

11 Products from native and manipulated cloned genes	221
11.1 Factors affecting expression of cloned genes	222
11.2 Expression of cloned genes in bacteria	227
11.3 Expression in eukaryotic host cells	235
11.4 Adding tags and signals	239
11.5 <i>In vitro</i> mutagenesis	242
11.6 Vaccines	247
12 Genomic analysis	251
12.1 Genome sequencing	251
12.2 Analysis and annotation	261
12.3 Comparing genomes	269
12.4 Genome browsers	271
12.5 Relating genes and functions: genetic and physical maps	273
12.6 Transposon mutagenesis and other screening techniques	276
12.7 Conclusion	285
13 Analysis of genetic variation	287
13.1 Single nucleotide polymorphisms	288
13.2 Larger-scale variations	291
13.3 Other methods for studying variation	293
13.4 Human genetic diseases	300
13.5 Molecular phylogeny	305
14 Post-genomic analysis	313
14.1 Analysing transcription; transcriptomes	313
14.2 Array-based methods	319
14.3 Translational analysis; proteomics	326
14.4 Post-translational analysis: protein interactions	329
14.5 Integrative studies; systems biology	332
15 Modifying organisms; transgenics	333
15.1 Modification of bacteria and viruses: live vaccines	333
15.2 Transgenesis and cloning	337
15.3 Animal transgenesis	338
15.4 Applications of transgenic animals	347
15.5 Transgenic plants and their applications	351
Glossary	355
Bibliography	373
Index	375