Book reviews

Signal transduction – single cell techniques; Edited by B. Van Duijn and A. Wiltink, Springer-Verlag; Berlin, Heidelberg, New York, 1998. xx+564 pp. DM 248.00 (pb). ISBN 3-540-62563-1

This volume from the Springer Lab Manual series is comprised of three parts covering 'Handling of cells in single cell experiments', 'Ion channel and membrane potential measurements', and 'Fluorescence to measure intracellular ions'.

The first part describes how experimental chambers for single cell measurements, either no-flow or perfusion chambers, can be constructed, and how temperature can be controlled efficiently in such a chamber on the stage of a microscope. In addition, a pipette-based drug application system for rapid delivery of drugs as well as the use of laser microsurgery in single plant cell research are explained in detail. All five chapters of this part of the book are suitable as a laboratory manual, because they give detailed information on background, materials and procedures.

Part II starts with an introduction to voltage-clamp and patch-clamp techniques, consisting of a more theoretical part ('Significance of ion channels and membrane potential changes in cells') and an extended practical introduction to patch-clamp experiments using defined electrical circuits. These circuits, and the real situations they mimic, e.g. 'Measuring pipette resistance and capacitance', 'Single-channel current upon channel activation' or 'Depolarisation-activated conductance', are explained in great detail which is very helpful for beginners in electrophysiology. An appendix containing questions and answers related to the different experiments described helps very much to verify understanding of the underlying electrical measurements.

Examples of the use of single channel measurements cover potassium channels in cardiac myocytes, non-selective cation channels in osteoblasts, ion channels in the nuclear membrane and potassium channels in human T-lymphocytes. In addition, in one chapter recording of single ion channels reconstituted in lipid planar bilayers is described. The chapters usually start with a short background description, and then details on cell preparation, electrophysiological procedures, data storage and analysis are given.

Another set of examples, now on whole cell patch-clamp measurements, starts again with a short theoretical introduction. Then, the application of different types of the whole cell patch-clamp technique, e.g. conventional whole cell or perforated whole cell patch-clamp technique, is described for the following cell systems: dorsal root ganglion and hippocampal neurons, heart cells, human T-lymphocytes, chicken osteoclasts, and different types of plant cells. The style of the chapters is similar to the ones described above. Some chapters give a lot of detailed and helpful information while others are more brief and require extensive reading of cited references before an experiment can be started.

Part III of the book is devoted to the use of 'Fluorescence to measure intracellular ions'. The introductory part contains detailed chapters on the principles of ratiometric measurements of calcium and pH. These chapters offer a lot of helpful information, including an explanation of calibration procedures, the effect of different buffers in pH measurements. etc.; however, statements such as "The optimal conditions [for dye loading] are found by trial and error" are not at all helpful for the reader. Instead, examples from different cell types for successfully used protocols from the literature should be cited. In contrast, a very helpful chapter is on video cameras, e.g. how different types of video camera function, and how to select the right camera for a specific application.

The working principles of flow cytometric analysis (FACS analysis) are explained briefly, followed by two chapters on its application to membrane potential and intracellular calcium measurement. The latter gives precise listings of materials, procedures, data acquisition and analysis – a chapter organised as it should be for a laboratory manual.

The following chapters on microfluorimetric (imaging) analysis of pH and intracellular calcium focus on two model systems, the slime mould *Dictyostelium discoideum* and pancreatic acinar cells. Thus, the information given is particularly helpful to launch experiments in these two cell systems; however, these chapters would benefit from a comparison with other cell systems resulting in protocols that are more widely applicable.

The last two chapters explain in great detail the principles and potential applications of confocal fluorescence imaging including confocal calcium imaging.

In conclusion, the 'Signal transduction – single cell techniques' lab manual is a recommendable comprehensive guide to single cell experiments. Although measurements in a number of different cell systems are described well and in great detail, especially in the electrophysiological part II, readers not working with these cells will probably miss information. Thus, the book would benefit from a fully referenced summary section for each part comparing the protocols from more different cell types.

