

Preface

This publication titled "International Encyclopaedia of Genetics, Genomics and Proteomics" deals with the subject in its entirety. Genetics is the scientific study of heredity and addresses questions such as, how particular qualities or traits are transmitted from parents to offspring. Genomics refers to mapping, sequencing and analysis of the entire DNA sequence of an organism or species. DNA (Deoxyribonucleic Acid) is the molecule that carries the genetic information for most living systems.

The DNA molecule consists of four bases (adenine, cytosine, guanine and thymine) and a sugar phosphate backbone arranged in two connected strands. Proteomics as a term has come to have a very broad meaning including the manipulation and alteration of the genetic material (constitution) of an organism in such a way as to allow it to produce endogenous proteins with properties different from those of the traditional (historic/typical), or to produce entirely different (foreign) proteins altogether.

Some other words often applicable to the same process are gene splicing, gene manipulation, or recombinant DNA technology (techniques). Today, all these are a rapidly growing fields of research and development that is cutting across many traditional boundaries. This encyclopaedia titled "International Encyclopaedia of Genetics & Genomics & Proteomics" is really unique in terms of coverage, scope, elaboration, usefulness and futuristic perspective.

It will provide readers with a user-friendly approach towards acquainting themselves with various select traditional and newly emerging fields of biosciences. This encyclopaedia is of great contemporary relevance. It will serve as a reference book on the said subject and tends to acquaint readers with both in-depth and extensive knowledge of the subject concerned.

This encyclopaedia is a unique initiative to provide the most comprehensive coverage to the subject area in question. This encyclopedia mainly focuses on the following areas: Introduction to Genetics and Geneticists; Elements of Genetic

Code, Gene Expression and Evolution; Overview of Major Genetic Research Organizations; Genome and Genomics: Major Areas of Study and Project; Science of Proteomics: Major Dimensions and Trends; Glossary etc.

—Editor

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