

# Green Tea Extract

6351 – 120 vegetarian capsules

## Green Tea Extract May Inhibit Mutagenic Processes and Burns Fat

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### The Possible Benefits of Green Tea Extract, a Dietary Supplement

- Possesses significant thermogenic properties.
  - As an antioxidant, green tea extract has been shown to be 20 times stronger than vitamin E
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### Description

#### Green Tea Extract May Inhibit Mutagenic Processes

Three new studies show that green tea can reduce the risk of oral cancer in women, stimulate the production of anti-mutagenic enzymes and inhibit the initial stages of intestinal cancer. The first study sought to determine how green tea consumption in humans influences the risk of oral cancer, a disease with a higher proportion of deaths per number of cases than breast, skin, or cervical cancer. Mortality rate of patients with oral cancer is high (50 percent), because the cancer is usually detected late.



In the study, researchers analyzed green tea consumption among 20,550 men and 29,671 women living in Japan by administering a questionnaire. During a mean follow-up period of 10.3 years, the researchers documented 37 oral cancer cases.

After adjusting for potentially confounding factors, the study authors reported that women who consumed five or more cups of green tea per day had an associated risk reduction of 70 percent, compared to women who consumed between one and two cups per day. Because the number of oral cancers cases was small in this group of subjects, researchers called for more studies to confirm the results.

A new clinical study by another group of researchers confirms green tea's potential anti-mutagenic effect. In this study, scientists investigated whether a concentrate of catechins, the green tea component thought to be responsible for the beverage's health effects, had any effect on levels of glutathione S-transferase (GST) enzymes. GSTs alter cancer-causing molecules in order to prevent the molecules from damaging cellular DNA.

The study included 42 healthy subjects who abstained from consuming tea or tea-related products in the four-weeks prior to the study's start. They gave a fasting blood sample, which the researchers used to measure GST activity and level. The subjects then consumed 800 mg epigallocatechin gallate (EGCG) per day on an empty stomach for four weeks, at which time they again gave blood samples. After the subjects consumed the green tea component, the GST activity increased from 2252.9 plus/minus 734.2 ng/mg protein to 2634.4 plus/minus 1138.3 ng/mg protein. The increase was most pronounced in people who had low GST activity at the study's start. After consuming the EGCG, their GST activity increased by as much as 80 percent. The researchers point out that this is the first study to demonstrate this effect in humans.

The study authors suggested that the findings indicate EGCG from green tea could help vulnerable individuals to strengthen their metabolic defense against carcinogens.

In the third new study, researchers investigated green tea's effects in a mouse model of colon cancer. The scientists treated mice with an agent that induces colon tumors, then gave the animals either water or green tea for four to eight weeks.

Although green tea was ineffective against larger tumors that had already formed, green tea significantly inhibited the formation of new tumors. The researchers also found that green tea decreased the total levels of biomarkers involved in early colon cancer development.

According to the researchers, "Our results suggest that green tea specifically targets initial stages of colon carcinogenesis; the time of administration of green tea is pivotal for effective chemoprevention."

#### Green Tea Extract May Burns Fat

A University of Geneva team of researchers investigated whether green tea extract, by virtue of its high caffeine and catechin polyphenols content, could increase 24-hour energy expenditure and fat burning. Twenty-four-hour energy expenditure and urinary excretion of nitrogen (a measure of muscle breakdown) were measured in a respiratory chamber in ten healthy men.

On three separate occasions, subjects were randomly assigned one of three treatments: green tea extract (50 mg caffeine and 90 mg epigallocatechin gallate); caffeine (50 mg); or placebo. They ingested these at breakfast, lunch and dinner. Relative to placebo, treatment with the green tea extract resulted in a significant increase in 24-hour energy expenditure without any change in urinary nitrogen. Treatment with caffeine in amounts equivalent to those found in green tea extract had no effect on energy expenditure or on urinary nitrogen. The authors concluded that green tea has thermogenic properties and promotes fat oxidation beyond that explained by its caffeine content.

Vitamin Research offers a standardized, encapsulated (200 mg) green tea extract with a 52% polyphenol potency per capsule

#### **References:**

Ide R, Fujino Y, Hoshiyama Y, Mizoue Kubo T, Pham TM, Shirane K, Tokui N, Sakata K, Tamakoshi A, Yoshimura T. Prospective Study of Green Tea Consumption and Oral Cancer Incidence in Japan. *Annals of Epidemiology*.

\* As per US federal guidelines, we need to inform you that these statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.