**Fundamental Virology, 3rd edn.;** Edited by B.N. Fields, D.M. Knipe, P.M. Howley, R.M. Chanock, J.L. Melnick, T.P. Monath, B. Roizman and S.E. Straus; Lippincott-Raven, Philadelphia, 1996. xv + 1340 pp. $97.75 (hc). ISBN 0 7817 0284 4

The book is published in two volumes with a total of 92 chapters covering general Virology and specific virus families ending with 6 chapters on unclassified agents. The book is dedicated to B.N. Fields.

Virology represents the second edition, which is expanded tremendously compared to the first. Under the topic of general virology, 16 chapters cover viral structure, genetics, multiplication and pathogenesis in an interesting and well illustrated way. The pathogenesis of viral infections is focused on the disease in different tissues which makes the chapter very helpful for new readers. In addition, the more molecular factors important for transmission and virulence are highlighted. The chapters on virus-host interactions, cell transformation and immunology describe essential features of virus infected cells and virus interaction with the cell machinery in order to prepare either the release of infectious virus or to change the cell cycle control for cell transformation. The immune response to viral infections is briefly presented along with a more detailed chapter on the importance of cytokine production. The important features of vaccine development are touched upon in a fair manner. Diagnostic virology is covered from the most general point of view and the subsequent presentation of antivirals summarize the major compounds of interest. Compared to the first edition, two chapters are added about viral evolution and persistence of viruses. The general virology is rounded up with four new chapters on plant, insect, yeast, fungi and parasite viruses as well as bacteriophages. The general virology section covers every interesting aspect of the field.

The specific virus families shall not be commented on in detail. All virus families are described as in the first edition, but the chapters have been expanded. New chapters are included on special topics which have appeared since the first edition. The addition of chapters on the new herpesviruses, human herpes virus 6 and 7 and the B-virus are relevant, and the chapters on the hepatitis viruses C, Delta and E are very well presented as are the other unclassified agents including among others Prions.

In conclusion Virology is deftly written and includes a pleasant lay-out, which makes it easy to find information. The book is more of an 'encyclopedia in virology' and as such very useful for the trained virologist. It is a must to have the book in any virology laboratory as a handbook but it is far too detailed as a textbook for students except those who are specialising in the discipline virology, which is not possible in all countries.

Bodil Norrild

---

**DNA Cloning 3. A Practical Approach. Complex Genomes, 2nd edn.;** Edited by D.M. Glover and B.D. Hames; IRL Press at Oxford University Press, Oxford, 1995. xvi + 225 pp. £25.00 (pb). ISBN 0 19 963482 3

After a decade of editions on *DNA Cloning* in the *Practical Approach Series*, it is the intention of the editors that this book, along with a further three volumes, reappraise the methods of genome analysis which have survived the tests of time. Many of the chapters are written authoritatively by pioneers of the methodologies, such as Nizetic and Lehrach on chromosome specific libraries, Sternberg on P1 library construction, Anand on YAC cloning, Saunders on amplification of microdissected chromosomal DNA and Fuchs and Cameron on databases, computer networks, and molecular biology. In addition chapters are included on cosmid cloning by Ivens and Little, long range restriction mapping by Bickmore and genetic mapping with microsatellites by Naom, Mathew and Town.

The presentation is in a similar format to previous volumes of the Series. The chapters include 85 protocols linked with short explanatory texts. There are 23 figures, including one in colour on multicoloured microsattelite analysis, which are unfortunately generally of extremely poor quality and often of minimal information content. The following comments refer to content of the individual chapters with respect to the stated aims of the editors, where one wonders just how up-to-date the contributions are: there are no references from 1995, and a total of nine references from 1994 coming from only five of the eight Chapters.

By far the longest Chapter is on cosmid cloning. While containing many recipes, particularly on the preparation of the DNA, transcription from the cosmid, hybridisation screening and fingerprinting of the clones, it must be treated with reservation. The protocols refer *exclusively* to lambda replicon based cosmids derived from Lorist which has never been correctly described in the literature. The authors maintain that such vectors yield clones which exhibit greater stability compared to other vectors. This would not be so bad if the authors did not include the statement that cosmids do not replicate in strains which have been found to help stabilize cosmid inserts. One wonders then how the stability comparison was made? The Table referring to this problem contains only *rec* and *sbc* genotypes, but neither strains nor vectors. The extensive literature on this topic is ignored as well as the genotype of hosts with reference to cytosine methylation tolerance (*mcr*: see e.g. Woodcock et al. (1989) Nucl. Acids Res. 17, 3469–3478). This is particularly strange since the following Chapter from Nizetic and Lehrach gives further protocols for cosmid cloning which use just such strains. Neither the methods of cosmid shuttling, stacked deletion generation and *Sal*HI/*Sau*3A half-fill-in protocols for high efficiency microcloning are mentioned, nor the special vectors required for these. The reader must then refer to more recent reviews on these topics to even evaluate their relevance for his/her own project. Cosmid packaging is described using only commercially available packaging extracts. For those with more limited budgets wishing to make large banks; we have found that students can make highly efficient packaging mixes the first time if they follow older procedures carefully.

The novel part of the Chapter on chromosome-specific gridded cosmid libraries contains, unfortunately no update on the libraries currently available. For those able to buy the expensive robotics, the preparation of high-density gridded banks is described, and protocols for hybridisation of these banks given in detail. The conclusion gives a good insight into how this methodology interleaves with other methodologies in the genome mapping project.

Sternberg, fairly, points out that the P1 packaging system itself gives no direct physical selection for cloning very large (up to 95 kb) inserts, this size preference coming from the very careful preparation of the input DNA in this size range. He gives and estimate of three months for the time required for one person to prepare a bank.

