

Editorial



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Natural Products and Dietary Prevention of Cancer

The concept of cancer prevention was first introduced in studies using the natural form of vitamin A in the prevention of epithelial cancers [1]. Since then, research on cancer prevention has grown and become a rather specialized field of study. Cancer is a multistage process, and takes several years for the invasive stage to be reached. There are therefore several stages, such as initiation, promotion, progression, where development of cancer can be prevented.

Cancer chemoprevention has been defined as the use of drugs, vitamins, or other agents to try to reduce the risk of, or delay the development or recurrence of, cancer [2]. Phytochemicals from food as well as medicinal plants are recognized as agents that play a role in cancer prevention [3]. An increasing number of studies demonstrate that many dietary agents and other pharmacologically active natural products intervene with cellular communications, induce apoptosis, suppress cancer cell proliferation, act as antioxidants, and inhibit various enzymes and expression of genes involved in the carcinogenesis process.

A few reviews and scientific compilations have appeared in the past few years covering the specific food groups that

have chemoprevention activity, reflective of the vast activity in this special field of cancer research. In this Special Issue of "Natural Products and Dietary Prevention of Cancer" recent reviews on selected natural products present in food, beverages and condiments, and their putative role in the prevention of various types of cancer are provided. The authors discuss translating laboratory studies with sulforaphane from broccoli into dietary cancer prevention trials; cancer preventive effects of apple juice, an update on the anticancer activities of cranberries; cancer prevention by dietary calcium and resveratrol; prevention of skin cancer by grape seed proanthocyanidins and pterostilbene from blueberries; cancer preventive and therapeutic effect of curcumin; and protection from oxidative damage by olive oil. This issue also incorporates research articles reporting on recent findings on mechanisms of action and molecular target sites of selected phytochemicals, including regulation of drug metabolizing enzymes by stilbenes, induction of cytoprotective proteins by natural products, or regulation of factors influencing the bioavailability of plant compounds.

"Preventive medicine" is gaining strength as an approach for preventing cancer and other diseases. Dietary constituents as well as natural products derived from non-food plants have been demonstrated to modulate common signaling pathways in cancer development. These naturally occurring compounds could become important agents in the prevention of various types of cancer.

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