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Nota di contenuto	Marine Microbiology: Bioactive Compounds and Biotechnological Applications Compounds and ogical; Contents; Preface; Biography; List of Contributors; 1 Introduction to Marine Actinobacteria; 1.1 Introduction; 1.2 Actinobacteria; 1.3 Origin and Distribution of Marine Actinobacteria; 1.4 Isolation and Identification of Marine Actinobacteria; 1.5 Indigenous Marine Actinobacteria; 1.6 Role of Actinobacteria in the Marine Environment; 1.7 Importance of Marine Actinobacteria; 1.7.1 Antibiotics; 1.7.2 Melanins; 1.7.3 Enzymes; 1.7.3.1 -Amylase; 1.7.3.2 Proteases; 1.7.3.3 Cellulases; 1.7.3.4 Chitinase 1.7.3.5 Keratinase1.7.3.6 Xylanases; 1.7.4 Enzyme Inhibitors; 1.7.5 Anticancer Compounds; 1.8 Symbioses; 1.9 Bioinformatics; 1.10 Conclusions; References; 2 Treasure Hunting for Useful Microorganisms in the Marine Environment; 2.1 Introduction; 2.2 Microorganisms Living in the Marine Environment; 2.2.1 Protease Inhibitor Produced by Marine Bacterium; 2.2.2 Chitinase Inhibitor Produced by Marine Bacterium; 2.2.3 Antibiotics Produced by Marine Bacteria; 2.2.4 Antibiotics Produced by Marine Actinomycetes; 2.2.5 Antibiotic Produced by

Marine Fungi

2.2.6 Tyrosinase Inhibitor Produced by Marine Fungi

2.3 Microorganisms Living in Deep Sea Water; 2.3.1 Isolation and Incubation of Lactic Acid Bacteria from Deep Sea Water; References; 3 Strategy of Marine Viruses in Global Ecosystem; 3.1 Introduction; 3.2 Reproductive Strategies of Viruses; 3.2.1 Lytic Infection; 3.2.2 Chronic Infection; 3.2.3 Lysogeny Infection; 3.3 Abundance of Marine Viruses; 3.4 Viral Activities in Ecosystems; 3.4.1 Diversity Regulation; 3.4.2 Rate of Resistance; 3.4.3 Lysogeny; 3.4.4 The Exchange of Genetic Material; 3.5 Recent Advancement of Viruses versus Diseases

3.6 The Effect of Ocean Acidification on Marine Viruses

3.7 Further Aspects; Acknowledgments; References; 4 Taxonomic Study of Antibiotic-Producing Marine Actinobacteria; 4.1 Introduction; 4.2 Materials and Methods; 4.2.1 Study Area and Sampling; 4.2.2 Isolation of Actinomycetes; 4.2.3 Screening for Antimicrobial Activity; 4.2.4 Identification and Systematics; 4.2.4.1 Phenotypic Characterization; 4.2.4.2 Physiological and Biochemical Characterization; 4.2.4.3 Chemotaxonomical Characterization; 4.3 Result; 4.4 Discussion; 4.5 Conclusion; Acknowledgments; References

5 Marine Cyanobacteria: A Prolific Source of Bioactive Natural Products as Drug Leads

5.1 Introduction; 5.2 Bioactive Secondary Metabolites from Marine Cyanobacteria; 5.2.1 Anticancer Agents; 5.2.1.1 Microtubule-Interfering Compounds; 5.2.1.2 Actin-Stabilizing Agents; 5.2.1.3 Histone Deacetylase Inhibitors; 5.2.1.4 p53/MDM2 Inhibitor; 5.2.1.5 Proteasome Inhibitors; 5.2.1.6 Protease Inhibitors; 5.2.1.7 Apoptosis-Inducing Agents; 5.2.1.8 Other Potent Cytotoxic Compounds; 5.2.2 Neuromodulating Agents; 5.2.3 Modulators of the Voltage-Gated Sodium Channels and Calcium Oscillation; 5.2.4 Cannabinomimetic Agents

Sommario/riassunto

Deliberately breaking with the classical biology-centered description of marine organisms and their products, this reference emphasizes microbial technology over basic biology, setting it apart from its predecessors. As such, it systematically covers the technology behind high-value compounds for use as pharmaceuticals, nutraceuticals or cosmetics, from prospecting to production issues. Following a definition of the field, the book goes on to address all industrially important aspects of marine microbial biotechnology. The first main part contains a description of the major production organ
