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Resveratrol Studies Confirms Potential Health Boost

June 21, 2011 — A University of Florida review of research finds the polyphenol compound known as resveratrol found in red wine, grapes and other fruits may not prevent old age, but it might make it more tolerable. News stories have long touted resveratrol as a cure for various diseases and a preventative against aging.

"We're all looking for an anti-aging cure in a pill, but it doesn't exist. But what does exist shows promise of lessening many of the scourges and infirmities of old age," said UF exercise psychologist Heather Hausenblas, one of the researchers involved in the study.

A comprehensive review of human clinical research on resveratrol has found it has "anti-aging, anti-carcinogenic, anti-inflammatory and antioxidant properties," but more research of its benefits is needed, she said.

The study, which appeared online this week in *Molecular Nutrition and Food Research*, examined results gleaned from thousands of laboratory studies with enzymes, cultured cells and laboratory animals. It was conducted by Hausenblas and fellow researchers James Smoliga of Marywood University and Joseph Baur of the University of Pennsylvania School of Medicine. Their review aimed to examine the current state of knowledge of the effects of resveratrol on humans and to use this information to guide much needed future human clinical trials.

Despite numerous clinical studies on resveratrol's tonic effects on animals, there is little evidence that it benefits human health. That's because "there haven't been many studies on humans," Hausenblas said.

However, she points out, for years many scientists have thought that a link between resveratrol and human health exists. The French people, for example, enjoy low levels of cardiovascular disease, even though their diets are rich in saturated fats and oils. Some researchers think the reason for this paradox lies in France's national drink -- red wine, which is the most important dietary source of resveratrol. The UF review, said Hausenblas, shows that the resveratrol has considerable potential to improve health and prevent chronic disease in humans. However, further research examining the long-term health effects of resveratrol is much needed.

Exactly how resveratrol works isn't yet fully understood. Correlating factors such as metabolism, the chemical interplay of molecules, genetics, exercise, age, dosage, and many others all play a role.

Among resveratrol's most intriguing aspects is how it functions as an antioxidant. Oxidation is a natural chemical process in living tissues that results in a transfer of electrons. When this happens, groups of atoms are formed called "free radicals" that can cause cell damage which in turn provides a pathway for diseases. Antioxidants, however, suppress free radicals. "It's not so easy to say resveratrol is the main factor," Hausenblas said. "It's one piece of the overall puzzle that reduces the free radicals."

The UF study also reveals that resveratrol's contribution to good health promises to be widespread. Various clinical trials, for example, indicate that this polyphenol -- an antibiotic substance produced by plants as a defense against microorganisms -- prevents the growth of some cancers in mice, inhibits enzymes that cause inflammation, shrinks tumors and increases blood flow, thus reducing cardiovascular diseases. In many cases, it also extends the life of obese animals. Some evidence also shows that resveratrol could one day be used to help regulate insulin sensitivity in diabetic patients.

Hausenblas and her colleagues think research that explores resveratrol's potential to alleviate human infirmities will become increasingly more important as the nation's 76 million baby boomers undergo the aging process. One trial under way at UF's College of Medicine in the Institute on Aging examines the effect resveratrol may have on the physical and cognitive skills on older people.

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