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Trials; 2.3.1 Ecteinascidin-743 (Yondelis, Trabectedin); 2.3.2 7-Hydroxystaurosporine (UCN-01); 2.3.3 Ellipticine and Analogs; 2.3.4 Acronycine and Analogs; 2.3.5 Colchicine and Analogs; 2.3.6 Ukrain; 2.4 Alkaloids Used for MDR Reversal; 2.4.1 Cinchona Alkaloids; 2.4.2 Dofequidar Fumarate (MS-209); 2.5 Alkaloids Used for Cancer Prevention; 2.6 Conclusions; 2.7 Acknowledgments; 3 Alkaloids and the Bitter Taste; 3.1 Introduction; 3.2 The Bitter Taste Chemoreception Mechanism; 3.3 Bitter Alkaloids in Food; 3.4 The Bitter Taste of Alkaloids in Other Drugs and Poisons; 3.5 Alkaloids and Taste in Insects; 3.6 The Bitter Taste of Alkaloids: Should We Avoid, Mask, or Understand?; 3.7 Acknowledgments; 4 Capsaicin and Capsaicinoids; 4.1 Introduction; 4.2 What Is an Alkaloid? Is Capsaicin an Alkaloid?; 4.3 Diversity, Biosynthesis, and Metabolism of Capsaicinoids; 4.4 Quantization of Capsaicinoids and Their Distribution in Chili Pepper; 4.5 Isolation and Synthesis of Capsaicin; 4.6 TRV1 as the Biological Target of Capsaicin and the Ecological Raison d'être of Capsaicinoids: A Molecular View; 4.7 Naturally Occurring Analogs and Antagonists of Capsaicin and Endogenous Vanilloids; 4.8 Structure-Activity Relationships of Capsaicinoids; 4.9 Molecular Gastronomy of Hot Food; 4.9.1 Biomedical Relevance of Capsaicin-Induced Trigeminal Responses; 4.9.2 Effect of Capsaicin on Taste; 4.9.3 Gustatory Sweating; 4.9.4 Gustatory Rhinitis; 4.9.5 Hot Food Mitridatism; 4.9.6 Effect of Capsaicin on Digestion; 4.9.7 Capsaicin and Stomach Cancer; 4.9.8 The Effect of Age and Sex on the Sensitivity to Capsaicin; 4.9.9 Capsaicin as a Slimming Agent; 4.9.10 Quenching Capsaicin; 4.9.11 Chilies and Olive Oil; 4.9.12 Who Should Avoid Chilies?; 4.9.13 How can the Pungency of Chilies be Moderated?; 4.9.14 Psychology of Pepper Consumption; 4.10 Conclusions; 4.11 Acknowledgments; 5 Glycosidase-Inhibiting Alkaloids: Isolation, Structure, and Application; 5.1 Introduction

## Sommario/riassunto

This book presents all important aspects of modern alkaloid chemistry, making it the only work of its kind to offer up-to-date and comprehensive coverage. While the first part concentrates on the structure and biology of bioactive alkaloids, the second one analyzes new trends in alkaloid isolation and structure elucidation, as well as in alkaloid synthesis and biosynthesis. A must for biochemists, organic, natural products, and medicinal chemists, as well as pharmacologists, pharmacutists, and those working in the pharmaceutical industry.