

JPP 2004, 56: 563
© 2004 J. Pharm. Pharmacol.
ISSN 0022-3573

Edited by Daan J. A. Crommelin and Robert D. Sindelar,
Pharmaceutical Biotechnology (2nd Edition)

London: Routledge, 2002. 425 pages paperback. £30
ISBN: 0-415-28501-1

*Reviewed by Dr R. W. Jones, Senior Lecturer, School of Pharmacy
and Biomedical Sciences, University of Portsmouth, UK*

The word "Biotechnology" seems to have changed its meaning over the years. Whereas it was once used to describe traditional fermentation technology, as covered in texts such as Crueger & Crueger's *Biotechnology*, today it seems to be used more and more to describe applications of molecular biology. It is the latter aspect that is covered by Crommelin & Sindelar.

The book is aimed at three targets: the pharmacist wishing to update his or her knowledge; pharmacy students; and pharmaceutical scientists wishing to gain familiarity with the principles of modern biotechnology. All three groups will find it a well written, informative text, although its usefulness to students will, of course, depend on how much biotechnology is actually taught on their particular course.

Many books on biotechnology start out as a molecular genetics textbook, with the uses of this technology added apparently as an afterthought. One of the good points of this edition is that it spends only one chapter on the basics, with which one would hope that pharmacy graduates would be familiar and in any case are covered in dedicated textbooks, and concentrates on what can be done with this technology.

The other area in which *Pharmaceutical Biotechnology* stands out is that it tackles the subject from the pharmacist's perspective. In addition to describing the biotechnology products and their uses, chapters are dedicated to

Formulation of Biotech Products, including *Biopharmaceutical Considerations*; *Pharmacokinetics and Pharmacodynamics of Peptide and Protein Drugs*; and *Dispensing Biotechnology Products*; *Handling, Professional Education and Product Information*. From the industrial viewpoint chapters cover production and downstream processing and economics. The biotechnology products described include: peptides, haematopoietic growth factors, interferons and interleukins, insulin, growth hormones, vaccines, monoclonal antibody-based pharmaceuticals, recombinant coagulation factors, recombinant human deoxyribonuclease and follicle-stimulating hormone. There is a concluding chapter, *Biotechnology Products in the Pipeline*, which briefly describes the drug discovery process and discusses the potential for the development of new drugs and improved delivery systems.

I found this a very useful book and will certainly recommend it to my students. I was able to find what I wanted on current hot topics such as proteomics, microarrays and high throughput screening. It certainly compares favourably with its rivals (such as Brook's *Biotechnology in Healthcare* and Zito's *Pharmaceutical Biotechnology*) both in terms of its pharmacist-oriented content and the width of topics covered.

The style is very readable, with good use of easy to follow colour diagrams and tables. Each chapter has specific references or a list of further reading, and in some cases both, although many of these are now 10 years old and so provide background rather than cutting edge information. Some chapters also have a few self-assessment questions and answers to test the reader.

At £30 *Pharmaceutical Biotechnology* represents good value and would provide good continuing professional development for the pharmacist as well as abundant information for the pharmacy or biotechnology student.