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Green Tea Extract is a

concentrated form of green tea, derived from the leaves of the *Camellia sinensis* plant. It is rich in natural antioxidants and bioactive compounds that off

Chemical Properties

1. **Antioxidant Activity: The catechins in green tea extract, particularly EGCG, are powerful antioxidants. They neutralize free radicals, reducing oxidative stress and preventing cellular damage. This activity helps protect against chronic diseases like heart disease, cancer, and neurodegenerative disorders.**
2. **Thermogenic Effects: Green tea extract can increase the body's metabolic rate and promote fat oxidation, which is partly due to the combined effects of catechins and caffeine. This makes it a popular ingredient in weight loss supplements.**
3. **Stability: Green tea extract, especially EGCG, can be sensitive to heat, light, and pH. Prolonged exposure to these conditions can lead to the degradation of catechins, reducing their efficacy. To preserve its properties, green tea extract is often stored in cool, dark, and dry conditions.**
4. **Solubility: Catechins and other polyphenols in green tea extract are water-soluble, making them easily absorbed when consumed. However, their bioavailability can vary depending on factors such as the presence of other dietary components and the method of extraction.**
5. **Anti-inflammatory Properties: The polyphenols in green tea extract have anti-inflammatory effects. They inhibit the production of pro-inflammatory cytokines**

and modulate signaling pathways associated with inflammation, which is beneficial in managing conditions like arthritis and inflammatory bowel disease.

er numerous health benefits. Green tea extract is commonly used as a dietary supplement to promote weight loss, improve heart health, and provide protection against various diseases due to its high content of polyphenols, particularly catechin