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Natural products as anti-cancer agents

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Cancer is one of the major causes of disease related death despite the significant advancement of technology in medicine and therapeutics. Cancer therapy involves surgical removal of the cancerous tissue, radiotherapy and chemotherapy. Nature has been the major source of therapeutic molecules for all types of diseases including cancer. Many of the successful drugs used in the most trusted treatment regimen i.e., chemotherapy are obtained from nature. Anticancer compounds obtained from plants include various types of natural chemicals like: Taxanoids, alkaloids, lactones, flavonoids and terpene etc., and plant based drug discovery has resulted in the development of many important anticancer agents such as: Vincristine, vinblastine, etoposide and paclitaxel, etc. Our regular diet also contains many such anti cancer components like: Curcumin (turmeric), capsaicin (red chilli), diosgenin (fenugreek) catechins (green tea), from spices and resveratrol (red grapes, peanuts and berries), genistein (soybean), diallyl sulfide (allium), lycopene (tomato) and ellagic acid (pomegranate) from fruits and vegetables etc. There are various molecular targets present on/inside the cancer cells which have been found to be targeted by well known and well proven natural molecules cells for example, topoisomerases (targeted by Podophyllotoxins and Camptothecin), amino peptidase (targeted by Bestatin) and β -tubulin (targeted by Vinca Alkaloids) etc. This present compilation is reviewing few important anticancer herbs/molecules obtained from nature, analysing their importance in therapeutics of various types of cancer.

Biography

Rachana has completed his Post graduate from IIT Roorkee in 1998 and Doctorate from IIT Bombay in 2006. She is currently working as an Associate Professor at Department of Biotechnology; JIIT, India. She has more than 30 international and national research and review articles including two patents and 3 books to her credit. She has been actively writing in various national and international magazines such as *Ingredient South Asia* and *Chronicle Pharmabiz*. She is also a Member of various national committees like: IBS, MAPA, ACCP, IPA and many more.

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