

## **White Tea May Be Best for Cancer Prevention**

By Editorial Staff

Although not as well-known as the green or black varieties, white tea has been enjoyed for centuries in China and Japan for its unique aroma and flavor. Research presented at the recent meeting of the American Chemical Society in San Francisco has found that white tea not only tastes good: it may be better than other kinds of tea in preventing certain forms of cancer.

"I was surprised by the potency" of the tea, said Dr. Gilberto Santana-Rios, a research associate at the Linus Pauling Institute in Corvallis, Oregon. "We were not expecting that much of a good result."

Unlike green and black teas, which are grown and harvested around the world, white tea is produced almost entirely in the Fukien province of China. It comes from the same species of other teas, but has a higher proportion of buds to leaves. The buds are covered by silver-colored hairs that give the plant its whitish appearance.

White tea is also the most minimally processed of all tea varieties. Unopened leaf buds are rapidly steamed and then heat-dried, which keeps the leaves fresher and reduces oxidation. In comparison, green tea is composed mainly of leaves which are steamed or fried before being rolled. Oolong and black teas undergo even further processing.

The scientists theorized that such minimal processing could leave white tea with higher concentrations of polyphenols, naturally occurring substances that have been shown to fight cancer.

"Many of the more potent tea polyphenols become oxidized or destroyed as green tea is further processed into oolong and black teas," said Dr. Roderick Dashwood, a biochemist at the institute and principal investigator of the study. "Our theory was that white tea might have equivalent or higher levels of these polyphenols than green tea, and thus be more beneficial."

Two sets of experiments were conducted to test the validity of their theory. In the first experiment, four varieties of white tea were brewed and subjected to a laboratory test called the Salmonella assay to determine whether a chemical could prevent mutations in DNA - the earliest stage in the progression of a healthy cell to a cancerous one.

The assay found that in each case, white tea inhibited mutations more efficiently than other types, theoretically giving it more potential to prevent cancer than green or black teas.

"We still can't put an absolute number on how much more effective white tea was over green," said Dr. Santana. "In one test, the white tea was five times more effective. In another, it was just twice as potent."

The assay also found that white tea contains the same types of polyphenols as green tea, but in different proportions. Those present in greater amounts may account for the tea's increased potential for fighting cancer.

In the second experiment, the researchers studied the effect of white tea on the incidence of tumors in rats genetically prone to colon cancer. Both groups of rats were fed substances containing cancer-causing products called mutagens similar to those found in cooked meats. One group was given regular drinking water; the other was offered white tea at a strength equal to steeping a tea bag in a cup of water for five minutes.

Rats in the tea group exhibited significantly fewer precancerous tumors than rats that drank only water. "When we examined the colons of these animals eight weeks into the study, we found that the average colon in the unprotected rats had six spots of precancerous lesions," said Santana. "But in the rats that got the tea, there were just 1.5 lesions per colon."

### **Tea Not Necessarily a "Magic Bullet" Against Cancer**

Both researchers plan on conducting further tests to see how well green and white tea compare in fighting cancer, incorporating more brands of tea and larger animal groups into their work. In the meantime, they have cautioned that while the results of their experiments are promising, more research must be conducted to determine whether white tea works in preventing cancer in human subjects. They also stressed the importance of a healthy lifestyle in cutting the risk of cancer, including a good diet and regular exercise.

"White tea, and tea in general, is a healthy alternative to other popular drinks, such as sodas," said Dashwood. "But to be on the safe side, one should maintain a healthy lifestyle that includes a diet rich in fruits and vegetables, exercise, and avoidance of smoking."

"I don't think it would be healthy for people to start drinking gallons of white tea a day in order to protect themselves against colon cancer," added Santana. "Tea can be part of a healthy lifestyle that includes exercise and a diet with plenty of fruits and vegetables, but people with unhealthy lifestyles should not look to white tea as the magic bullet."

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