

From Genes to Genomes

Concepts and Applications of DNA Technology Second Edition

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Rapid advances in a collection of techniques referred to as gene technology, genetic engineering, recombinant DNA technology and gene cloning have pushed molecular biology to the forefront of the biological sciences. *From Genes to Genomes, Second Edition*, explains key ideas underlying the most central techniques in the context of the ways in which they are used. As well as an overall update of the material, this new edition includes the strengthening of the gene to genome theme, additional emphasis on proteomics, gene therapy and stem cells, and more eukaryotic/mammalian examples.

Opening with a brief review of the basic concepts of molecular biology, followed by a description of the key molecular methods and how they fit together, the book progresses from the cloning, characterisation and manipulation of individual genes through to genome sequence and analysis, and the genome-wide study of transcription and translation. Finally, the book introduces the use of these techniques for genetic modification of organisms, ranging from live vaccines to transgenic plants and animals, including the prospects for gene therapy.

- An accessible introduction to the key concepts and techniques in an exciting and rapidly developing field.
- Includes basic concepts as well as the latest developments.
- Introduces selected aspects of bioinformatics.
- Clear presentation with two-colour design throughout.

The new edition of this concise, clearly written textbook will prove invaluable to those studying intermediate molecular genetics within the biological and biomedical sciences as well as established researchers needing to update their knowledge of this fast moving field.

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