

## What is Green Tea PE (Powdered Extract)?

Green tea is made using the leaves of the *Camellia sinensis*, or tea plant. *Camellia sinensis* is an evergreen shrub or small tree whose fresh leaves contain about 4% caffeine. The young, light green leaves are preferred and then harvested for tea production. Tea plants are grown in places and countries where warm, rainy growing conditions are abundant, and are also frequently cultivated in high altitude areas. Green tea, black tea, and oolong tea are the three main varieties. Green tea comes from the same perennial evergreen shrub as black tea, meaning they are all produced from the leaves of *camellia sinensis*. The main difference between the teas and how they end up is dependent on how they were processed. Green tea is made from unfermented leaves or by lightly steaming fresh tea leaves, while black tea is fully fermented and made from leaves that are dried and roasted and that therefore lose a lot of their medicinal power (the leaves of oolong tea are partially fermented).

Green tea has been a popular drink in China for thousands of years, but it was only recently that the Western world learned of its profound health benefits. The lighter processing method which is employed in producing green tea leaves the polyphenols (including powerful antioxidants **proanthocyanidin** and **catechin**) intact. In clinical studies, it has been demonstrated that polyphenols provided more antioxidant protection than **vitamin E** or **vitamin C**. Polyphenols also improve the performance of the body's own natural antioxidant enzymes, including glutathione, which makes green tea a possible treatment for arthritis sufferers. Glutathione has been proven effective for lowering and minimizing the inflammation and cartilage breakdown that characterizes this condition.

Since green tea is made from unfermented leaves, it is reputed to contain the highest concentration of polyphenols, chemicals that act as powerful antioxidants. The more the leaves are fermented, the higher the caffeine content and the lower the polyphenol content. For this reason and with respect to this, Green tea has the most polyphenol content while black tea has about two to three times the **caffeine** content of green tea. **Epigallocatechin Gallate**, or EGCG, is an anti-oxidant polyphenol found mostly in green tea. EGCG may have health benefits as a nutritional supplement for cancer, atherosclerosis, blood sugar control, HPV virus infection, and neurodegenerative diseases. As an anti-cancer agent, EGCG induces apoptosis in human cancer cell lines. As a potent antioxidant, EGCG's anti-oxidant action protects cells from lipid peroxidation and DNA damage induced by reactive free radicals. In leukemia, EGCG helps kill leukemia cells by interrupting the communication signals they need to survive.

## What is Green Tea PE used for and who uses it?

Green tea has been consumed for many centuries in China and other Asian countries. Traditional benefits of green tea include lowering high blood pressure, preventing pathogenic bacteria that cause food poisoning, and inhibiting the operations of carcinogens, ultraviolet light and metastasis. Other historical functions of green tea include treating flatulence, managing body temperature and blood sugar, regulating digestion, and enhancing mental processes. Green tea's largely owes its health benefits to its high content of flavonoids in which catechins are the main variety. Catechins are more

potent antioxidants than vitamin C and vitamin E in preventing oxidative damage to cells while having other disease-fighting properties as well. Consuming green tea on a regular basis may assist in preventing several types of cancer, including skin cancer, breast cancer, lung cancer, colon cancer, esophageal cancer, and bladder cancer. It can also keep cardiovascular conditions at bay by reducing cholesterol levels and lowering blood pressure, and it can also promote longevity, stave off tooth decay, help heal gum infections, and a number of other health benefits. Green tea has also been proven effective in speeding metabolism and enhancing weight loss, while increasing energy levels and brain power. Antioxidants in green tea, owing to the fact that it is extremely potent, may prevent and reduce the severity of osteoarthritis.

The polyphenols in green tea that functions as antioxidants can inhibit the growth and propagation of existing cancer cells, as green tea polyphenols have shown preventative and inhibitory effects against tumor formation and growth. Green tea polyphenols, EGCG specifically, may very well strengthen the body's natural antioxidant system and kill cell-damaging free radicals in the body. They protect against chemically induced and initiated tumor, and metastasis of preexisting tumors. Green tea polyphenols are also antimutagenic, and is a powerful agent in reducing the carcinogen formation and buildup in the body and decreasing chromosomal damage during mutagen exposure. There is also evidence that green tea polyphenols may be chemopreventative or inhibitory toward lung, skin, and liver cancer, bladder and ovarian tumors, leukemia, and oral leukoplakia.

Green Tea PE is highly valued nutritionally for having high levels of Polyphenols, especially for its high concentration of EGCG (Epigallocatechin Gallate), an extremely potent antioxidant with profound beneficial effects on human health for being able to scavenge and remove free radicals from the human tissues and organs. Recent scientific studies and research have demonstrated numerous health benefits from the oral supplementation of Green Tea PE and/or Epigallocatechin Gallate that may include protective effects from environmental stresses such as cigarette smoking and pollution. When taken in dosages not exceeding the suggested amounts of oral EGCG supplementation, it may also benefit people who are suffering or undergoing treatment from cancer, blood sugar swings, HPV virus infection, atherosclerosis, neurodegenerative disorders, as well as many other common maladies. However, caution must be exercised with regards to the dosing of Green Tea PE since more long term studies and human trials are still needed to ascertain the safe and effective doses for this product.

