Book Reviews

G-Protein Coupled Receptors in Drug Discovery. Edited by Kenneth H. Lundstrom and Mark L. Chiu. CRC Taylor and Francis Group: London. 2005. 362 pp. £79−99/$139.95. ISBN 0-8247-2573-5.

This book is laid out in 16 self-contained chapters contributed from 27 authors from Industry and Academia. The chapters each have a useful, succinct abstract and are ordered in a logical progression enabling the reader to cherry pick.

The book is thorough in its breadth and depth. It embraces the background to GPCRs, their relevance to drug discovery (neatly divided into CV, cancer, metabolic diseases, and CNS target families) as well as assay methodologies. In addition, it covers structural considerations, the topical issues of genomics and orphan receptors, and the emerging field of receptor dimerisation. The book is outstandingly clear and informative. Chapter 2 provides one of the best explanations of GPCR activation and desensitization I have come across and has a particularly useful and instructive section on GPCR trafficking. The thorough and comprehensive coverage of target families (Chapters 3−7) should appeal to medicinal chemists. These chapters link relevant GPCRs to the onset and progression of various disease states and are studded with lists of drug molecules and their chemical structures. The information on receptor classification is up to date, and Chapter 5 has an informative section on sections on frizzled/smoothened families of GPCRs. Thought-provoking considerations on the differences between GPCRs and 7TMs are made by various authors. The charts are particularly useful, outstanding in clarity, simplicity, and visual impact and value, notably the reference chart of functional GPCR assays in HTS (Chapter 9), which remains surprisingly clear despite its high information content. The chronological charts on orphan receptor characterisation in Chapter 16 provide an engaging overview of the literature.

One of the most appealing features of the book is the authors' generosity in providing inside knowledge as evidenced by the number of "at a glance" decision charts such as the survey of GPCR expression systems in Chapter 8 or the numerous tips on receptor crystallisation in Chapter 12. This generous feature is observed throughout the book.

Aside from some slight repetitions in the Introduction paragraphs, which are to be expected from such a large number of contributors, this book is highly recommended. It is clear enough to appeal to anyone wanting to learn about GPCRs yet sufficiently comprehensive and up to date to appeal to experts wishing to have a current update on this important field. The thematic target-families section is valuable to medicinal chemists, and the practical tips throughout the book should be useful to laboratory-based scientists.

Corinne Kay

Med-Simple, The Lodge, 8, Hillside Farm, Dunblane FK15 9NT, Scotland

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