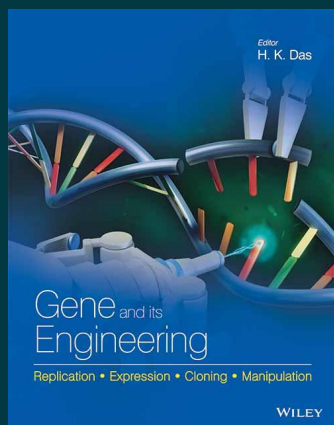




Gene and Its Engineering

By H.K. Das

Paperback

9788126549283

₹- Price

Pages: 588

Description

The book covers molecular biology of the gene and genetic engineering. It is an endeavour to expose students to the actual experiments that have revealed the science of gene and the development of its engineering. The book provides comprehensive details and chronological evolution of the structure of gene, its replication and expression, and genetic engineering based on significant discoveries made by the scientists. It is a comprehensive source of information to both students and instructors.

About the Author

H.K. Das

Professor H.K. Das is one of the pioneers who initiated Molecular Biology teaching and research in India. He developed the Molecular Biology course in the Department of Biochemistry

Table of Contents

Part I. Gene, its replication and its expression

- 1 Concept of a gene
- 2 DNA as the genetic material
- 3 Constituents of nucleic acids
- 4 Structure of DNA
- 5 Characteristics of DNA
- 6 Chromatin and its structure
- 7 Chromatin remodelling
- 8 Classic experiments on DNA replication in vivo
- 9 DNA polymerases
- 10 Mechanics of DNA replication
- 11 RNA, its transcription and processing
- 12 How transcription of genes is switched on and off
- 13 Structure and replication of RNA
- 14 Translation of mRNA into protein: Classic and recent experiments
- 15 Translation regulation of gene expression and human diseases
- 16 Non-coding RNA

Part II. Engineering of Gene

- 17 Cloning of gene: How it all began
 - 18 Reaction of the scientific community after successful cloning of a gene
 - 19 Genetic engineering guidelines
 - 20 Tools used in genetic engineering
 - 21 General strategies for expression of introduced genes in a foreign host
 - 22 Gram-negative bacterium *Escherichia coli* as host for recombinant DNA
 - 23 Gram-positive bacterium *Bacillus subtilis* as host for recombinant DNA
 - 24 *Streptomyces* as host for recombinant DNA
 - 25 Yeast *Pichia pastoris* as host for recombinant DNA
 - 26 Insect cells as host for recombinant DNA
 - 27 Animal cells as host for recombinant DNA
 - 28 Plants as host for recombinant DNA
 - 29 Chemical and enzymatic characterization of a cloned DNA fragment
 - 30 Reverse transcription and cDNA cloning
 - 31 Nucleic acid amplification and its applications
 - 32 Alternative strategies of gene cloning
 - 33 Site-directed In Vitro mutagenesis and protein engineering
 - 34 Processing of recombinant proteins
 - 35 Techniques for the study of regulation of a cloned gene
 - 36 Transgenic and gene knockout technologies
 - 37 Gene therapy
- Colour plates
- Index
- Appendix I
- Appendix II

To purchase this product, please visit:

<https://www.wileyindia.com/gene-and-its-engineering.html>



Scan to buy