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# Targeting cancer signaling pathways by natural products: Exploring promising anti-cancer agents

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### ABSTRACT

Cancer is one of the leading causes of death and significantly burdens the healthcare system. Due to its prevalence, there is undoubtedly an unmet need to discover novel anticancer drugs. The use of natural products as anticancer agents is an acceptable therapeutic approach due to accessibility, applicability, and reduced cytotoxicity. Natural products have been an incomparable source of anticancer drugs in the modern era of drug discovery. Along with their derivatives and analogs, natural products play a major role in cancer treatment by modulating the cancer microenvironment and different signaling pathways. These compounds are effective against several signaling pathways, mainly cell death pathways (apoptosis and autophagy) and embryonic developmental pathways (Notch pathway, Wnt pathway, and Hedgehog pathway). The historical record of natural products is strong, but there is a need to investigate the current role of natural products in the discovery and development of cancer drugs and determine the possibility of natural products being an important source of future therapeutic agents. Many target-specific anticancer drugs failed to provide successful results, which accounts for a need to investigate natural products with multi-target characteristics to achieve better outcomes. The potential of natural products to be promising novel compounds for cancer treatment makes them an important area of research. This review explores the significance of natural products in inhibiting the various signaling pathways that serve as drivers of carcinogenesis and thus pave the way for developing and discovering anticancer drugs.

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