Andreas H. Guse

Forensic DNA profiling protocols. Methods in Molecular Biology Vol. 98. Edited by P.J. Lincoln and J. Thomas, Humana Press; Totowa, 1998. xv+571 pp. $79.50 (hb). ISBN 0-896-03443-7.

Volume 98 of the series 'Methods in Molecular Biology' covers most aspects of modern forensic identity testing using DNA profiling techniques. All 25 chapters are written by experts in the field. A few have played a direct role in the development of the particular technique, but most of the authors are users of the techniques described. Apart from chapters 10 and 12 (statistical methods and overview of PCR-based systems, respectively) the chapters are structured in a consistent way containing (i) an introduction to the particular subject, (ii) lists of equipment and reagents needed, (iii) methods with detailed protocols for the performance of the techniques, (iv) notes with advice, hints, trouble-shooting and comments on choices, (v) a list of references.

The reader gets advice about DNA profiling from the initial treatment of the forensic stain/sample to the final evaluation of the DNA profile. There are protocols on how to extract and secure DNA from various sources (blood, human remains, hair, urine and stains of blood, semen, saliva), how to quantify the isolated DNA, how to perform classical DNA fingerprint analyses (electrophoresis, blotting, preparation of hybridisation probes, evaluation of results), how to perform a sex or a species determination, how to devise efficient PCR primers and to optimise the PCR reaction, how to assess the quantity and quality of a PCR product, how to perform PCR-based DNA profiling using various techniques and how to evaluate the statistical significance of a match between profiles.

The majority of DNA polymorphisms used for forensic purposes are so called VNTRs (variable number of tandem repeats) where the number of repeats (or the length of a DNA fragment) is the person to person variable that is measured using electrophoretic techniques. This is reflected in the protocols listed in this book. However, alternatives are also described. Thus, there are protocols on single nucleotide polymorphisms as determined by PCR followed by either sequencing (of the mitochondrial D-loop), solid-phase minisequencing or hybridisation to allele-specific probes on nylon strips (reverse dot-

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blotting). Also, there is an excellent chapter on the very informative polymorphisms that result from internal variation in the interspersion of different repeat unit types within some VNTR loci (minisatellite variant unit mapping using PCR (MVR-PCR)).

The major forensic laboratories in the industrialised world are turning to automation of the DNA profiling process to make it less labour intensive, to reduce the risk of human error and to decrease the processing time. Such techniques are of course described in detail in the book. The drawback of such techniques is, however, that they require very expensive machinery. It is possible to establish efficient manual DNA profiling schemes which require no more equipment than a thermocycler, an electrophoretic set-up, some trays, tubes, pipettes and other standard laboratory equipment. It is a compliment to the editors of the book that such manual techniques have been included. These low budget techniques may be the choice of laboratories that want to use the power of DNA profiling without spending huge amounts of money on machinery.

Generally the book is well written. The multi-author concept has resulted in some variation in style and depth of treatment. Some chapters give substantial background information while others are little more than protocols preceded by a few obligatory phrases. Also there is some overlap and redundancy between chapters and different authors give different recommendations for sub-routines such as DNA extraction. This latter, however, is not a drawback since all protocols have been found to work, and the reader is given the freedom to choose between methods. The 'notes sections' are generally excellent, however, in some chapters the amount of information given about methods in the 'notes section' exceeds that given in the 'methods section'. It might have been more straightforward to use the reverse strategy. Some authors refer wrongly to non-buffering solutions (e.g. 1.5 M NaCl, 0.4 M NaOH) as buffers. More important, the reader may miss a chapter on 'good laboratory practice' which is extremely important in the forensic science laboratory. Here the many special checkings and precautions that have to be observed by the forensic scientist could have been dealt with in detail. Also the book would have been more complete had it included a chapter on visions and expectations for human identity testing in the 21st century. For example the potentials of 'DNA chips' and capillary array electrophoresis for the analysis of DNA sequence variation have been known for some time and although these techniques are likely to enter the field of human identity testing they are not mentioned. Neither was the proliferation of extremely informative multiplex STR systems (including nine or more markers) foreseen (or mentioned), although such systems have been tested and implemented in forensic laboratories in 1998.

