

Genetic Engineering 3

Edited by Robert Williamson

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This is the third volume in this excellent series which will, when the fourth volume is published, provide an extensive review of the field. The speed of publication has helped to offset the dangers of obsolescence in such a rapidly developing area and in addition the attention paid to basics ensures that, at the very least, the series will always be useful as an introduction to the field. The speed of publication is probably also responsible for the rather random ordering of the various chapters which renders the series a little disjointed. My main disappointment is in the price which would involve an interested undergraduate in an outlay of £40 for what might only form a small part of his or her final year. However, I feel that the content is sufficiently good, and alternative textbooks sufficiently rare, to justify a group of them clubbing together and sharing a set.

Volume 3 contains a comprehensive review of plasmid and bacteriophage vectors for cloning in prokaryotes (mainly *Escherichia coli*) as well as virus-derived vectors for cloning in eukaryotes. In addition, the volume ends with a brave attempt to catalogue all the eukaryotic genes cloned before September 1981. Like the previous two volumes, each chapter is beautifully sectioned and sub-titled making quick reference very easy.

Chapter 1 surveys the various types of plasmids that have been used for cloning, including broad host range and expression vectors. The treatment

of cosmids is rather brief and omits one of the more successful varieties (pJB8), however this deficiency is rectified in the chapter on cloning of eukaryotic genes in volume 2. This well-written and informative chapter ends with the use in cloning of single-stranded bacteriophages, especially M13.

Chapter 2 deals with cloning in derivatives of bacteriophage λ and begins with a concise introduction to the parent phage in recognition of the fact that not everyone entering this field will have already had a love affair with λ . This sets the tone for an easily-read chapter which includes in vitro packaging and various screening methods, as well as ways of achieving expression of the inserted gene.

Chapter 3 is an excellent comprehensive review of eukaryotic cloning vectors (excluding yeast which is dealt with in volume 2). The reader is given a good feel for each system considered and the extent to which it satisfies the criteria for cloning in eukaryotes. Derivatives of SV40, adenovirus, retroviruses and papilloma virus are all considered, including those vectors which provide selectable genes.

In conclusion, volume 3 maintains the standards set by volumes 1 and 2 and provides a useful reference for student and research worker alike.

R.K. Patient