



NATURAL PRODUCTS

Essential Resources for Human Survival

Yi-Zhun Zhu • Benny K-H Tan
Boon-Huat Bay • Chang-Hong Liu

editors

Contents

Foreword

Note from the Editors

Phytonutrients - The Natural Drugs of the Future 1

Tracy Gibbs

Research on the Supercritical CO₂ Extraction of Xinyang

MaoJian Tea 27

*Liu Zhongdong, Yang Jing, Liu Peng, Chen Zhaotan and
Meng Qinghua*

Applications of RNAi Technology 35

Daina Lim, George W Yip and Boon-Huat Bay

Enhancing Bioactive Molecules in Medicinal Plants 45

M Z Abdin

Biotransformation of Taxanes from Cell Cultures of *Taxus* sp 58

Jungui Dai, Dean Guo, Masayoshi Ando and Lin Yang

Biotransformation of Terpenes and Steroids by Fungi 71

Paul B Reese

Rapid Analysis of Triterpenoid Saponins in Plant Extract Using

ESI-MSⁿ and LC-MSⁿ 77

Bin Li, Zeper Abliz, Meijun Tang, Guangmiao Fu and Shishan Yu

HPLC-MS Analysis of Phenolic Constituents of *Phyllanthus*

Amarus 81

Guangying Chen, Guoyuan Zhu, Guoying Li and Wangfun Fong

Structure Elucidation of Norditerpene Alkaloids from

Ranunculaceae Species 85

Peter Forgo, Katalin E Kövér and Judit Hohmann

Quantitative Detection of Isoflavones in the Extract of

Red Clover by HPLC/ESI-MS 101

Zhang Guifeng, Liu Tao and Su Zhiguo

| | |
|---|-----|
| Measurement of Bioactive Constituents in Traditional Chinese Medicines by CE with Electrochemical Detection | 109 |
| <i>Gang Chen and Xiaohong Chen</i> | |
| Chemical Constituents of <i>Aegiceras corniculatum</i> | 127 |
| <i>Zhang Daojing, Zhang Si, Wu Jun and Yang Jin</i> | |
| Norditerpenoids from the Soft Coral <i>Nephthea chabroli</i> | 134 |
| <i>Wei-Han Zhang, Kevin Pan and Chun-Tao Che</i> | |
| The Metabolites of the Mangrove Fungus <i>Xylaria</i> sp (2508) | 142 |
| <i>Zhi-gang She, Yong-cheng Lin, Zhi-yong Guo, Xiong-yu Wu and Yan Huang</i> | |
| Phytochemical Evaluation of Polyherbal Formulations Using HPTLC | 149 |
| <i>Milind S Bagul and M Rajani</i> | |
| Application of Chromatographic Fingerprint to Quality Control for <i>Clematis chinensis</i> | 177 |
| <i>Zhi Zeng and Jiuwei Teng</i> | |
| The Bioactive Pigments from Marine Bacteria <i>Pseudomonas</i> sp | 188 |
| <i>Hou-Jin Li, Wen-Jian Lan, Chuang-Hua Cai, Yi-Pin Zhou and Yong-Cheng Lin</i> | |
| Bioactive Natural Products from Marine Sponges | 195 |
| <i>Shixiang Bao, Biwen Wu and Huiqin Huang</i> | |
| Anti-Inflammatory and Neurotrophic Alkaloids from Higher Plants and Fungi | 206 |
| <i>Matthias Hamburger</i> | |
| Effects of Bovine Kidney Heparan Sulphate and Shark Cartilage Chondroitin-6-Sulphate on Palatal Fibroblast Activities | 223 |
| <i>George W Yip, Xiao-Hui Zou, Weng-Chiong Foong, Tong Cao, Boon-Huat Bay and Hong-Wei Ouyang</i> | |
| Inhibition of Aflatoxin Biosynthesis in <i>Aspergillus Flavus</i> by Phenolic Natural Products | 231 |
| <i>Russell J Molyneux, Noreen Mahoney, Jong H Kim and Bruce C Campbell</i> | |

| | |
|---|-----|
| Effects of the Cultured <i>Cordyceps</i> Exopolysaccharide Fraction (Epsf) on Some Parameters of Mouse Immune Function <i>In Vivo</i> and <i>In Vitro</i> | 252 |
| Wei-yun Zhang, Jin-yu Yang, Jia-ping Chen, Pei-hua Shi and Li-jun Ling | |
| <i>Lactobacillus rhamnosus</i> Induces Differential Anti-proliferative Responses and Interleukin-6 Expression Levels in SV-40 and Malignant Uroepithelial Cells | 259 |
| Ying-Jing Yong, Ratha Mahendran, Yuan-Kun Lee and Boon-Huat Bay | |
| Cruciferous Vegetables and Chemoprotection – A Role of ITC-Mediated Apoptosis | 267 |
| Peter Rose | |
| Tanshinone I and Tanshinone IIA from <i>Salvia Miltiorrhiza</i> Inhibit Growth of K1735M2 Murine Melanoma Cells via Different Pathways | 285 |
| Zhenlong Wu, Ying Yang, Ruolin Yang, Guoliang Xia, Liping Xie and Rongqing Zhang | |
| New Pesticidal Compounds from Limonoids | 296 |
| Trevor H Yee | |
| Insecticidal Properties of <i>Anacardium Occidentale</i> L. | 312 |
| Shamima A Parveen, Masaru Hashimoto, Nurul Islam, Toshikatsu Okuno and M Khalequzzaman | |
| Antibacterial Effect of Extracts from Persimmon Leaves | 324 |
| Li-Lian Ji, Qiang-Hua Zhang, Xu Gu and Meng Wang | |
| Protective Effect of Crocin on Rat Heart Ischemia-Reperfusion Injury: Possible Mechanisms | 335 |
| Guang-Lin Xu and Zhu-Nan Gong | |
| Protective Effects of <i>Herba Leonuri</i> in Ischemic Models | 347 |
| Xian Hu, Jian Chun Mao, Shan Hong Huang, Jian Sun, Ya Jun Wu, Wei Duan, Todd On and Yi Zhun Zhu | |

| | |
|---|-----|
| The Prophylactic Effects of Chinese Herbal Extract, ‘Braintone®’, on Stroked Wistar Rats | 365 |
| <i>Lishan Low, Wanhai Wong, Wei Duan, Shufeng Zhou, Vincent Chou and Yi Zhun Zhu</i> | |
| Therapeutic Applications of Ceylon Tea: Potential and Trends | 377 |
| <i>Tissa Amarakoon, Shang Hong Huang and Ranil De Silva</i> | |
| Effects of Green and Black Tea on Glucose Tolerance, Serum Insulin and Antioxidant Enzyme Levels in Streptozotocin- Induced Diabetes Rats | 418 |
| <i>Chua Yong Ruan Ray, Hsu A and Tan K H Benny</i> | |
| <i>St John’s Wort: A Precious Gift from the Saints?</i> | 428 |
| <i>Ying-Hui Li, Hongyan Du, Boon-Huat Bay and Malini Olivo</i> | |
| From Medicine Man to Market: A Look at Natural Products and the Pharmaceutical Industries | 439 |
| <i>Ronald E Young and Anthony Clayton</i> | |
| Index of Contributors | 452 |