration. *Arch Ophthalmol*. 2008 Oct;126(10):1396-403.

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