
Herbal Medicine in Cancer Therapy: Phytochemical Insights, Mechanisms and Clinical Perspectives

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We sincerely express our gratitude to all authors, researchers and contributors for their valuable efforts in the successful completion of this book, *Herbal Medicine in Cancer Therapy: Phytochemical Insights, Mechanism and Clinical Perspective*.

We are especially thankful to **Desh Bhagat University, Mandi Gobindgarh, Punjab**, for providing continuous academic support, encouragement and a research-oriented environment throughout this work.

We also extend our heartfelt thanks to our colleagues, students, and family members for their constant motivation and support. We hope this book will serve as a useful resource for researchers, academicians, and healthcare professionals in the field of cancer therapeutics and herbal medicine.

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Preface

The growing global burden of cancer has intensified the search for safer, more effective, and targeted therapeutic approaches. *Herbal medicine in cancer therapy: Phytochemical Insights, Mechanism and Clinical Perspective* presents a comprehensive exploration of the role of medicinal plants and bioactive phytochemicals in cancer prevention and treatment. This book highlights the scientific advancements that have strengthened the integration of herbal medicine into modern oncology, emphasizing both traditional knowledge and contemporary biomedical research.

The volume covers a broad spectrum of topics related to phytochemicals and their anticancer potential, including flavonoids, alkaloids, terpenoids, polyphenols, and other naturally derived compounds. Detailed discussions focus on their molecular mechanisms of action, such as apoptosis induction, inhibition of angiogenesis, modulation of signaling pathways, immune regulation, oxidative stress reduction and suppression of tumor progression and metastasis. Special attention is given to the pharmacological activities, therapeutic targets and synergistic effects of herbal compounds in different cancer types.

In addition, the book examines recent advances in herbal drug delivery systems, nanotechnology-assisted phytomedicine, bioavailability enhancement strategies, and the integration of herbal therapeutics with conventional chemotherapy and immunotherapy. Clinical perspectives, safety considerations, regulatory challenges and evidence-based applications of herbal medicines are also critically discussed to bridge the gap between laboratory research and clinical translation.

This compilation is intended for researchers, academicians, healthcare professionals, pharmaceutical scientists, and students seeking an in-depth understanding of herbal medicine in oncology. By combining phytochemical insights, mechanistic understanding, and clinical relevance, the book aims to promote interdisciplinary research and inspire innovative therapeutic strategies for improved cancer management and patient care.

We sincerely acknowledge the valuable contributions of all authors and researchers whose expertise has enriched this volume. It is our hope that *Herbal medicine in cancer therapy: Phytochemical Insights, Mechanism and Clinical Perspective* will serve as a significant scientific resource and encourage future advancements in natural product-based cancer therapeutics.

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