

True

Health is a matter of trust

Results of our research

Dr. Rath Research Institute
CUTTING-EDGE RESEARCH IN NATURAL HEALTH

The widely available extract from green tea consists of a combination of different phytonutrients (polyphenols) present in the tea leaves, which claim various health benefits. Green tea polyphenols have potent antioxidant and anti-inflammatory properties which contribute to their anti-cancer effects, cardiovascular benefits, and support of overall health. Recent research shows that green tea also offers health benefits in several other conditions such as rheumatoid arthritis, atherosclerosis, Alzheimer's disease, and so on.

Health Protective Effects of Phytonutrients: Green Tea Extract

Green tea contains between 30-40 percent of water-extractable polyphenols. Among the active constituents of green tea, epigallocatechin gallate (EGCG) has the greatest potential for its antioxidant and anticarcinogenic properties. Yet, other components such as epicatechin, epigallocatechin and epicatechin gallate also help to enhance the actions of EGCG as a part of the green tea extract. EGCG is important for stimulating the production of the glutathione S-transferase (GST) enzyme that plays an important role in the body's defense against cancer.

EGCG has multifaceted actions in cancer prevention and carcinogenesis. It works in synergy with other micronutrients such as vitamin C, lysine, and proline in simultaneously controlling multiple mechanisms in cancer growth and spread. Several studies conducted at our institute have proven that a specific micronutrient combination containing EGCG is effective in preventing metastasis by inhibiting the action of collagen digesting enzymes and, in addition, the growth of new blood vessels to the tumor (anti-angiogenesis).

The matrix metalloproteinase (MMP) enzymes secreted by cancer cells break down the cellular basement membrane, thus enhancing the potential of the spread of cancer. EGCG inhibits the MMP enzymes, reduces their secretion and helps in reconstitution of the basement membrane. EGCG and other constituents of green tea extract



Green Tea contains large amounts of polyphenols, which are associated with numerous health benefits.

Health Protective Effects of Phytonutrients: Green Tea Extract

are also effective in inducing cancer cell death (apoptosis). The effectiveness of this micronutrient synergy, specifically the anticarcinogenic effects, have been confirmed and published by us in more than 80 scientific studies.

When used alone, EGCG tends to have a higher concentration only in the digestive system. However, its bioavailability gradually decreases due to oxidation and metabolism. Effectively, much less EGCG reaches the blood and other tissues, indicating that the potency of EGCG is lost during its absorption from the digestive tract. Dr. Rath's earlier studies have proven that EGCG combined with vitamin C, lysine, proline and other nutrients tends to have higher blood plasma concentration with a much smaller dose.

We conducted a clinical trial to examine if the addition of quercetin, obtained from red onions, would increase the effect of EGCG in the plasma of the participating human volunteers*. The results showed that adding quercetin to our synergistic micronutrient combination not only increased the absorption of EGCG, but it also delays the time of EGCG metabolism and excretion. Such a combined benefit increased EGCG

bioavailability by 56%, making it more potent even at smaller doses. Additionally, quercetin works synergistically with EGCG in protecting healthy cells from toxic free radical damage and regulates mechanisms important for healthy cell growth.

EGCG has distinctive benefits for the brain and central nervous system as it is able to cross the protective blood brain barrier. It may therefore exercise its action against diseases of the central nervous system such as Parkinson's disease and Alzheimer's disease.

Ref:

*Kale A, et al., *Phytotherapy Research* 2010; 24(S1); S48-S55

Important Health Information for All

This information is provided to you courtesy of the Dr. Rath Research Institute. Led by two former colleagues of two-time Nobel Laureate Linus Pauling († 1994) this Institute has become a leader in the breakthrough of natural health research in the field of cancer, cardiovascular disease and other common diseases. The Institute is a 100% subsidiary of the non-profit Dr. Rath Foundation.

The groundbreaking nature of this research poses a threat to the multi-billion dollar pharmaceutical "business with disease." It is no surprise that over the years the drug lobby has attacked Dr. Rath and his research team in an attempt to silence this message. To no avail. During this battle, Dr. Rath has become an internationally renowned advocate for natural health saying, "Never in the history of medicine have researchers been so ferociously attacked for their discoveries. It reminds us that health is not given to us voluntarily, but we need to fight for it."

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