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Nota di contenuto	Molecular Biotechnology: From DNA sequence to therapeutic protein -- Biophysical and Biochemical Analysis of Recombinant Proteins -- Production and purification of Recombinant Proteins -- Formulation of Biotech Products, including Biopharmaceutical Considerations -- Pharmacokinetics and Pharmacodynamics of Peptide and Protein Therapeutics -- Immunogenicity of Therapeutic Proteins -- Monoclonal Antibodies: From Structure to Therapeutic Application -- Genomics, Other "Omics" Technologies, Personalized Medicine and Additional Biotechnology-Related Techniques -- Dispensing Biotechnology Products: Handling, Professional Education and Product Information -- Economic Considerations in Medical Biotechnology -- Regulatory Framework for Biosimilars -- Insulin -- Follicle-Stimulating Hormone -- Human Growth Hormone -- Recombinant Coagulation Factors And Thrombolytic Agents -- Recombinant Human Deoxyribonuclease I -- Monoclonal Antibodies in Cancer -- Hematopoietic Growth Factors: Focus on Erythropoiesis-Stimulating Agents -- Monoclonal Antibodies in Solid Organ Transplantation -- Interferons and Interleukins -- Vaccines -- Oligonucleotides -- Gene Therapy -- Stem Cell Technology. .

Setting the standard for modern biopharmaceutical education, the new Fourth Edition is a completely revised text to reflect the rapid growth in the importance of biopharmaceuticals and the techniques of biotechnologies to modern medicine and the life sciences. The editors have provided a well-balanced framework for introductory as well as more detailed education in various aspects of pharmaceutical biotechnology and the production, biopharmaceutics, and clinical pharmacology of biotechnology-produced drugs. The new edition improves upon the strong chapters of previous editions, adding emergent trends and cutting-edge advances as well as new graphic illustrations and new authors. The textbook includes key concepts at the foundation of the technology relevant for protein therapeutics including molecular biology, production and analysis procedures, formulation development, pharmacokinetics and pharmacodynamics, and immunogenicity, as well as chapters dealing with regulatory, economic, and pharmacy practice considerations. The Fourth Edition brings an exciting and fundamental reorganization of the text, now structured into two sections: 1) an initial basic science and general features section; and 2) a section profiling the various therapeutic classes of biologics, including gene therapy. Additionally, reorganization of the chapters examining the properties and applications of monoclonal antibodies, and oligonucleotides and siRNA has enhanced these important concepts in the text. A completely new chapter has been added on cell-based technologies. The Fourth Edition continues the popular self-assessment questions after each chapter to reinforce understanding of practical pharmaceutical applications, making this an indispensable text for self-study, the biopharmaceutical classroom, as well as for professional reference in practice or industry.
