miniature reaction capsules are electronically coded with a solid-state radio-frequency tag, which is electronically read after each of a sequence of split-and-recombine synthetic steps to maintain a reaction histogram. Combinatorial libraries are characterized using a proprietary automated mass spectroscopy system to produce spectra for all compounds.

Discussion group

The drug discovery discussion group, chaired by Dr D. France (Sandoz, E. Hannover, NJ, USA), was well attended. The seemingly eternal debate regarding the future of the 96-well plate as the standard format for HTS resurfaced. Although it was felt that the 96-well format would continue to hold off the challenge from 384-well or other formats for some time, the big leap may come with a transition to unformatted 'plates' – perhaps even incorporating ink-jet technologies. In discussing detection technologies, some panel members felt that the scintillation proximity assay had not lived up to expectations and can yield unacceptably high 'hit' rates, although this experience was far from universal among the attendees. Interest was expressed in non-radioactive assays, such as dye-based systems, as promising future options.

Discussions on data handling and cell-based assays followed, and there was a final discussion on the manufacture of the 96-well plate because variable footprints remain a problem. The Society for Biomolecular Screening is attempting to resolve this through the development of new standards.

ISLAR '96

ISLAR is greeted with increasing enthusiasm each year, and the ongoing rapid technological advances and the importance for companies to adopt the correct strategies, both in terms of the cost and the success of discovery programs, will ensure that this continues. ISLAR '96 will take place in Boston on 20–23 October; full details are available from Christine O'Neil, Zymark Corporation, Zymark Center, Hopkinton, MA 10748, USA. tel: +1 508 435 9500 (ext 2224), fax: +1 508 435 3439.

David Hughes

G protein-coupled receptors by Tiina P. Iismaa, Trevor J. Biden and John Shine, Springer-Verlag 1995. £67.00 (181 pages; hard cover). ISBN 1 57059 058 3

This book describes in five chapters many different aspects of this superfamily of membrane proteins, which encompasses hundreds of receptors for many chemical messengers. G protein-coupled receptors are structurally and functionally characterized and compared to other cell-surface receptors. Three subfamilies are distinguished, and the most successful techniques that have been used to determine the sequences of new members are shown. Special attention is given to the gene structure, the phylogenetic tree and the chromosomal localization of the receptors.

In the second chapter, *Signalling through G protein-coupled receptors*, the biochemical cycle and mammalian G-protein subunits and subtypes are characterized. Effector systems are described and correlated with the G protein α-subtypes, as are receptor regulation, desensitization, specificity of effector systems and receptor cross-talk. The structural determinants of receptor function, including ligand binding and signal transduction, are the main topics of the third chapter. The theories of the binding of agonists and antagonists are discussed on a molecular level according to the different subtype of receptor families. The role of post-translational modification and the mechanism of G-protein coupling, receptor sequestration and downregulation are explained.

Pathology and therapeutic strategies of G protein-coupled receptors are important topics addressed in the penultimate chapter. Some known receptor mutations of G protein-coupled receptors are summarized, and systems that are known to be involved in diseases but have not yet been characterized on a molecular level are presented. Receptor subtype-specific agents and novel therapeutic strategies are also included. In the final chapter, prospects for this protein family are discussed.

The book provides an excellent overview of this very important topic. Modern techniques and very recent results are included, and the reference sections of each chapter include full titles and relate to very recent work. The figures, some in colour, are very helpful to the reader.

A section is included in which the authors explore some questions and topics of current debate and research, such as the physiological significance of subtypes and diversification and integration of signalling pathways. Hence, the book summarizes recent research results and offers perspectives on future directions within the field.

The book is recommended not only to senior students and research fellows of biochemistry, medicine, pharmacy and pharmacology, but also to senior researchers from related fields who need to keep up to date with the projects of their colleagues or collaborators.

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