

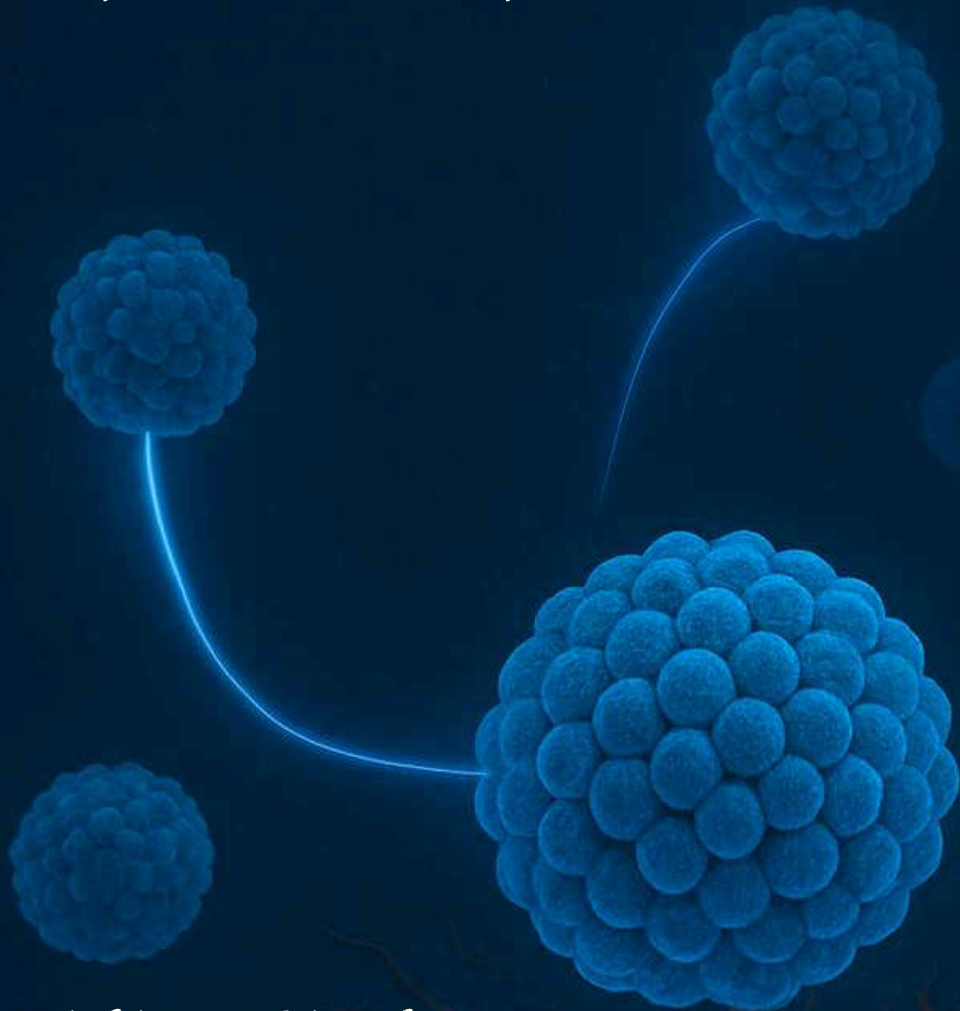
Advances in Flavonoid Nanoformulations for Cancer Treatment

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Preface

Cancer remains one of the most challenging global health concerns, with its complex pathology and resistance to conventional therapies necessitating the development of innovative treatment strategies. In recent years, nanotechnology has emerged as a transformative approach in oncology, offering targeted drug delivery, enhanced bioavailability, and reduced systemic toxicity. Among the various bioactive compounds explored for cancer treatment, flavonoids have gained significant attention due to their potent antioxidant, anti-inflammatory, and anticancer properties. However, their clinical translation has been hindered by poor solubility, stability, and bioavailability.

This book, *Advances in Flavonoid Nanoformulations for Cancer Treatment*, delves into the latest advancements in nanotechnology-based delivery systems designed to overcome these limitations and optimize flavonoid-based therapeutics. It provides an in-depth exploration of various nanoformulations, including liposomes, dendrimers, polymeric nanoparticles, solid lipid nanoparticles, highlighting their mechanisms, efficacy, and potential for clinical applications.

The chapters in this book have been meticulously curated to encompass fundamental concepts, recent research findings, and future perspectives in the field. We aim to bridge the gap between preclinical research and clinical application by discussing the challenges, regulatory aspects, and translational potential of flavonoid nanoformulations in cancer therapy.

This compilation is intended for researchers, academicians, healthcare professionals, and students engaged in pharmaceutical sciences, nanomedicine, and oncology. By fostering a deeper understanding of flavonoid-based nanoformulations, we hope to contribute to the ongoing pursuit of more effective and safer cancer treatments.

We extend our sincere gratitude towards Integral University for providing a research platform and all the necessary facilities for

conducting our studies. We also acknowledge the relentless efforts of scientists and clinicians worldwide who continue to advance the frontiers of cancer research.

We hope that this book will serve as a useful reference and inspire further innovation in the field of nanotechnology-driven cancer therapeutics.

Editors

Dr. Aditya Singh
Prof. (Dr.) Vaseem A. Ansari
Prof. (Dr.) Juber Akhtar
Mr. Shubhrat Maheshwari

Acknowledgement

The creation of this book, *Advances in Flavonoid Nanoformulations for Cancer Treatment*, has been a journey of collaboration, dedication, and unwavering support from numerous individuals and institutions.

First and foremost, we extend our profound gratitude to Integral University, Lucknow, India, for providing us with an intellectually stimulating environment and the necessary resources for our research. We are deeply thankful to the Faculty of Pharmacy for their continuous encouragement and support throughout this endeavor.

We owe a special debt of gratitude to the contributors of this book, whose expertise and dedication have shaped its comprehensive content. Their valuable insights and scholarly contributions have enriched this work, making it a significant resource for the scientific and academic community.

Our heartfelt thanks go to our families and loved ones, who have been our pillars of strength, offering their constant encouragement and patience as we navigated the challenges of this project. We also extend our sincere appreciation to our mentors, colleagues, and students, whose constructive feedback and inspiration have guided us along the way.

A special mention goes to the editorial and publishing team for their professionalism, meticulous efforts, and dedication in ensuring the highest standards of quality in this book.

Finally, we express our gratitude to the readers of this book. We hope this work serves as a valuable reference, inspiring students, researchers, and professionals to explore and innovate in the field of flavonoid nanoformulations for cancer treatment.

With sincere gratitude,

Dr. Aditya Singh, Prof. (Dr.) Vaseem A. Ansari, Prof. (Dr.) Juber Akhtar and Mr. Shubhrat Maheshwari

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