

Preface

Cancer is one of the most life-threatening diseases and a major cause of death worldwide. Plants act as an important source of anti-cancer compounds. A renaissance of public interest in plant-based products due to lesser side effects and better compatibility has led to an increased demand for anti-cancer drugs obtained from plants. To meet the ever increasing demand, plants producing anti-cancer compounds are harvested from their natural sources, which direct to their extinction. Biotechnology offers a tool to produce compounds of interest without harvesting the plants from nature. Biotechnological advancements provide the opening to make use of cells, tissue or organs of economically important plants by growing them under aseptic conditions and to genetically manipulate them to obtain the desired compounds.

This book provides up-to-date information on anti-cancer drugs obtained from plants, their market demand, value as well as the role of biotechnology in the improvement of plant-based anti-cancer compounds. Chapters discuss the recent developments and techniques to obtain anti-cancer drugs from plants, in vitro protocols for optimized production of these compounds, their mode of action, and biosynthetic pathways. Experiences and views of researchers working in this area have been shared. Future strategies and goals to find out the ways to obtain the highly demanded anti-cancer compounds in an eco-friendly, economic, and efficient way are highlighted. This book will be valuable to researchers/teachers and students working in the area of plant tissue culture, natural products, phytochemistry, pharmaceutical sciences, medicines, and drug discovery.

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Compounds

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