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Nota di contenuto	Front Cover; Molecular biology: Academic Cell Update; Copyright Page; Dedication; Preface; Introduction; Table of Contents; Chapter One Basic Genetics; Gregor Mendel Was the Father of Classical Genetics; Genes Determine Each Step in Biochemical Pathways; Mutants Result from Alterations in Genes; Phenotypes and Genotypes; Chromosomes Are Long, Thin Molecules That Carry Genes; Different Organisms may Have Different Numbers of Chromosomes; Dominant and Recessive Alleles; Partial Dominance, Co-Dominance, Penetrance and Modifier Genes; Genes from Both Parents Are Mixed by Sexual Reproduction Sex Determination and Sex-Linked Characteristics Neighboring Genes Are Linked during Inheritance; Recombination during Meiosis Ensures Genetic Diversity; Escherichia coli is a Model for Bacterial Genetics; Chapter Two Cells and Organisms; What Is Life?; Living Creatures Are Made of Cells; Essential Properties of a Living Cell; Prokaryotic Cells Lack a Nucleus; Eubacteria and Archaeobacteria Are Genetically Distinct; Bacteria Were Used for Fundamental Studies of Cell Function; Escherichia coli (E. coli) Is a Model Bacterium; Where Are Bacteria Found in Nature? Some Bacteria Cause Infectious Disease, but Most Are Beneficial Eukaryotic Cells Are Sub-Divided into Compartments; The Diversity of Eukaryotes; Eukaryotes Possess Two Basic Cell Lineages; Organisms Are Classified; Some Widely Studied Organisms Serve as Models; Yeast Is a Widely Studied Single-Celled Eukaryote; A Roundworm and a Fly Are

Model Multicellular Animals; Zebrafish are used to Study Vertebrate Development; Mouse and Man; Arabidopsis Serves as a Model for Plants; Haploidy, Diploidy and the Eukaryote Cell Cycle; Viruses Are Not Living Cells; Bacterial Viruses Infect Bacteria  
Human Viral Diseases Are Common A Variety of Subcellular Genetic Entities Exist; Chapter Three DNA, RNA and Protein; Nucleic Acid Molecules Carry Genetic Information; Chemical Structure of Nucleic Acids; DNA and RNA Each Have Four Bases; Nucleosides Are Bases Plus Sugars; Nucleotides Are Nucleosides Plus Phosphate; Double Stranded DNA Forms a Double Helix; Base Pairs are Held Together by Hydrogen Bonds; Complementary Strands Reveal the Secret of Heredity; Constituents of Chromosomes; The Central Dogma Outlines the Flow of Genetic Information; Ribosomes Read the Genetic Code  
The Genetic Code Dictates the Amino Acid Sequence of Proteins Various Classes of RNA Have Different Functions; Proteins, Made of Amino Acids, Carry Out Many Cell Functions; The Structure of Proteins Has Four Levels of Organization; Proteins Vary in Their Biological Roles; Chapter Four Genes, Genomes and DNA; History of DNA as the Genetic Material; How Much Genetic Information Is Necessary to Maintain Life?; Non-Coding DNA; Coding DNA May Be Present within Non-coding DNA; Repeated Sequences Are a Feature of DNA in Higher Organisms; Satellite DNA Is Non-coding DNA in the Form of Tandem Repeats Minisatellites and VNTRs

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### Sommario/riassunto

Now available with the most current and relevant research from Cell Press, Clark's Molecular Biology, Academic Cell Update Edition, gives readers both the concepts and the applications students need to know to fully grasp Molecular Biology. Clark introduces basic concepts and then follows with specific applications in research today. This book is further enhanced by its inclusion in the Academic Cell collaboration, providing it with links to current and recently published research. Molecular Biology draws in the applications from a number of fields including human cellular research, human

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