

# Green Tea



Brio Medical  
11000 N SCOTTSDALE RD Ste 115  
SCOTTSDALE, AZ 85254-6168

Green Tea

## Clinical Applications

- Provides Antioxidant Support\*
- Supports Healthy Immune Function\*
- Supports Healthy Endocrine Function\*
- Provides Alternative to Consumption of Multiple Cups of Green Tea\*

**BRIO MEDICAL**  
Restoring Vitality, Hope & Vigor

*Green Tea is an ultra-pure, water-extracted green tea formula that is rich in phytochemical compounds that support antioxidant activity. Research has shown that green tea supports natural detoxifying enzymes, normal gene signaling, and the health and function of intestinal flora.\**

All BRIO MEDICAL Formulas Meet or Exceed cGMP Quality Standards

## Discussion

The health benefits of the tea leaf *Camellia sinensis* are derived from a group of phytochemicals known as polyphenols. Polyphenols in fresh green tea leaves are present as a series of chemicals called catechins. The dominant and most biologically active among the catechins, (-)-epigallocatechin-3-gallate (EGCG), has been shown to induce expression of glutathione S-transferase, glutathione peroxidase, glutamate cysteine ligase, heme oxygenase-1, and other enzymes that protect a variety of cells, including cultured neurons, against oxidative stress-induced cell death. EGCG modulates the redox-sensitive transcription factor Nrf2, which plays a key role in activating detoxifying enzyme HO-1, as well as other phase II enzymes.<sup>[1-7]\*</sup>

Green Tea Leaf Extract Green tea polyphenols protect erythrocytes (red blood cells) from oxidative stress.<sup>[8]</sup> In research studies, EGCG supported healthy insulin activity,<sup>[9]</sup> protected the pancreatic cells by reducing undesirable cytokines (e.g., interleukin-1 beta), and reduced interferon-gamma-induced nitric oxide production—an excess of which may cause free radical damage. Furthermore, it was found that the polyphenols triggered genes that inhibit activation of NF-kappaB<sup>[10]</sup> and reduced the level of messenger RNA for the hepatic gluconeogenic enzymes, which convert non-carbohydrate sources into glucose.<sup>[11]</sup> EGCG has been shown to support healthy immune function,<sup>[2]</sup> support the endocrine system,<sup>[4]</sup> and promote fat oxidation beyond what would be explained by its caffeine content.<sup>\*[3]</sup>

Many of the wide range of health benefits derived from green tea are dose-dependent, and most Americans are not willing to consume the necessary 5-10 cups of tea a day to gain its advantages. Careful processing of the tea into an extract highly concentrates the key beneficial constituents. Each 600 mg capsule of Green Tea contains 80% polyphenols, 60% catechins, and 30% EGCG. This is equivalent to approximately 10 cups of green tea. Each capsule contains 36-45 mg of caffeine per serving, roughly the equivalent of a can of cola and less than the 95-200 mg of caffeine in an 8-oz cup of brewed coffee.<sup>[12]</sup> Naturally occurring caffeine in green tea is believed to act synergistically with the polyphenols.<sup>\*[13]</sup>

In summary, green tea's benefits are based upon four actions: 1) it is a powerful antioxidant that protects against DNA damage; 2) it induces detoxifying enzymes; 3) it supports gene signaling, which helps regulate cellular growth, development, and apoptosis; and 4) it selectively improves the function of the intestinal bacterial flora.<sup>\*[1,2,4-8,10,11]</sup>

**\*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.**



# Supplement Facts

Serving Size: 1 Capsule  
Servings Per Container: 60

	Amount Per Serving	%Daily Value
Green Tea Aqueous Extract ( <i>Camellia sinensis</i> ) (leaf)(60% catechins, 30% EGCG, 6% caffeine)	600 mg	**

\*\* Daily Value not established.

