

Walnuts slow prostate tumors in mice

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Walnut consumption slows the growth of prostate cancer in mice and has beneficial effects on multiple genes related to the control of tumor growth and metabolism, UC Davis and the U.S. Department of Agriculture Western Regional Research Center in Albany, Calif. have found.

The study, by Paul Davis, nutritionist in the Department of Nutrition and a researcher with the UC Davis Cancer Center, announced the findings today at the annual national meeting of the American Chemical Society in San Francisco.

Davis said the research findings provide additional evidence that [walnuts](#), although high in fat, are healthful.

"This study shows that when mice with prostate tumors consume an amount of walnuts that could easily be eaten by a man, tumor growth is controlled," he said. "This leaves me very hopeful that it could be beneficial in patients."

[Prostate cancer](#) affects one in six American men. It is one in which [environmental factors](#), especially diet, play an important role. Numerous clinical studies have demonstrated that eating walnuts -- rich in omega-3 polyunsaturated fats, antioxidants and other plant chemicals -- decreases the risk of cardiovascular disease. These findings prompted the U.S. Food & Drug Administration in 2004 to approve, for the first time, a qualified health claim for reducing heart disease risk for a whole food.

Davis fed a diet with whole walnuts to mice that had been genetically programmed to get prostate cancer. After 18 weeks, they found that consuming the human equivalent of 2.4 ounces of walnuts per day resulted in significantly smaller, slower-growing prostate tumors compared to mice consuming the same diet with an equal amount of fat, but not from walnuts. They also found that not only was prostate cancer growth reduced by 30 to 40 percent, but that the mice had lower blood levels of a particular protein, insulin-like growth factor (IGF-1), which has been strongly associated with prostate cancer. Additionally, Davis and his research colleagues looked at the effect of walnuts on gene activity in the prostate tumors using whole mouse gene chip technology, and found beneficial effects on multiple genes related to controlling [tumor growth](#) and metabolism.

"This is another exciting study from UC Davis nutrition researchers, where truly promising results that have a molecular footprint are having beneficial effects against cancer," said Ralph deVere White, UC Davis Cancer Center director and a prostate cancer researcher. "We have to find a way to get these kinds of studies on nutritional products funded so that we can truly evaluate their effects on cancer patients."

Davis, whose research was funded by a grant to UC Davis from the California Walnut Board, said additional research is needed to further explore how walnuts reduce tumor cell growth.

"The bottom line is that what is good for the heart -- walnuts -- may be good for the prostate as well," he said.

Provided by University of California - Davis

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