

Gene Cloning

Principles and Applications

Cloning genes successfully underlies the majority of our knowledge in molecular and cellular biology, but the approaches to doing it are so numerous and diverse, that undergraduates (and graduates) can easily be overwhelmed. *Gene Cloning* gives an overview of the techniques available to clone genes and how they can be used effectively in both pure and applied research. It shows how cloning genes is an integral part of genomics and relevant in the post-genomic age, being necessary for the isolation, identification, sequencing, and analysis of individual genes, gene families, and entire genomes, and for experimentally testing predictions of gene regulation and function made through bioinformatics. Also covered are applications of gene cloning in medicine, both for diagnosis and treatment, and in the pharmaceutical industry and agriculture. There are learning outcomes at the start of each chapter, which include both factual knowledge and how to apply it, and questions throughout the text to allow readers to test their understanding as they go along. Where possible, examples are from well-known topics with medical relevance.

Gene Cloning takes a fresh approach to teaching molecular and cellular biology and will be a valuable resource for biological and biomedical science courses.



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