

infection. Perhaps inverse agonists of chemokine receptors can eventually be employed as anti-viral drugs.

Everyone will be able to find their own favorite sections in this book. I especially appreciate the efforts made by the editors to include a chapter on linking constitutive GPCR activity to cell physiology and pathophysiology (Chapter 7). For those who are intrigued by the concept of inverse agonism, Chapter 7 provides convincing evidence that constitutive activity may play a special role in regulating our physiology, and that there is indeed therapeutic potential in the development of inverse agonists. Though not a novice in inverse agonism myself, I am indebted to the authors for introducing me to the wide variety of GPCRs that exhibit constitutive activity. The alarmingly large number of constitutively active GPCRs has profoundly changed my own thoughts on the biological significance of the various conformations of the GPCR. Overall, I find "G Protein-Coupled Receptors as Drug Targets" to be extremely informative and generally easy to read and understand. It is an important reference book for researchers (medicinal chemists, physiologists, and pharmacologists) working on the most favorite group of drug targets—the GPCRs.

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DNA Methylation: Approaches, Methods and Applications

Edited by Manel Esteller.

CRC Press, Boca Raton 2005. 240 pp., hardcover \$ 149.00.—ISBN 0-8493-2050-X

The field of epigenetics and, more particularly DNA methylation, is constantly expanding, and most scientific disciplines are now concerned. The book *DNA Methylation: Approaches, Methods and Applications* presents an extensive overview of the role of DNA methylation in

human physiology (genomic imprinting and X inactivation) and pathology (mostly cancer). It highlights the link between the biological role of DNA methylation in gene regulation and the pathogenesis of cancer. A few articles outline that a comprehensive analysis of epigenomes represents the next stage of biomarkers for detection and prognostic evaluation of cancer with subsequent outcomes in terms of treatment by demethylating agents, drugs acting on histone modification and possibly RNA interference against DNA methyltransferases.

The articles dedicated to the techniques of analysis of DNA methylation have been written by leaders in the field. They discuss the current approaches and protocols used to study DNA methylation and also other epigenetic modifications. The techniques are well described in terms of applications and protocols, and the benefits and caveats of each technique are particularly well addressed.

However, I think that the phenomenon of genomic imprinting deserved a full chapter (extension to other imprinting disorders, more illustrations, etc.) and also an emphasis of the imprinting risk of assisted reproductive technology.

It would have probably been easier for the reader to have the techniques of analysis of DNA methylation after bisulfite treatment (treated in two different chapters in the book) developed in only one chapter. The two chapters dedicated to the use of DNA demethylating agents are also sometimes redundant.

In conclusion, this book is interesting for both researchers and clinicians. It is an excellent summary of the subject for scientists starting in the field of epigenetics and it is also a reference book for professionals already familiar with the subject.

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Metal-based Neurodegeneration: From Molecular Mechanisms to Therapeutic Strategies

By Robert R. Crichton and
Roberta J. Ward.

Wiley, Chichester 2006. X+227 pp., hardcover £ 75.00.—ISBN 0-470-02255-8

Advances in health and medical treatments have resulted in dramatically increased life spans. However a consequence of this is that age-related neurodegenerative diseases such as Alzheimer's

disease (AD) have become more prevalent. The escalating adverse social and economic costs associated with the increasing prevalence of these debilitating diseases means that effective therapeutic strategies are urgently required. Efficient design of therapeutic strategies requires intimate knowledge of the molecular pathways underlying these diseases.

Elucidating these molecular pathways is a very active area of research, and many different hypotheses have been put forward, among them metal-mediated oxidative stress. This book by Crichton and Ward gives an overview of the neurodegenerative diseases and how metal-mediated oxidative stress contributes to disease pathology. This book is extremely ambitious in scope as it not only attempts to cover the chemistry underpinning metal-mediated oxidative stress but also summarises what is known about a wide range of neurodegenerative diseases and the therapeutic strategies targeting them.

The first two chapters of the book deal with the chemistry and biochemistry of metal ions. In many ways these first two chapters are the most important and the best of the book as they deal with such fundamental processes as how metal ions are stored and transported. The links between tight regulation of metal homeostasis and the downstream consequences this has for induction of

