



Preface

A gene is a locatable region of genomic sequence, corresponding to a unit of inheritance, which is associated with regulatory regions, transcribed regions and/or other functional sequence regions. The physical development and phenotype of organisms can be thought of as a product of genes interacting with each other and with the environment, and genes can be considered as units of inheritance.

In cells, genes consist of a long strand of DNA that contains a promoter, which controls the activity of a gene, and a coding sequence, which determines what the gene produces. When a gene is active, the coding sequence is copied in a process called transcription, producing an RNA copy of the gene's information. This RNA can then direct the synthesis of proteins via the genetic code. However, RNAs can also be used directly, for example as part of the ribosome. These molecules resulting from gene expression, whether RNA or protein, are known as gene products.

Gene technology involve the modification of organism by the direct incorporation (or deletion) of one or more genes to introduce or alter a specific characteristic or characteristics. This book on Gene Biotechnology is being prepared by keeping in view the requirement of the students and researchers in Biotechnology, Genetic Engineering and other allied fields. It provides information that researchers and students need to understand and apply today's biotechnology techniques. It covers multidisciplinary approach to the methods essential to biotechnical development and a broad range of practical applications. It discusses a wide variety of approaches, from very basic methods to the latest, most sophisticated technologies, including gene manipulation methods.

Suggestions for the improvement of the book and pointing out of errors and mistakes will be thankfully accepted.

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