Despite the above mentioned shortcomings the book can be recommended as a useful companion for the forensic scientist and as a guide for laboratories that are planning to set up DNA profiling routines.

Jørgen Dissing

A Guide to the Polyamines; Edited by Seymour S. Cohen, Oxford University Press; Oxford, 1998. xiv+595 pp. £120.00 (hb). ISBN 0-19-511064-1

This is a wonderful book containing an enormous amount of information on polyamines, from their early history to recent discoveries that begin to clarify the means by which these ubiquitous amines contribute to the control of many life processes. The fact that polyamines are completely ignored by a majority of textbook authors makes Seymour Cohen's *A Guide to the Polyamines* a particularly welcome and valuable contribution to the general fields of biochemistry, molecular, cellular and developmental biology, and to specialties such as cancer research, parasitology and toxicology. Having been a prominent figure in the field of polyamine research for many years, Cohen undoubtedly had the knowledge, but evidently also the courage, to embark on the gigantic task of extracting the essence out of more than 10 000 published papers into a comprehensive, yet readable and enjoyable text on the chemistry and biology of the polyamines. He has succeeded with something inconceivable, at least to this reviewer.

Cohen's excellent text develops the intermediate area between chemistry and biology, and it succeeds in establishing clear groundwork in chemistry from which the biology of the polyamines that is discussed later can be interpreted. Chemical structures, metabolic charts, and original figures abound, paving the way for the reader in this timely and important addition to the literature in the rapidly expanding field of polyamine research. In fact, polyamine-oriented production is estimated at more than 1000 papers a year. Almost everything published on the chemistry and biology of the polyamines and their derivatives is touched upon in the book: chemical structures, properties, biosynthetic and catabolic pathways, structures and regulation of genes encoding the enzymes involved in polyamine metabolism, the role of polyamines in growth and differentiation and in neoplastic transformation, the use of polyamine antagonists and enzyme inhibitors in cancer chemoprevention and chemotherapy as well as in the treatment of parasitic diseases. Yet, in his preface, the author excuses himself for not discussing in a systematic fashion two growing fields of polyamine research – relating to the roles of the polyamines in nerve function and in immunity.

Reviewers inevitably turn to some of their favorite topics, in my case studies addressing the possibility of curing parasitic diseases by treatment with polyamine synthesis inhibitors. Notably, a form of sleeping sickness caused by *Trypanosoma brucei gambiense* can be cured, even in cases with central nervous system involvement, by treatment with an enzyme-activated irreversible inhibitor of ornithine decarboxylase, the first enzyme in the polyamine biosynthetic pathway. I was pleased to find that there is a whole chapter on polyamines in trypanosomatids and other protozoa, discussing the antiparasitic effects of polyamine synthesis inhibitors, as well as the exciting research on metabolism and function of trypanothione, a bis-glutathionyl derivative of spermidine unique to trypanosomatids. Cohen also takes us on interesting forays into the world of malaria, kala azar and Chagas' disease.

To challenge the coverage of more peripheral topics, I chose some newly discovered polyamine derivatives (argiotoxin and philanthotoxin) that are components of spider toxins, and a steroidal antibiotic (squalamine) that is present in tissues of the dogfish shark. I was initially disappointed to find no entry under their names, nor under toxins or spider toxins. However, when reading the book I found that these compounds were indeed described in the chapters on 'Molecular reactions at cell surfaces' and 'Bacterial metabolism and polyamines', respectively. With the exception of a few contra-indications, my impression is that the index is excessive rather than moderate, as illustrated for example by the 58 entries under transglutaminase to very few pages in the text.

If someone is interested in setting up a method for analyzing the polyamines, I am afraid that the chapter on 'Properties and analysis of polyamines' is not as useful as one would have liked it to be. Although the methods that have been developed and used over the years are described and referred to, I missed an evaluation of these methods, emanating in a recommendation as to which method one should use for a particular purpose. Moreover, the usefulness of the separation patterns shown is compromised by the lack of peak identifications in some figures, in which the number of unidentified peaks is as high as 24.

