

Preface

This edition has been written to accommodate the recent spate of innovations and developments in DNA technology. It covers a wide range of new methods and adaptations, as well as terminology, and reflects current thinking in both *in vitro* and *in vivo* studies. The opportunity was also taken to update and extend entries from the 1st edition. Every effort has been made to present up-to-date information – much of it newly published in mainstream journals within the last 6–12 months.

The dictionary is designed for use throughout the biomedical sciences, particularly in areas such as:

- biotechnology
- diagnosis (hereditary and infectious diseases)
- drug development
- epidemiology
- forensic science
- gene therapy
- genetically modified (GM) foods
- genomics
- industrial enzymes
- microbiology
- molecular biology
- oncology
- systems biology
- taxonomy
- vaccine development

References to published papers and reviews are cited throughout the dictionary. Some of these are the source(s) of information on which particular entries are based; they can provide additional details (e.g. protocols), and they also permit the reader to make his or her own assessment of a given source. Other references are included in order to indicate further information which is relevant to a given entry.

Some pervasive topics – for example, PCR, gene fusion, forensics, phages, overexpression, retroviruses, typing, microarrays, stem cells – are treated more extensively. These essay-style entries are intended to offer the newcomer a broad working knowledge of the area. Such entries may also be of use to the over-specialized researcher.

Commercial systems and materials are widely used in DNA technology, and a range of entries describe these products. This kind of entry may be useful, for example, when a paper offers no information about

a given product other than “used according to the manufacturer’s instructions” – leaving unanswered questions on the product, the protocol or the principle. Accordingly, these entries give brief overviews of products – and their uses – and in many cases they also cite relevant papers describing work in which a given product has been used. Where the names of products and systems are known to be trademarks this has been indicated.

Notes for the user on the following pages will facilitate use of the dictionary. The attention of the reader is drawn, in particular, to the item on alphabetization.

Paul Singleton

Clannaborough (UK), September 1st 2009