

[Back to Story - Help](#)

Green tea extract may boost cancer-fighting enzymes



By Joene Hendry

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Healthy subjects who received daily caffeine-free green tea extract capsules had an increased production of detoxification enzymes, which may provide some cancer-fighting benefits, study findings show.

"Concentrated green tea extract could be beneficial to those who are deficient in the detoxification enzyme and shouldn't be harmful for those who have adequate detoxification enzyme," lead investigator Dr. H.-H. Sherry Chow, of the University of Arizona, Tucson, told Reuters Health.

Genetic and environmental factors cause people to have varying levels of glutathione S-transferase (GST) enzymes. These enzymes may play a crucial role in helping the body defend against toxic and cancer-causing compounds, note Chow and colleagues.

Previous laboratory and animal studies found that green tea compounds, antioxidants called "catechins," activate these GST enzymes. Therefore, Chow's team investigated the effect that concentrated compounds from green tea would have on GST enzymes levels in 42 healthy adults.

Their findings are published in the medical journal *Cancer Epidemiology, Biomarkers and Prevention*.

For 4 weeks prior to the study, the non-smoking volunteers refrained from drinking green tea, taking supplements, or eating foods known to contain epigallocatechin gallate, a potential cancer-fighting antioxidant.

Over the next 4 weeks the volunteers took four capsules, each containing 200 mg of epigallocatechin gallate, every morning prior to eating. This provided the equivalent amount of epigallocatechin gallate obtained from drinking 8 to 16 cups of green tea daily, Chow said.

The researchers found that the detoxifying GST enzymes increased by 80 percent in the study participants with the lowest GST levels at the start of the study. Participants with medium or high GST levels had either no increase or a slight increase in GST levels.

The capsules used in this study were specifically made for clinical trial use. Chow cautions that commercially available green tea extracts are not required to meet the same strict concentration and purity standards.

Chow adds, "More clinical testing is underway to confirm the cancer preventive activities of green tea or green tea extract."

SOURCE: *Cancer Epidemiology, Biomarkers and Prevention*, August 2007.

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