These are merely trivial points in a work that gives a wealth of information. Original papers can easily be found by consulting exhaustive reference lists at the end of each chapter. In addition, literature prior to 1975 is cited by author and year, so the original publication can be traced even though the full information is not provided. This book is a unique work of reference! In light of the exhaustive treatment of the subject, it may seem inappropriate to ask for more. Nevertheless, although most chapters have a brief summary at the end, I would have liked to read some concluding remarks regarding the present status of the field and an outlook for the future.

Cohen's *A Guide to the Polyamines* has something for everyone –

for novices and aficionados. The vast scope of the book should appeal both to non-specialists wanting to explore the field and to experienced researchers as a reference source and as a source for new avenues of study. I doubt that hard-pressed graduate students will be able to buy their own copy, but they should have ready access to it, as should indeed all those working in, or interested in, the life sciences.

Olle Heby

Enzyme assays. Essential data. Edited by S. Gul, S.K. Sreedharan and K. Brocklehurst, Wiley; Chichester, 1998. x+118 pp. £15.99 (pb). ISBN 0-47-196527-8.

Enzymes, the catalysts of biological systems, remain at the heart of all living systems. Understanding enzymes means understanding catalysis and enzyme assays are the only means to study catalysis. The book titled *Enzyme Assays* is a part of the *Essential Data* series which provides quick access to the data required by any scientific researcher. The book consists of eight chapters covering theoretical as well as practical aspects of enzyme assays that are routinely performed in biochemistry laboratories all over the world.

The course of an enzyme-catalyzed reaction is generally monitored by an assay procedure and hence enzyme assays are an essential preliminary to virtually all experimental studies on enzymes. This book summarizes the major principles underlying the design of assays and evaluation of such experimental data. After an introductory chapter highlighting the importance of enzyme assays, chapters 2–4 deal with various aspects that need to be considered when designing an enzyme assay to get meaningful results. Chapter 2, which gives an overview of enzyme assays, emphasizes the requirements for a valid assay and discusses the common problems that often result from failure to ensure constant reaction conditions and the linear dependence of activity on enzyme concentration. The section on general assay types, which include continuous and discontinuous assays, is highly informative. Enzyme catalysis is about understanding kinetics. Kinetics deals with rates of reactions and therefore kinetic analysis can be complicated if the velocity (rate) of the enzyme-catalyzed reaction is not linear with respect to time. It is therefore important to design assays where the dependence of activity is linear with respect to time. Chapter 3 discusses this aspect of enzyme assays and briefly mentions progress curves containing burst or lag phases.

This chapter also discusses some basic concepts involved in Michaelis-Menten kinetics and more importantly describes experimental approaches to quantitate kinetic parameters such as K_m, k_{cat}, etc. The last section of this chapter highlights the importance of k_{cat}/K_m, the specificity constant using both pH and temperature dependence studies. Carefully designed studies of the dependence of k_{cat} on temperature can provide some thermodynamic parameters which in turn provide valuable information about the nature of the transition state.

Chapter 4 highlights the principles and methods of various individual assays with suitable examples. This chapter is exhaustive and very useful as a source of reference for day to day experiments. All commonly used methods, such as spectrofluorimetry, electronic absorption spectroscopy, radiometry, pH-stat assays, high-performance liquid chromatography, polarography and oxygen sensing, are explained in fair detail with appropriate examples.

In any enzyme structure-function study, the concentration of the functional active sites needs to be determined. Chapter 5 discusses the various methods that are commonly used in various biochemistry laboratories for active site titration. The approaches used for active site titrations employing chromogenic or fluorogenic substrates, non-chromogenic inhibitors and radio-labeled substrate are discussed quite well in this chapter. The last two chapters are a good and ready source of information on the different reagent kits used for determination of enzyme activities, details of various buffers, protein denaturants and radioisotopes generally used in biochemical research. Chapter 8 lists the major manufacturers and suppliers of enzymes, chemicals and laboratory equipment. An exhaustive list of references (over 300) for each of the earlier chapters is available in the last pages of the book.

