

## Book reviews

**Experiments in Molecular Biology: Biochemical Applications.** Burton ZF, Kaguni JM. (£25.00.) Academic Press. 1996. ISBN 0 121 47370 8.

A book, like a person, is a multilayered entity and as such deserves to be assessed on numerous levels. First, what does this book set out to be, and how does it achieve its primary goal? Its primary aim is to be an undergraduate teaching manual, based on the course at Michigan State University. As such it aims to provide the student with a structured introduction both to the theory and practice of molecular biology and, in this second area particularly, provide a series of experiments that work successfully. How do the authors succeed? The succinct answer is exceptionally well. Exceptionally well, because the English is clear and eminently readable. Exceptionally well, because their enthusiasm for science in general and the specific topic comes through the language and should stimulate even the most jaded and exam weary undergraduate. Although it is impossible for a reviewer to affirm absolutely that the experiments work without testing each protocol, experience suggests that they do. There is good attention to detail, which engenders confidence. Establishing in the student a virtuous cycle of success and confidence is one of the most important considerations in a practical course. Furthermore, the course is sufficiently comprehensive that new techniques the student will encounter should not pose too many problems. If I were an undergraduate, I would want to go on a course like this, with a book like this.

For the lecturer developing similar courses in different establishments, the book offers a framework around which he or she may develop courses unique to their own requirements. Not everyone would want to or may not have the time to include all the experiments outlined, and the protocols are in sufficient detail and stand sufficiently alone to allow a "pick and mix" approach.

Does the book have a broader appeal than simply as an undergraduate teaching manual? I think it does—as a guide to research students. Here it comes into competition with far more comprehensive tomes, such as that of Sambrook, Fritsch, and Maniatis, and with texts dealing exclusively with a particular technique—for example, the many books dealing with PCR methodology. Clearly it cannot compete fully with such books in terms of range or completeness. Nevertheless, its attention to basic details should help to elucidate matters when experiments, which ought to work, do not. However, this book, justifiably, does not claim to represent the cutting edge in new technical developments. Despite this, it would be a useful addition to most research laboratories' working libraries.

Finally, how does the book work as a book? Its feel is right—not too heavy and big to be cumbersome, and the plastic spine makes the pages easy to turn and fold, which is useful when working in the laboratory. The layout and font are clear and unfussy, which again makes it easy to use as a workbook. A minor criticism is that I would have preferred all steps in a protocol to be kept to a single page,

where possible, rather than having to turn over in the middle.

D B RAMSDEN

**The Metabolic and Molecular Bases of Inherited Disease CD-ROM.** Scriver CR, Beaudet AL, Sly WS, Valle D, eds. (£299.95.) McGraw-Hill, 1997. ISBN 0 0786 4187 X.

I have inhabited my (large) office in our laboratory for some five or so years and in that time I have run out of book and journal storage space. My computer has, however, if anything become smaller. It gives me some hope for the state of my living quarters through the working day that CD-ROMs such as this exist. The three volume conventional book set is, I am sure, beautiful (I am a "bookie") but there is no doubt that the CD-ROM medium offers wonderful cross referencing facilities never available in the conventional published format. (Why is it that which ever part from a multivolume book I take from my shelves it is always the wrong one? Publishers, please give a list of chapters or content topics on the spine!)

This CD-ROM is superb: it is easy to load and does not require ludicrous amounts of memory, although larger amounts of RAM do, of course, improve matters. The front end is attractive and easy to use. Cross referencing is excellent and the pictures clear and easy to follow. I am not an expert in the metabolic disorder field but feel that I am closer to the subject now. This is partly because CD-ROMs are fun. One has almost a feeling of power to have such easy access to such a vast amount of information. Closer to my heart was the cancer section, which I see was upgraded massively from previous editions of the book. How things have changed. Cancer is at last recognised as a metabolic/inherited disease. This section, like the rest of the CD, is very good. Oncogenes of all sorts are discussed in detail.

Finally, returning to good old paper, the manual accompanying the CD-ROM has a most useful index with notes regarding the new material in this edition. (Most impressively, this occupies four pages.)

I can do no more than say that I should now be lost without this magnificent text, especially in its electronic form.

J CROCKER

**Human Cytogenetic Cancer Markers.** Wolman SR, Sell S, eds. (US\$125.00.) Humana Press, 1997. ISBN 0 8960 3357 0.

This is an ambitious, multiauthored work that attempts to review our current understanding of chromosomal abnormalities and their molecular basis as far as they are known, across a huge area of cancer biology. The experienced editors have assembled an impressive group of authors who have marshalled a large amount of information into a reasonably digestible format. The use of diagrams and tables in a book of this sort is an absolute must to ensure reader attentiveness. This aim occasionally breaks down as in fig 3, chapter 13 on brain tumours where a magnifying glass would be useful in distinguishing between chromosome breakpoints in different sorts of astrocytomas.

The title of the book seems to have been dictated by the fact that it is the latest in a series on cancer markers. The editors rightly point out, in a useful introduction, that

genetic changes are a fundamental part of the disease process rather than markers in a conventional sense.

The book is divided into two parts with a section on comparative technology and one organised chapter by chapter on an organ and site specific tumour basis. Rather quirkily, a final chapter in this section, called special techniques in cytogenetics, turns out to be a chapter devoted exclusively to chromosome microdissection. This is a technique of rather limited application in the context of solid tumour cytogenetics. This oddity aside the layout of the book is good although the rather small number of colour plates are corralled together in the middle of chapter 9.

The editors are aware that with the advent of the new cytogenetic techniques described in this book, such as fluorescence in situ hybridisation (FISH) on paraffin wax sections and comparative genomic hybridisation (CGH), the cytogeneticist has been freed from the shackles of obtaining classic chromosomal preparations from intractable material. The challenge addressed in this book is how to integrate this new information with conventional cytogenetics, cytometrics, and pathological classification rather than being buried by it. This text is a creditable attempt to try to ensure that mere information gathering is translated into increasing our knowledge and understanding of the genetics of human solid tumours.

J WATERS

**Molecular Biology of Cell Adhesion Molecules.** Horton MA, ed. (Pp 248; £34.95.) John Wiley & Sons, 1996. ISBN 0 4719 6677 0.

The cell adhesion molecule literature is now so large that to review it comprehensively would be a massive task. Rather than do this, Professor Horton and the chapter authors of this book have written about a selection of topics from the cell adhesion field at a level of detail that is accessible to a general audience. The choice of topics is fairly well judged, covering important areas such as carcinogenesis, microbial pathogenesis, and inflammation. The selection of topics has a strong bias towards subjects of clinical relevance, covering all of the major areas of pathology where cell adhesion is known to be important, with the possible exception of haemostasis and thrombosis (although this is touched on in some sections).

The book is generally well written and there is some good use of tables and diagrams. There is some repetition as chapter authors give unnecessarily basic introductions, but this is a minor point. The editor's own contributions are particularly good; the "at a glance" guide to adhesion receptors and ligands will be useful for many readers. This is a reasonably priced book that will be useful primarily to medics wishing to know more about cell adhesion molecules, but it is also relevant to scientists wishing to broaden their knowledge of the field.

D HUGHES

**Human Chromosome Preparation.** Rooney DE, Czepulkowski B. (£16.99.) Wiley, 1996. ISBN 0 4719 6299 6.

The understanding of chromosome abnormalities and their molecular basis has moved centre stage over the past decade and now illuminates many areas of medicine. Rooney and Czepulkowski have rapidly cornered the



## Experiments in Molecular Biology: Biochemical Applications

D B Ramsden

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