**Other Ingredients:** HPMC (capsule), stearic acid, magnesium stearate, and silica.

## Directions

Take one capsule daily, or as directed by your healthcare professional.

Consult your healthcare professional prior to use. Individuals taking medication should discuss potential interactions with their healthcare professional. Do not use if tamper seal is damaged.

## References

1. Weisburger JH, Chung FL. Mechanisms of chronic disease causation by nutritional factors and tobacco products and their prevention by tea polyphenols. *Food Chem Toxicol.* 2002 Aug;40(8):1145-54. [PMID: 12067577]
2. Matsunaga K, Klien TW, Friedman H, et al. Legionella pneumophila replication in macrophages inhibited by selective immunomodulatory effects on cytokine formation by epigallocatechin gallate, a major form of tea catechins. *Infect Immun.* 2001 Jun;69(6):3947-53. [PMID: 11349063]
3. Dulloo AG, Duret C, Rohrer D, et al. Efficacy of a green tea extract rich in catechin polyphenols and caffeine in increasing 24-h energy expenditure and fat oxidation in humans. *Am J Clin Nutr.* 1999 Dec;70(6):1040-45. [PMID: 10584049]
4. Kao YH, Hiiipakka RA, Liao S. Modulation of endocrine systems and food intake by green tea epigallocatechin gallate. *Endocrinology.* 2000 Mar;141(3):980-7. [PMID: 10698173]
5. Wheeler DS, Catravas JD, Odoms K, et al. Epigallocatechin-3-gallate, a green tea-derived polyphenol, inhibits IL-1 beta-dependent proinflammatory signal transduction in cultured respiratory epithelial cells. *J Nutr.* 2004 May;134(5):1039-44. [PMID: 15113942]
6. Dudka J, Jodynis-Liebert J, Korobowicz E, et al. Activity of NADPH-cytochrome P-450 reductase of the human heart, liver and lungs in the presence of (-)-epigallocatechin gallate, quercetin and resveratrol: an in vitro study. *Basic Clin Pharmacol Toxicol.* 2005 Aug;97(2):74-9. [PMID: 15998352]
7. Townsend PA, Scarabelli TM, Pasini E, et al. Epigallocatechin-3-gallate inhibits STAT-1 activation and protects cardiac myocytes from ischemia/reperfusion-induced apoptosis. *FASEB J.* 2004 Oct, 18(13):1621-3. [PMID: 15319365]
8. Rizvi SI, Zaid MA, Anis R, et al. Protective role of tea catechins against oxidation-induced damage of type 2 diabetic erythrocytes. *Clin Exp Pharmacol Physiol.* 2005 Jan-Feb;32 (1-2):70-5. [PMID: 15730438]
9. Anderson RA, Polansky MM. Tea enhances insulin activity. *J Agric Food Chem.* 2002 Nov;50(24):7182-6. [PMID: 12428980]
10. Koyama Y, Abe K, Sano Y, et.al. Effects of green tea on gene expression of hepatic gluconeogenic enzymes in vivo. *Planta Med.* 2004 Nov;70(11):1100-2. [PMID: 15549673]
11. Burzynski SR. Aging: gene silencing or gene activation? *Med Hypotheses.* 2005;64(1):201-8. [PMID: 15533642]
12. Mayo Clinic Staff. Nutrition and healthy eating: Caffeine content for coffee, tea, soda and more. Mayo Clinic. <http://www.mayoclinic.com/health/caffeine/AN01211>. Published October 1, 2011. Accessed August 16, 2012.
13. Dulloo AG, Seydoux J, Girardier L, et al. Green tea and thermogenesis: interactions between catechin-polyphenols, caffeine and sympathetic activity. *Int J Obes Relat Metab Disord.* 2000 Feb;24 (2):252-8. [PMID: 10702779]

## Formulated To Exclude

Wheat, gluten, corn, yeast, soy, animal and dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, and artificial preservatives.

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DRS-134  
REV. 02/01/23