Overall, the book presents insights into various principles and methods for different kinds of enzyme assays that are being routinely used. In general, the clarity and organization of the chapters are excellent. The book is well written and easy to read.

Research workers and students in the field of biochemistry and molecular biology will definitely find this book worthy of frequent consultation.

Desirazu N. Rao

***Drosophila*. A Practical Approach**. Edited by D.B. Roberts, Oxford University Press; Oxford, 1998. xxiv+389 pp. £29.95 (pb). ISBN 0-19-963660-5

What new can be offered in this second edition of a practical approach in *Drosophila*, 12 years after the first edition?

This second edition contains 11 chapters written by specialists in *Drosophila* research. In chapter 1, written by D.B. Roberts and G.N. Standen, entitled 'The elements of *Drosophila* biology and genetics', an analytical description of *D. melanogaster* is attempted. In the 53 pages of this chapter, the reader can easily understand its life cycle, care, chromosome rearrangements, etc., even if is the first time that he faces *Drosophila*. Six tables and nine figures facilitate the exploration of *Drosophila* as an experimental system. Twenty-six protocols can easily be applied in *Drosophila* research. In comparison with the first edition, new information and styling have modernized this chapter. Chapters 2 and 3, written by T. Grigliatti, are dedicated to 'Mutagenesis' and 'Transposons – gene tagging and mutagenesis', respectively. Mutations are a desirable tool to understand gene function, and are always in fashion, even more so in our days when the *Drosophila* genome project has contributed a lot of sequence information. In 'Mutagenesis', chemicals and methods to produce mutations are expanded in 10 descriptive protocols and 13 figures. Although this chapter does not provide more information than that contained in the first edition, it is tighter and more friendly for the reader. In 'Transposons – gene tagging and mutagenesis', extending over 22 pages with five protocols, nine figures and one table, information is given concerning hybrid dysgenesis as well as how to use the P-M system to induce mutagenesis in *Drosophila*. In the previous edition an equivalent chapter was written by M. Kidwell. The fourth chapter, 'Chromosome mechanics; the genetic manipulation of aneuploid stocks', by D. Gubb, elaborates on the use of translocations and inversions to construct synthetic deletions and duplications. The humorous way of writing makes this chapter enjoyable. This new chapter was missing from the first edition. The fifth chapter, 'Enchancer traps', was written by C.J. O'Kane. In 47 pages, including seven descriptive protocols, eight figures and three tables, O'Kane describes what is, how to use and how much further one can go in understanding and applying this exciting technology in *Drosophila*, and not only that. This chapter improves the present edition. In chapter 6, E. Wieschaus and C. Nusslein-Volhard are 'Looking at embryos'. In 34 pages with 14 protocols and 14 figures a comprehensive description of how to use and analyze embryos is attempted. This chapter is the same as that of the first edition. The seventh chapter concerns the 'Immunolabelling of *Drosophila*'. In a rather short but dense text, which consists of 26 pages, including 14 protocols and seven figures, R.A.H. White describes the use of antibodies, from embryos to poly-

tene chromosomes, to mark specific proteins. This chapter is also a new insight that was not included in the first edition.

Suddenly, chapter 8, entitled 'Population and ecological genetics', written by J.F.Y. Brookfield, interrupts the continuity of the book. First, the title contains the term 'ecological genetics', which is a bit problematic for me. Second, one is expected to see how data emerging from DNA or protein sequencing can be used in population genetics, instead of applying starch gel electrophoresis measuring less informative allozyme profiles. Although basic knowledge of population genetics is given in the text, one wonders why this chapter has been included in the present edition. A new interesting chapter, the ninth, deals with 'Behaviour, learning, and memory', by J.B. Connolly and T. Tully. In 53 pages (20 protocols, 12 figures) of well-written text, the authors give an outline on behavior and its plasticity, as learning and memory. I think that, through an open-minded reading of this chapter, the reader will obtain ideas and will find the way to elucidate these ideas. 'Cell culture', the 10th chapter, was written by Lucy and Peter Cherbas. This chapter is expanded in 20 pages including six protocols. Additionally, an appendix of eight pages refers to gene expression in cell lines. Text and protocols lead the reader to understanding the benefits of the application of cell culture in *Drosophila* research. This chapter is also new. The last chapter was written by T. Jowett and is dedicated to the 'Preparation of nucleic acids', including 17 protocols and two tables. Following these widely used protocols, 'nucleic acids' from both nucleus and mitochondria can easily be purified, in a large or single fly scale, and used for further applications. This chapter, although it is alsi in the first edition, has been thoroughly revised in the present edition. The book also contains a list of suppliers and an index of *Drosophila* genes, mutations, chromosomal abnormalities and balancers.

