

BOOK REVIEWS

The Use of HPLC in Receptor Biochemistry. Receptor Biochemistry and Methodology, Vol. 14. Edited by A. R. KERLAVAGE (Series Editors: J. C. VENTER and L. C. HARRISON). Published October 1989 by Alan R. Liss, New York. No. of pages: 262. ISBN: 0-471-56231-9. Price: \$96.00

One of the most difficult tasks today facing the scientist studying receptors is correlating volumes of biological and pharmacological evidence, obtained over several decades, with newly determined receptor sequences, obtained only in the past seven years. During roughly that same time frame, high-performance liquid chromatography (HPLC) has matured into an extremely powerful tool for purifying and studying the structure of proteins and peptides. This technique has slowly found its way into laboratories studying receptors, as scientists discovered that the same techniques used to study soluble proteins could be applied to membrane receptors, and as purified receptor protein became available in reasonable quantity.

The book contains the following chapters:

- Selection of HPLC modes used for membrane protein purification;
- Microbore HPLC technology and applications;
- Chemical synthesis, purification, and characterisation of peptides and proteins;
- Isolation and characterization of biologically active peptides and proteins using reversed phase HPLC;
- Mapping receptor structure and function by HPLC;
- Isolation and recovery of biologically active proteins by high-performance immunoaffinity chromatography;
- HPLC as a means of characterizing the polymorphism of steroid hormone receptors;
- Strategies for the purification of subnanomole amounts of protein and polypeptides for microsequence analysis.

These chapters have been written by eminent experts in this field and the book would be very useful for researchers in the receptor field, as well as for advanced students.

Molecular Endocrinology and Steroid Hormone Action. Progress in Clinical and Biological Research, Vol. 322. Edited by GORDON H. SATO and J. L. STEVENS. Published December 1989 by Alan R. Liss, New York. No. of pages: 340. ISBN: 0-471-56682-9. Price: \$80.00.

'Molecular Endocrinology and Steroid Hormone Action' is the fourth in the International Cellular Endocrinology Symposium series held at the W. Alton Jones Cell Science Center in Lake Placid, New York. It is fitting that the meeting honors the contributions that Drs Elwood Jensen and Jack Gorski have made to our knowledge of steroid hormone action. These two scientists have been at the forefront of research on steroid hormone action for more than 20 years. Indeed, the work of Drs Jensen and Gorski has changed the way in which we think about steroid hormones. Through their research, and that of others, it has become apparent that steroid hormones act via specific receptors which translocate from the cytosol to the nucleus to change gene expression. This concept has become the central dogma of steroid hormone research.

The goal of the symposium was to highlight several areas of importance for steroid hormone action: steroid hormone receptor structure and function, steroid hormone receptors

and their role as transacting factors, the post-translational modification of receptors, the relationship between receptor activation and biological activity, and the use of steroid hormones in cancer. In achieving this goal, a diverse group of biologists, biochemists, molecular biologists, and clinicians was assembled. The diversity of the group served to underscore the extent to which the study of steroid hormone action has permeated many areas of biology and medicine. Perhaps more importantly, major unanswered questions were framed and refined.

This volume contains the following main sections:

- Steroid receptors: structure and function;
- Interconversion and transformation of steroid hormone receptors;
- Regulation of gene expression in steroid-dependent and independent models;
- Estrogen action and biological responses;
- Steroid hormone receptors in cancer.

This book would be very useful for people working in molecular biology, endocrinology, and for advanced students, providing basic data for fundamental research.

New Nucleic Acid Techniques. Methods in Molecular Biology, Vol. 4. Edited by JOHN M. WALKER. Published August 1988 by Humana Press, New Jersey. No. of pages: 576. ISBN: 0-89603-127-6. Price: \$49.50.

In recent years there has been a tremendous increase in our understanding of the functioning of the cell at the molecular level. This has been achieved in the main by the invention and development of new methodology, particularly in that area generally referred to as "genetic engineering".

Although this revolution has been taking place in the field of nucleic acids research, the protein chemist has at the same time developed fresh methodology to keep pace with the requirements of present day molecular biology. Today's molecular biologists can no longer be content with being experts in one particular area alone. They need to be equally competent in the laboratory at handling DNA, RNA, and proteins, moving from one area to another as required by the problem that is being solved. Although many of the new techniques in molecular biology are relatively easy to master, it is often difficult for a researcher to obtain all the relevant information necessary for setting up and successfully applying a new technique. Information is of course available in the research literature, but this often lacks the depth of description that the new user requires.

This book provides an advanced selection of protocols and methods, each technique detailed by experts in their field, and each procedure a proven, reliable method. Each chapter starts with a description of the basic theory behind the method described. The main aim is, however, to provide an easy-to-follow, step-by-step description of a protocol that will result in the successful execution of the method. The Notes section complements the Methods by indicating any major problems or faults that can occur with the technique, and any possible modifications or alterations.

This volume would be very useful, in particular, for those with no previous experience of a technique and should therefore appeal to undergraduates (especially project students), postgraduates, and research workers who wish to try a technique for the first time.