Anand's Chapter concludes: "..the construction of a primary YAC library requires substantial investment of time and resource. Before embarking on this exercise, the possibility of using one of the existing YAC libraries (*no evaluation of these*, J.C.) should be given serious consideration. ...(it is) worth considering potential future use as this may impact on the choice of vector, average insert size, and the final complexity of the YAC library". A guideline as to how to evaluate this last remark is, however, lacking and only one vector map is given. This is not entirely encouraging to those who wish to use these surely useful protocols.

The Chapter on amplification of DNA microdissected from chromosomes is limited to *Drosophila* polytene chromosomes. It is not clear how easily these protocols can be extrapolated to other chromosomes.

The use of databases and programmes to analyse the rapidly expanding raw sequence data, in a meaningful way, is surely one of the most important and challenging topics facing the molecular biologist/geneticist at the moment. This Chapter is readable and gives a good overview of resources available either on CD-ROM or over the networks, with a few examples of how to get to them and how to use them.

The book is intended for the readership of the previous *Practical Approach Series*, namely those involved in cloning and genome analysis who need exemplary protocols to introduce them to new techniques. In

this respect many of the chapters barely fulfill this purpose, and do so in an unexciting and almost contextless fashion. This reviewer often missed a few simple commentaries which would have been necessary to put the methods in a broader comparative perspective. However, as the editors say in their Preface, this Volume is not intended as a stand-alone reference work. One fears that many readers will, nevertheless, be disappointed or even frustrated, although they will have at least purchased nine good protocols on how to carefully prepare large molecular weight DNA.

John Collins

# Booklist no. 133 July 1996

1. Sigel, A. and Sigel, M. (Eds.) Metal Ions in Biological Systems. Interactions of Metal Ions with Nucleotides, Nucleic Acids, and their Constituents, Vol. 32. Marcel Dekker, Inc; New York. 1996. xxxix + 814 pp. $225.00 (hc).
2. Sigel, A. and Sigel, H. (Eds.) Metal Ions in Biological Systems. Probing of Nucleic Acids by Metal Ion Complexes of Small Molecules, Vol. 33. Marcel Dekker, Inc; New York. 1996. xii + 678 pp. $195.00 (hc).
3. Roos, D.W. (Ed.) Introduction to Molecular Medicine. Second edition. Springer; New York, 1996. xii + 178 pp. DM 42.00 (pb).
4. Linskens, H.F. and Jackson, J.F. (Eds.) Plant Cell Wall Analysis. Modern Methods of Plant Analysis, Vol. 17. Springer; Berlin–Heidelberg–New York. 1996. xvii + 205 pp. DM 228.00 (hb).
5. Melmed, S. (Ed.) Oncogenesis and Molecular Biology of Pituitary Tumors. Frontiers of Hormone Research, Vol. 20. Karger; Basel. 1996. vi + 198 pp. DM 273.00 (hb).
6. Baker, H.F. and Ridley, R.M. (Eds.) Prion Diseases. Methods in Molecular Medicine. Humana Press; Totowa, NJ. 1996. xv + 107 pp. $89.00 (hb).
7. Jaquemin-Sable (Ed.) Flow and Image Cytometry. Springer; Berlin–Heidelberg. 1996. viii + 241 pp. DM 148.00 (hb).
8. Jones, C., Mulloy, B. and Sanderson, M.R. (Eds.) Crystallographic Methods and Protocols. Methods in Molecular Biology, Vol. 56. Humana Press; Totowa, NJ. 1996. xii + 394 pp. $69.50 (pb).
9. Jones, G.E. (Ed.) Human Cell Culture Protocols. Methods in Molecular Medicine. Humana Press; Totowa, NJ. 1996. xiv + 545 pp. $79.50 (hb).
10. Clark, W.R. (Ed.) At War within. The Double-edged Sword of Immunity. Oxford University Press: New York–Oxford. 1996. xi + 275 pp. 17.99 Pounds (hc).
11. Robinson, A., Farrar, G.H. and Wiblin, C.N. (Eds.) Vaccine Protocols. Methods in Molecular Medicine. Humana Press; Totowa, NJ. 1996. x + 317 pp. $89.00 (pb).

The most recently published Booklists are the following:

No. 114 (July, 1993) FEBS Lett. 327, 120–122.
No. 115 (September, 1993) FEBS Lett. 331, 205–206.
No. 116 (November, 1993) FEBS Lett. 335, 147–149.
No. 117 (January, 1994) FEBS Lett. 337, 312–314.
No. 118 (May, 1994) FEBS Lett. 344, 270.
No. 119 (August, 1994) FEBS Lett. 351, 144.
No. 120 (October, 1994) FEBS Lett. 352, 403.
No. 121 (November, 1994) FEBS Lett. 354, 244.
No. 122 (December, 1994) FEBS Lett. 356, 376.
No. 123 (March, 1995) FEBS Lett. 361, 133.
No. 124 (April, 1995) FEBS Lett. 363, 209.
No. 125 (August, 1995) FEBS Lett. 369, 351.
No. 126 (September, 1995) FEBS Lett. 371, 355.
No. 127 (November, 1995) FEBS Lett. 375, 315.
No. 128 (December, 1995) FEBS Lett. 377, 284.
No. 129 (January, 1996) FEBS Lett. 379, 200.
No. 130 (March, 1996) FEBS Lett. 381, 266.
No. 131 (April, 1996) FEBS Lett. 384, 300.
No. 132 (May, 1996) FEBS Lett. 388, 88.