Green Tea (*Camellia sinensis*)

**Common name:** EGCG

**Parts used and where grown:** All teas (green, black, and oolong) are derived from the same plant, *Camellia sinensis*. The difference is in how the plucked leaves are prepared. Green tea, unlike black and oolong tea, is not fermented, so the active constituents remain unaltered in the herb. The leaves of the tea plant are used both as a social and medicinal beverage.

**Historical or traditional use** (may or may not be supported by scientific studies): According to Chinese legend, tea was discovered accidentally by an emperor 4,000 years ago. Since then, traditional Chinese medicine has recommended green tea for headaches, body aches and pains, digestion, depression, immune enhancement, detoxification, as an energizer, and to prolong life. Modern research has confirmed many of these health benefits.

**Active constituents:** Green tea contains volatile oils, vitamins, minerals, and caffeine, but the active constituents are polyphenols, particularly the catechin called epigallocatechin gallate (EGCG). The polyphenols are believed to be responsible for most of green tea’s roles in promoting good health.1

Research demonstrates that green tea mildly guards against cardiovascular disease in many ways. Green tea lowers
total cholesterol levels and improves the cholesterol profile (the ratio of LDL cholesterol to HDL cholesterol), reduces platelet aggregation, and lowers blood pressure.  

However, not all studies have found that green tea intake lowers lipid levels.  

Green tea’s is effectiveness as an antioxidant remains unclear. While some studies show that green tea is an antioxidant in humans, others have not been able to confirm that it protects LDL cholesterol from damage. Oxidation of LDL cholesterol is thought to be important in causing or accelerating atherosclerosis.  

The polyphenols in green tea have also been shown to lessen the risk of cancers of several sites, stimulate the production of several immune system cells, and have antibacterial properties—even against the bacteria that cause dental plaque.  

One study found that intake of 10 cups or more of green tea per day improved blood test results, indicating protection against liver damage. Further studies are needed to determine if taking green tea helps those with liver diseases.  

**How much is usually taken?** Much of the research documenting the health benefits of green tea is based on the amount of green tea typically drunk in Asian countries—about three cups per day (providing 240–320 mg of polyphenols). To brew green tea, 1 U.S. teaspoon (5 grams) of green tea leaves are combined with 250 ml (1
cup) of boiling water and steeped for three minutes. Decaffeinated tea is recommended to reduce the side effects associated with caffeine, including anxiety and insomnia. Tablets and capsules containing standardized extracts of polyphenols, particularly EGCG, are available; some provide up to 97% polyphenol content—which is equivalent to drinking four cups of tea. Many of these standardized products are decaffeinated.

**Are there any side effects or interactions?** Green tea is generally free of side effects; the most common adverse effects reported from consuming large amounts (several cups per day) of green tea are insomnia, anxiety, and other symptoms caused by the caffeine content in the herb.

**References:**


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