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**Gavin Brooks, *Biotechnology in Healthcare, An introduction to biopharmaceuticals***

London: Pharmaceutical Press, 1998. 228 pages  
paperback. £19.95  
ISBN 0-85369-372-2

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Biotechnology is a rapidly developing science which has had, and will continue to have, an impact on the treatment of disease both in humans and animals. There is therefore, a need for a concise text that provides the underlying molecular biology and background information on the different therapeutic entities that have clinical applications. This aim was neatly described by the editor in his preface to the book as providing an information source to medical, dental and pharmaceutical science graduates and undergraduates as well as healthcare workers who wished to extend their knowledge in this developing area. It is unfortunate that this review is being undertaken nearly four years after the book was published, and although the underlying principles and basic technologies have not changed there have been significant advances in their utilisation and clinical evaluation.

The book is divided essentially into two parts with the first five chapters being devoted to molecular biology, genetic mapping, gene cloning, DNA fingerprinting, and the polymerase chain reaction. The remaining six chapters describe the utilisation of potential therapeutic entities such as gene therapy, antisense, cytokines, peptides and monoclonal antibodies in the treatment of a number of diseases. There would appear to be a significant omission of a discrete chapter on prophylactic and therapeutic vaccines. Although they are described in different parts of the book their potential opportunities justify a greater emphasis in a book on biopharmaceuticals.

Each of the 11 chapters is written by a different author, most of whom have an academic background in fields directly relevant to the area. They have adopted a subtly different approach to the description of their topic although there is some similarity in the structure of each chapter,

particularly for the potential therapeutic entities. The chapter on monoclonal antibodies is a good example where the author gives a background to their identification, how they have been developed, their manufacture and clinical application. Different authors have provided different emphasis on these various aspects of their topic.

Recognising the potential audience for this book I would have expected to see inclusion of some of the preclinical safety issues of biopharmaceuticals identified e.g. biodistribution of DNA after gene therapy and integration potential, difficulties of undertaking toxicity studies on humanised monoclonal antibodies etc. Greater emphasis on the delivery issues of macromolecules and brief reference to their formulation would have added to the undoubted value of this book.

The book is clearly laid out with a helpful table of contents, which gives a very good indication of what is included in each chapter. A large number of references are included at the end of each chapter to enable the reader to gain more in-depth information if required. In general the chapters make easy reading although inclusion of more figures to explain some of the principles would have been helpful. The glossary is very useful, and as a suggestion it would be beneficial to include a compilation of abbreviations to assist the reader in any future additions!

The book meets the needs of the intended audience and provides a good background to the underlying principles of biotechnology. It should be on the reading list of those involved in the healthcare sciences who will undoubtedly have a need to understand those principles as the output of the genomic and genetic revolution has its impact on the development of biopharmaceuticals and the treatment of disease.

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