

Review

## **Natural Polyphenols and Their Role in Cancer Prevention and Treatment**

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**Abstract:** Many plant-derived, dietary polyphenols have been studied for their chemopreventive and chemotherapeutic properties against human cancers, including green tea polyphenols, genistein (soy), curcumin (turmeric), resveratrol (red grapes, cranberries and peanuts), apigenin (parsley and celery), luteolin (broccoli), quercetin (onions), and silymarin (artichoke). The more we understand their involved molecular mechanisms and cellular targets, the better we could utilize these “natural gifts” for the prevention and treatment of cancer. Furthermore, better understanding of their structure-activity relationships will guide synthesis of analog compounds with improved bio-availability, stability, potency and specificity. This review seeks to summarize many reported biological effects of polyphenols in human cancer systems, highlight the molecular targets and pathways identified, and discuss the role of the dietary polyphenols in the prevention and treatment of human cancer.

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