In conclusion, this second edition gives an overview in *Drosophila* research, without losing its practical character. The systematic presentation of the easily applied protocols, which can be used in almost every laboratory, and the well-written text in most of the chapters make this edition a valuable contribution in *Drosophila* research.

Zacharias G. Scouras

Protein Profile. Tyrosine Phosphoprotein Phosphatases; Edited by B. Goldstein, Oxford University Press; Oxford, 1998. xii+260 pp. £25.00 (pb). ISBN 0-19-850247-8

From the initial discovery of tyrosine phosphorylation and the consequent identification of specific kinases responsible for delivering this post-translational modification, the existence of counterbalancing phosphatases has been suspected. The first protein tyrosine phosphatase (PTPase) identified by Fisher's group in 1988 pioneered an exciting discovery of a novel gene family. To date, a complex array of genes having in common one or two typical catalytic tyrosine phosphatase domains constitute the family of tyrosine phosphoprotein phosphatases.

As with other books in this series, the aim is to present a brief review of a gene family through an extensive and well organized literature survey. This version of *Tyrosine Phosphoprotein Phosphatases* adds 263 references to the 900 previously tabulated by Goldstein. These references provide a complete survey of PTPase papers published from the initial reports of activity of tyrosine dephosphorylation in the early 1980s to the end of 1996. The fast pace of publication, and the absence of the more recent PTPase literature, may alarm potential readers; however, the book by Goldstein truly establishes a solid foundation upon which one can understand the metamorphosis that occurred in PTPase research as well as the most exciting areas currently studied in this gene family.

This second edition is divided into seven sections, which provide a rapid and useful way to peruse the extensive literature on PTPase. These sections address various issues about the PTPase family, from structural to physiological studies. At the onset, the first section reads like an excellent PTPase review where the sequence, classification, and nomenclature of the PTPase are depicted. Due to the confusing early nomenclature of PTPases, this section clarifies effectively the organization of the PTP genes and their subfamilies.

The remaining sections present in table formats the extensive literature. The known tyrosine phosphatases are described alphabetically in various tables that facilitate their scrutiny. For example, their structure, sequence, distribution, post-translational modification and catalytic activities are nicely presented in this manner allowing one in a brief overview to gather the general findings in the field. In these various sections, Goldstein also includes a section that catalogues the involvement of PTPases in various biological settings or diseases. This allows one to recognize the extremely diverse sites of action of this gene family, and the potential for their implication in many diseases.

Importantly, in the bibliography section Goldstein lists all these references under nine group headings: PTPase reviews, PTPase expressions, function, purification and assay methods, protein interactions, report on sequences, structural studies, toxins and inhibitors, and at last additional general references that seemingly cannot be placed in these previous headings.

One cannot review this book without describing the new concept put forward by the editor of the series. Due to the fast pace of the novel scientific literature in this field, Oxford University Press has developed the *Protein Profile* series concomitantly with a web site tat provides a virtual update of each gene family chosen for the book series. Thus, once one purchases a book in the series, the reader can register, for a fee, to the corresponding virtual book through the Oxford University Press web site. At first sight, such a approach would provide easy access to a list of references on a specific gene family. How does this differ from the already free access to Medline, or from commercial enterprises such as *Current Contents*? The profile series offers for specific gene families an organized set of published papers, and an updated review. Therefore, it would be useful for those that entertain the idea of moving into the study of a particular gene family or that are directly involved in research on a topic presented in one of the series titles. Perhaps the *Protein Profile* series and the excellent example that Goldstein's book on PTPases presents allude to a new 'fast food' counter for literature searches. Nevertheless, the reader will still need time to decipher such a large amount of information. It seems obvious that the success of such an endeavor will rely significantly on the speed with which these 'virtual books' would be updated.

