

Green Tea Catechins: Nature's Way of Preventing and Treating Cancer

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Abstract

Green tea's (*Camellia sinensis*) anticancer and anti-inflammatory effects are well-known. Catechins are the most effective antioxidants among the physiologically active compounds found in *Camellia sinensis*. Recent research demonstrates that the number of hydroxyl groups and the presence of specific structural groups have a substantial impact on the antioxidant activity of catechins. Unfermented green tea is the finest source of these chemicals. Catechins have the ability to effectively neutralize reactive oxygen species. The catechin derivatives of green tea include epicatechin (EC), epigallocatechin (EGC), epicatechin gallate (ECG) and epigallocatechin gallate (EGCG). EGCG has the greatest anti-inflammatory and anticancer potential. Notably, catechins in green tea have been explored for their ability to prevent a variety of cancers. Literature evidence, based on epidemiological and laboratory studies, indicates that green tea catechins have certain properties that can serve as the basis for their consideration as lead molecules in the synthesis of novel anticancer drugs and for further exploration of their role as pharmacologically active natural adjuvants to standard chemotherapeutics. The various sections of the article will focus on how catechins affect the survival, proliferation, invasion, angiogenesis, and metastasis of tumors by modulating cellular pathways.

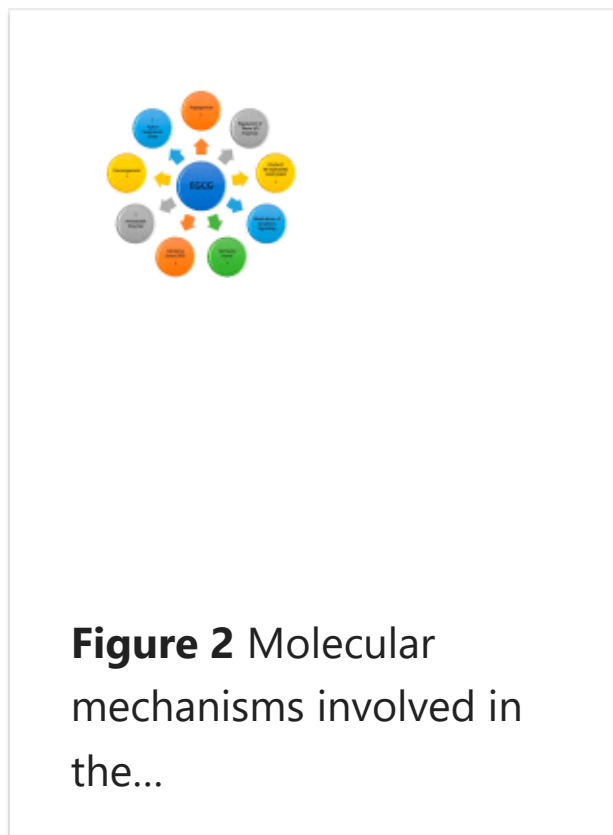
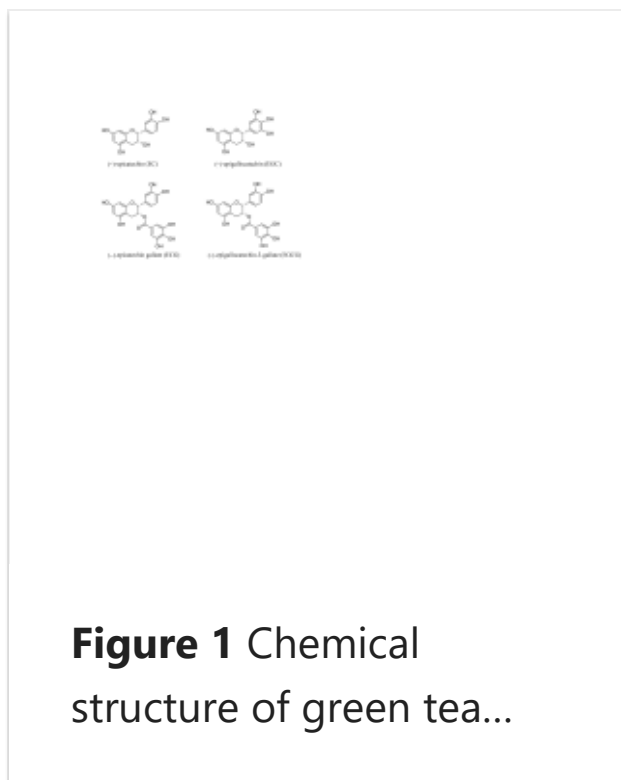
Keywords: EGCG; anticancer; cancer prevention; cancer therapy; green tea catechins.

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Conflict of interest statement

The authors declare no conflict of interest.

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