1. Record Nr. UNINA9910787265603321

Titolo	Enzymes . Volume thirty-six Natural products and cancer signaling : isoprenoids, polyphenols and flavonoids / / edited by S. Zahra Bathaie, Fuyuhiko Tamanoi ; contributors, Javad Alizadeh [and twenty-nine others]
Pubbl/distr/stampa	London, [England] : , : Academic Press, , 2014 ©2014
ISBN	0-12-802527-1 0-12-802215-9
Edizione	[First edition.]
Descrizione fisica	1 online resource (279 p.)
Collana	Enzymes ; ; Volume 36
Disciplina	616.994061
Soggetti	Cancer - Alternative treatment Cancer - Treatment
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and indexes.
Nota di contenuto	Front Cover; The Enzymes: Natural Products and Cancer Signaling: Isoprenoids, Polyphenols and Flavonoids; Copyright; Contents; Contributors; Preface; Chapter One: Introduction; References; Chapter Two: Perillyl Alcohol (Monoterpene Alcohol), Limonene; 1. Introduction; 2. Perillyl Alcohol; 2.1. Perillyl Alcohol Mechanism of Action in Cancer Therapy and Pharmacokinetics; 2.2. Perillyl Alcohol Biosafety and Adverse Effects in Clinical Application and Clinical Trials; 3. Limonene; 3.1. Limonene Pharmacokinetics; 3.2. Limonene Anticancer Activity and Clinical Trials 3.3. Limonene Mechanisms of Action, Targets, and Clinical Applications3.4. Limonene Biosafety and Adverse Effects; 4. Concluding Remarks; Acknowledgment; References; Chapter Three: Ganoderic Acid and Lucidenic Acid (Triterpenoid); 1. Introduction; 2. Lucidenic Acids and Ganoderic Acids from Ganoderma Species; 2.1. The Sources of Lucidenic Acids and Ganoderic Acids; 2.2. The Biosynthesis of Ganoderic Acids; 2.3. Optimization of the Fermentation Process; 3. Biological Functions of Lucidenic Acids and Ganoderic Acids; 3.1. Cytotoxic and Apoptotic Effects; 3.2. Cell Cycle Arrest

3.3. Anti-invasive Effect3.4. Autophagy; 3.5. Anti-inflammatory Effect; 3.6. Antiosteoclastogenesis; 3.7. Antiasthma; 3.8. Antihepatitis B Activity; 4. Pharmacokinetics of Ganoderic Acids; 5. Conclusion; References; Chapter Four: Anticancer Effect and Molecular Targets of Saffron Carotenoids; 1. Introduction; 2. Anticancer Effect of Saffron and Its Carotenoids; 3. Comparing the Efficacy of Crocetin, Crocin, and Other Components; 4. Liposome Formulation of Saffron Compounds; 5. Effect of Crocetin and Crocin on Macromolecule Synthesis and Structure 5.1. Effect on DNA, RNA, and Protein Synthesis5.2. Protein Binding; 6. Effects on Cell Cycle, Apoptosis, and Signaling Pathways; 7. Role of Saffron Components on Chemoprevention; 8. Molecular Mechanisms Involved in the Protective Effect of Saffron Components against Various Damages in Different Tissues; 9. Antioxidant and Anti-inflammatory Effects of Saffron; 10. Safety; 11. Other Mechanisms; 12. Conclusions; References; Chapter Five: Zerumbone from Ginger (Monoterpenoid); 1. Introduction; 2. Characteristic Feature; 3. Target Pathways by Zerumbone; 3.1. Survival; 3.1.1. Caspase Family
3.1.2. Bcl Family3.1.3. c-FLIP; 3.1.4. G2/M Cell Cycle; 3.2. Proliferation; 3.2.1. Cyclin B1/CDK1; 3.2.2. Tumor Necrosis Factor; 3.3. Invasion; 3.4. Angiogenesis; 4. Nuclear Factor-Kappa B; 5. Future Perspectives; References; Chapter Six: Research Progress on Natural Triterpenoid Saponins in the Chemoprevention and Chemotherapy of Cancer; 1. Introduction; 2. Triterpenoid Saponins in the Prevention and Therapy of Cancers; 3. Anticancer Properties and Molecular Mechanisms of Triterpenoid Saponins; 3.1. Inhibition of Proliferation; 3.2. Induction of Apoptosis and Autophagy; 3.2.1. Apoptosis
3.2.2. Autophagy

Sommario/riassunto

Natural compounds from a variety of natural resources including plants have emerged as important source of anticancer drug development. This special issue will highlight the significant advance in elucidating mechanisms of action of these natural compounds, focusing especially on isoprenoids and polyphenols/flavonoids.

 Key features: * Contributions from leading authorities * Informs and updates on all the latest developments in the field