Michael L. Tremblay

Booklist No. 150 May 1999

1. Jameson, J.L. (ed.) Hormone Resistance Syndromes. Humana Press; Totowa, 1999. x+281 pp. $125.00 (hb).
2. Claesson-Welsh, L. (ed.) Vascular Growth Factors and Angiogenesis. Springer; Heidelberg, 1999. 189 pp. DM 198.00 (hb).
3. Polak, J.M. and O'D. McGee, J. (eds.) In Situ Hybridization. Principles and Practice. Oxford Univeristy Press; Oxford, 1998. xii+212 pp. £39.95 (hb).
4. Paddock, S.W. (ed.) Confocal Microscopy. Methods and Protocols. Humana Press; Totowa, 1999. xi+446 pp. $99.50 (hb).
5. Serhan, C.N. and Ward, P.A. (eds.) Molecular and Cellular Basis of Inflammation. Humana Press; Totowa, 1999. xii+338 pp. $125.00 (hb).
6. Javois, L.C. (ed.) Immunocytochemical Methods and Protocols. Humana Press; Totowa, 1999. xii+465 pp. $79.50 (pb).
7. Lambert, D.G. (ed.) Calcium Signaling Protocols. Humana Press; Totowa, 1999. xiii+359 pp. $79.50 (hb).
8. Bowcock, A.M. (ed.) Breast Cancer. Molecular Genetics, Pathogenesis, and Therapeutics. Humana Press; Totowa, 1999. xiii+582 pp. $145.00 (hb).
9. Stein, G. et al. (eds.) The Molecular Basis of Cell Cycle and Growth Control. Wiley; Chichester, 1999. x+389 pp. £51.95 (hb).
10. Challand, R. and Young, R.J. (eds.) Antiviral Chemotherapy. Oxford University Press; Oxford, 1998. 128 pp. £12.99 (pb).
11. Kazmierski, W.M. (ed.) Peptidomimetics Protocols. Humana Press; Totowa, 1999. xxv+549 pp. $89.50 (hb).
12. Koliatsos, V.E. and Ratan, R.R. (eds.) Cell Death and Diseases of the Nervous System. Humana Press; Totowa, 1999. xxi+683 pp. $145.00 (hb).
13. Vogt, P.K. and Jackson, A.O. (eds.) Satellites and Defective Viral RNAs. Springer, Heidelberg, 1999. xi+179 pp. DM 195.00 (hb).
14. Paun, G. (ed.) Computing with Bio-Molecules. Springer; Heidelberg, 1998. x+352 pp. DM 124.00 (pb).
15. Coffman, R.L. and Romagnani, S. (eds.) Redirection of Th1 and Th2 Responses. Springer; Heidelberg, 1999. vi+148 pp. DM 169.00 (hb).
16. Boulton, A.A., Baker, G.B. and Bateson, A.N. (eds.) In Vitro Neurochemical Techniques. Neuromethods 34. Humana Press; Totowa, 1999. xiv+296 pp. $99.50 (hb).
17. Morgan, J.R. and Yarmush, M.L. (eds.) Tissue Engineering Methods and Protocols. Methods in Molecular Medicine. Humana Press; Totowa, 1999. xvi+629 pp. $99.50 (hb).
18. Peeling, R.W. and Sparling, P.F. (eds.) Sexually Transmitted Diseases. Methods in Molecular Medicine. Humana Press; Totowa, 1999. x+244 pp. $79.50 (hb).
19. Doolittle, M. and Reue, K. (eds.) Lipase and Phospholipase Protocols. Methods in Molecular Biology, Vol. 109. Humana Press; Totowa, 1999. xv+362 pp. $69.50 (hb).
20. Harry, J. and Tilson, H.A. (eds.) Neurodegeneration Methods and Protocols. Methods in Molecular Medicine. Humana Press; Totowa, 1999. xi+306 pp. $89.50 (hb).