

Preface

This manual was written for a practical course at the University of Leicester designed to teach cloning techniques to those who had no first hand experience of them. The popularity of the course, and demand for the course manual, prompted us to edit it for publication to a wider audience.

The techniques set out in protocol form in the Manual have in common that they are all regularly used in the laboratories of the School of Biological Sciences. First hand experience of them rather than an attempt to be comprehensive was an important criterion for inclusion. Consequently the Manual does not lay claim to offer a complete coverage of the subject. A knowledge of microbiological technique and basic microbial genetic skills is assumed and a popular guide is available—*Experiments in Molecular Genetics*, by J.H. Miller, published by Cold Spring Harbor Laboratory, N.Y., 1972. Other important techniques, such as DNA sequencing were included in the course at Leicester as demonstrations backed up by lectures and seminars. No practical work was performed however and none have been added to the published manual. Recent practical reviews can be consulted by those who need these methods (Maxam & Gilbert 1980; Bankier & Borrell, 1983).

The different sections were designed and written by different groups. Consequently there were inevitably differences in style and layout, and some repetition of descriptions of commonly used techniques. In preparing the manual for publication we have endeavoured to bring a measure of uniformity to the style and layout. But we have tried to do this with a light touch so that the spontaneity of the original versions has not been edited out. Procedures do not always succeed when they are translocated to different laboratories. The introductory section which precedes each of the experiments contains references which, wherever possible, provide background information that should help to identify any problems. The authors of the various sections may also be able to help and would welcome being told of difficulties that have been encountered.

The experimental procedures are set out in protocol form with an indication of the time required to complete them. They can all be fitted into an intensive 2-week course by running

different sections of a complete procedure in parallel. This was the format of the course at Leicester. Under a more leisurely time-table the longer procedures can be carried through from start to finish in sequence.

There are numerous references to specific manufacturers in the text. In many cases there will be acceptable alternative manufacturers who can supply similar products and the one cited here is simply a matter of local preference at the time of writing, or habit.

The number of strains of bacteria, and their viruses and plasmids, employed in the course is not large. Many of them are widely used and will be found in laboratories all over the world. The authors of the different sections of the course have also agreed to supply those used in their Sections to readers of this manual who cannot obtain them locally.

The list of people who have helped to teach this course on two occasions inevitably omits to name many people at Leicester who have contributed to its success. We would like to record our gratitude and thanks to them.

We are most grateful to the Biotechnology Directorate of the Science and Engineering Research Council for providing a substantial grant towards the cost of this course since 1981, and to many industrial companies who have also generously supported us. We are also greatly indebted to the many people who have helped with the development, over several years, of many difficult techniques which we are now able to present as relatively routine.

I.B. Holland
R.H. Pritchard

References

- Maxam, A.M. & Gilbert, W. (1980) Sequencing end-labelled DNA with base specific chemical cleavages. *Meth. Enzym.*, **65**, 499.
Bankier, A.T. & Borrell, B.G. (1983) Shotgun DNA sequencing. *Techniques in the Life Sciences*, B5: Ch. B508; Nucleic Acid Biochem. pp. 1-34. Elsevier, Amsterdam.