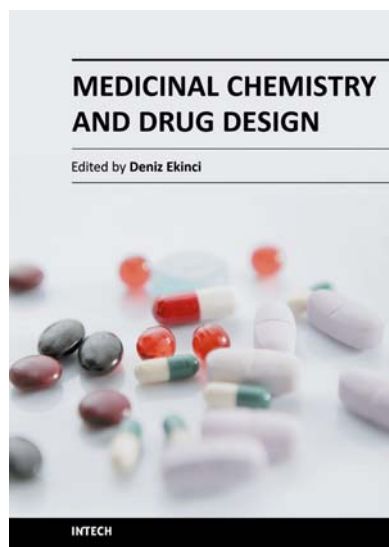


DENIZ EKINCI (EDITOR) MEDICINAL CHEMISTRY AND DRUG DESIGN



InTech
ISBN 978-953-51-0513-8
Hard cover
406 pages
May 2012

Over the recent years, medicinal chemistry has become responsible for explaining interactions of chemical molecules processes such that many scientists in the life sciences from agronomy to medicine are engaged in medicinal research. This book contains an overview focusing on the research area of enzyme inhibitors, molecular aspects of drug metabolism, organic synthesis, prodrug synthesis, in silico studies and chemical compounds used in relevant approaches. The book deals with basic issues and some of the recent developments in medicinal chemistry and drug design. Particular emphasis is devoted to both theoretical and experimental aspect of modern drug design. The primary target audience for the book includes students, researchers, biologists, chemists, chemical engineers and professionals who are interested in associated areas. The textbook is written by international scientists with expertise in chemistry, protein biochemistry, enzymology, molecular biology and genetics many of which are active in biochemical and biomedical research. We hope that the textbook will enhance the knowledge of scientists in the complexities of some medicinal approaches; it will stimulate both professionals and students to dedicate part of their future research in understanding relevant mechanisms and applications of medicinal chemistry and drug design.

Open access book www.intechopen.com

Table of Contents

Preface	ix
Chapter 1 Kojic Acid Derivatives <i>Mutlu D. Aytemir and G. Karakaya</i>	1
Chapter 2 Analysis of Protein Interaction Networks to Prioritize Drug Targets of Neglected-Diseases Pathogens <i>Aldo Segura-Cabrera, Carlos A. García-Pérez, Mario A. Rodríguez-Pérez, Xianwu Guo, Gildardo Rivera and Virgilio Bocanegra-García</i>	27
Chapter 3 Recent Applications of Quantitative Structure-Activity Relationships in Drug Design <i>Omar Deeb</i>	55
Chapter 4 Atherosclerosis and Antihyperlipidemic Agents <i>Laila Mahmoud Mohamed Gad</i>	83
Chapter 5 Inhibitors of Serine Proteinase – Application in Agriculture and Medicine <i>Rinat Islamov, Tatyana Kustova and Alexander Ilin</i>	103
Chapter 6 Pyrrolbenzodiazepines as Sequence Selective DNA Binding Agents <i>Ahmed Kamal, M. Kashi Reddy, Ajay Kumar Srivastava and Y. V. V. Srikanth</i>	119

Chapter 7 Regulation of EC-SOD in Hypoxic Adipocytes <i>Tetsuro Kamiya, Hirokazu Hara, Naoki Inagaki and Tetsuo Adachi</i>	143
Chapter 8 Development of an Ultrasensitive CRP Latex Agglutination Reagent by Using Amino Acid Spacers <i>Tomoe Komoriya, Kazuaki Yoshimune, Masahiro Ogawa, Mitsuhiko Moriyama and Hideki Kohno</i>	159
Chapter 9 Pattern Recognition Receptors Based Immune Adjuvants: Their Role and Importance in Vaccine Design <i>Halmuthur M. Sampath Kumar, Irfan Hyder and Parvinder Pal Singh</i>	177
Chapter 10 Microarray Analysis in Drug Discovery and Biomarker Identification <i>Yushi Liu and Joseph S. Verducci</i>	203
Chapter 11 Supraventricular Tachycardia Due to Dopamine Infused Through Epidural Catheter Accidentally (A Case Report and Review) <i>Demet Coskun and Ahmet Mahli</i>	227
Chapter 12 Effective Kinetic Methods and Tools in Investigating the Mechanism of Action of Specific Hydrolases <i>Emmanuel M. Papamichael, Panagiota-Yiolanda Stergiou, Athanasios Foukis, Marina Kokkinou and Leonidas G. Theodorou</i>	235
Chapter 13 Aluminium – Non-Essential Activator of Pepsin: Kinetics and Thermodynamics <i>Vesna Pavelkic, Tanja Brdaric and Kristina Gopcevic</i>	275
Chapter 14 Peptides and Peptidomimetics in Medicinal Chemistry <i>Paolo Ruzza</i>	297
Chapter 15 Carbonic Anhydrase Inhibitors and Activators: Small Organic Molecules as Drugs and Prodrugs <i>Murat Şentürk, Hüseyin Çavdar, Oktay Talaz and Claudiu T. Supuran</i>	315
Chapter 16 Stochastic Simulation for Biochemical Reaction Networks in Infectious Disease <i>Shailza Singh and Sonali Shinde</i>	329
Chapter 17 Alternative Perspectives of Enzyme Kinetic Modeling <i>Ryan Walsh</i>	357
Chapter 18 Molecular Modeling and Simulation of Membrane Transport Proteins <i>Andreas Jurik, Freya Klepsch and Barbara Zdrzil</i>	373