### **What are some of the common effects of Green Tea PE**

Green tea has been shown to assist with cardiovascular conditions as it helps to lower serum cholesterol, prevent oxidation of LDLs, and increase HDL's in the blood. Heart diseases are a result of oxidative stress and subsequent generation of free radicals. Green tea polyphenols are potent free radical scavengers due to the hydroxyl groups in their chemical structure. The antioxidant activities of green tea are helpful in lowering cholesterol and preventing hardening of the arteries and ischemic heart disease. Low flavonoid intake has been linked to atherosclerosis, and because of the antioxidant properties of green tea, it may help prevent atherosclerosis, particularly coronary artery disease.

Green tea has been shown to speed metabolism and enhance weight loss, since the green tea catechins have been found to promote thermogenesis. Green tea extract may increase energy levels and promote fat oxidation, and consequently, may be a useful tool in weight control. Green tea polyphenols can also inhibit digestive lipases, resulting in decreased lipolysis of triglycerides, which in turn may translate to reduced fat digestion in humans.

Green tea polyphenols also have topical antibacterial properties and can help to prevent gingivitis and periodontal disease by killing E. coli and streptococcus bacteria. A regular intake of green tea may reduce the risk of bacteria accumulating in the mouth which can cause tooth decay. The tannin content alone in green tea helps to prevent plaque adhering to teeth. This antibacterial action can also be effective in treating halitosis, or bad breath, by killing odor-causing bacteria. Green tea contains several minerals, including fluoride, which may be useful in fighting tooth decay.

### **What is the daily suggested dose of Green Tea PE?**

The Recommended dose for Green Tea PE may vary from as little as 50mg to as much as 250mg per day, depending upon individual needs. Most researchers and health practice professionals suggest that daily doses higher than about 250mg should not be taken without the direct care and supervision of a licensed physician or other health practice professional. For most adults a reasonably effective dose for Green Tea PE will be about one slightly rounded 1/16 teaspoon (approximately 200 milligrams) dose once per day. **DO NOT ATTEMPT TO DOSE THIS PRODUCT USING MEASURING SPOONS OF ANY KIND!** The only safe way to dose this product for individual use will be using an accurate weight scale.

As always, if you have concerns or questions, consult a physician or a health care professional before taking any supplements. Before taking any kind of medicine, check with your doctor to ensure that the supplement you want to take is right for you. You may be allergic or you may have a sensitive stomach which may raise the need for special instruction as far as dosage goes.

### **What kind of results do people anticipate while taking Green Tea PE?**

If you drink green tea, you are providing your body with protection against a host of diseases brought about by free-radical damage. Several large studies have shown that the antioxidant effects of green tea can help lower the risk of developing cancer of the digestive system, prostate cancer, cervical cancer, and breast cancer in women. Studies have also shown that green tea also protects against heart disease by lowering cholesterol levels and preventing the blood clots that can lead to atherosclerosis (clogged arteries). Women experiencing hot flashes associated with menopause may find that drinking green tea morning and night may help reduce their frequency. Limited studies report that green tea helps balance estrogen levels, and which can help prevent not only hot flashes but also discourage certain types of breast cancer as well. Green tea has also been used to prevent tooth decay, increase air flow to the lungs in asthma patients, and increase mental alertness (due in some part to the caffeine that is naturally found in all teas). Also, several small studies have shown that green tea extract (GTE) is an appetite suppressant and promotes weight loss in humans, and is now widely available in stores as dietary supplements.

designed to help you lose weight. It is clear from epidemiological studies that long term drinking of green tea is safe and healthy as demonstrated in studies with Japanese green tea drinkers.

### **Precautions, Interactions, and Potential side effects of Green Tea PE**

Green tea is generally considered a safe, non-toxic beverage and consumption is usually without side effects. Side Effects from Green Tea PE supplementation are few, when taken in doses equal to or less than 250mg per day, but can include restlessness, agitation and insomnia. For this reason you may want to avoid taking your Green Tea dose close to your bedtime. There is a small amount of caffeine in this Green Tea P.E., about 4.5%, but with a typical dose of 250 grams Green Tea PE there would be a net amount of only about 11 milligrams caffeine, about one fourth the caffeine of a 12 ounce can of a typical cola soft drink. However, because EGCG comprises 45.72 of this Green Tea P.E., and because EGCG is an extremely powerful antioxidant, daily doses higher than 300 milligrams Green Tea PE should be avoided.

People with heart problems, kidney disorders, stomach ulcers, and psychological disorders (particularly anxiety) should not take green tea. Lactating women should also limit caffeine intake to avoid sleep disorders in infants. Individuals with iron-deficiency anemia who take iron supplements should not drink green tea several hours before and after taking supplements. Green tea also interacts with Doxorubicin and alkaline medications. Precaution is necessary in patients who are taking anticoagulants.

### **Green Tea Powder Extract is used in the following Proprietary Formulas**

Higher Power Green Tea Extract, IronMagLabs Green Tea, Life Extension Mega Green Tea Extract - Decaffeinated, Life Extension Mega Green Tea Extract, Natrol Green Tea, NOW EGCG, NOW Green Tea Extract, Olympian Labs Green Tea Extract, PrimaForce Lean Green, Solaray Green Tea, Starmark Labs Ultra Pure Green Tea Extract, Universal Green Tea, Zima Green Tea Absolute

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