

Purinergic Receptors: Volume 12, Series B: Receptors and Recognition

G. BURNSTOCK (Editor)

Chapman and Hall Ltd., London, 1981, pp. 365, £25.00

The *Receptors and Recognition* series has already established itself as an invaluable key to the recent literature of receptors of several kinds. These include neurotransmitter and hormone receptors and their mechanisms, as well as several related biological themes, such as membrane organisation and the function of intracellular filaments. This present volume concentrates on a topic of recent and growing interest in the field of neurotransmission, namely the question of a transmitter or neuromodulator role for purines in the nervous system.

Professor Burnstock, the editor, has himself contributed several salient papers to this story. The nine reviews which comprise the book are all by other leading researchers in the field, and together they span most of the experimental systems in which purinergic receptors have been observed. Thus G. Burnstock and C. M. Brown provide an excellent entrée with a

review of current concepts and evidence of adenosine, ATP and other purine receptors, their properties and classification, as well as their theoretical function.

The eight other chapters discuss purinergic neurotransmission in visceral smooth muscle, blood vessels, heart, blood platelets and brain and their possible links with other systems such as prostaglandins and cyclic-nucleotide second messengers. The emphasis is on the likely presynaptic modulation of neurotransmitter release exerted by this system.

Throughout the reviews concentrate on detection of purinergic receptors by their biological actions rather than through ligand-binding studies, though one chapter is devoted to techniques for their photo-affinity labelling. These are all scholarly accounts of each of the authors' researches set against the backcloth of other published work, and together provide an excellent key to the current concepts and literature of the subject.

H. F. BRADFORD

Towards Understanding Receptors: Current Reviews in Biomedicine. Volume 1

J. W. LAMBLE (Editor)

Elsevier/North-Holland, Amsterdam, 1981, pp. 233, £7.00

This book is a compilation of articles from *Trends in Pharmacological Sciences* and *Trends in Biomedical Sciences*. There is some attempt at grouping related articles so that, although no formal divisions of the contents list are made, one can readily identify an introductory block followed by adrenergic receptors, amines, peptides, GABA and 'others'. The reviews were not written as contributions to a single multi-author text, and although they conform to the general house style of the *Trends* series, there is a lack of the uniformity that one expects from a properly edited multi-author book.

Both the Editor and G. A. Robison in his excellent Foreword remark on the readability of the text. I certainly agree with them

on this point; the papers without exception are written in the rather informal style of *Trends* that I think students particularly like.

Quite what the book offers that is not available already in the form of the relevant *Trends* volumes is not at all clear. I suppose it is more convenient to have the articles grouped together and it seems to me that this is the only possible justification for publishing the volume at all. The response of my own graduate students has been one of disappointment. A glance at the title and a quick look through Robison's Foreword leaves the reader eagerly anticipating something rather special. It is then particularly disappointing when you realise that you have in fact read it all before. I'm afraid, therefore, that my own response to the series will be to forget about it and to continue to read and to enjoy *Trends*.

G. G. LUNT

Membrane Receptors: Methods of Purification and Characterization in Receptors and Recognition, Series B. Volume II

S. JACOBS and P. CUATRECASAS (Editors)

Chapman and Hall Ltd., London, 1981, pp. 240, £20.50

This book is one of the latest in the successful *Receptors and Recognition* series which started in 1976. This series has two parallel sets of volumes. The A series that is aimed at a more general readership and the B series that caters for the more specialized requirements of workers in a particular research area. The present volume lives up to the good reputation enjoyed by the series as a whole.

The book presents eight articles that cover aspects of receptor purification and characterization. The contributions are not intended as detailed laboratory manuals and readers will not find comprehensive accounts of purification methods that they can immediately apply to their particular receptor. Rather the book attempts to outline some of the basic strategies that have been employed in receptor research, to comment on the particular advantages and disadvantages of the methods and to pinpoint certain areas where significant advances in our understanding of receptors has occurred.

The book opens with an account of Receptor Binding Assays

from Hollenberg and Nexo. This chapter deals with the several methods for measuring ligand binding in a precise and concise manner, indeed at times so concise that the treatment is in danger of being superficial. Those who work with membrane-bound receptors will be only too well aware of the problems surrounding attempts at solubilizing the receptor protein. It is not easy to find authoritative discussions of those properties of detergents that are relevant to the problem of receptor isolation. Jacqueline Reynolds' article on 'Solubilisation and Characterisation of Membrane Proteins' provides an excellent account of this topic. There follows a most useful account of affinity chromatography as a tool for purification from Jacobs and Cuatrecasas; again the chapter serves to make the reader aware of the many alternatives and directs him to the specialist literature. The following chapter, from Linsley, Das and Fox, provides a similar treatment for the technique of affinity labelling, with particular emphasis on the use of photoactive agents.

There follows a rather large contribution from Bjerrum's group that sets out the attractions of adopting an immunological approach to the identification and characterization of

. Membrane Receptors: Methods for Purification and Characterization (BII). edited by S. Jacobs and P. Cuatrecasas (Burroughs Wellcome, North Carolina). Purinergic Receptors (B12). Receptors and Recognition. Series B Volume 13. Receptor Regulation. Edited by. 7 Insulin Receptors in Disorders of Glucose Tolerance and Insulin Sensitivity Emmanuel Van Obberghen, Flora de Pablo and Jesse Roth. 143. 8 Myasthenia Gravis and the Nicotinic Cholinergic Receptor Jon Lindstrom and Andrew Engel. Retinoic acid receptor-related orphan receptor β (ROR β) is a nuclear receptor associated with the pathogenesis of autoimmune diseases. Allosteric inhibition of ROR β is conceptually new, unique f... Therefore, we designed two virtual ligands, 7 and 8, that incorporated five and six of the features, respectively. As expected, this led to improved Phase Screen Scores (Figure 2), and these compounds were therefore selected as initial targets for experimental investigation. Figure 2.