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Animal Cell Biotechnology Butterworth-Heinemann

Medicines from Animal Cell Culture focuses on the use of animal cell culture, which has been used to produce human and veterinary vaccines, interferon, monoclonal antibodies and genetically engineered products such as tPA and erythropoietin. It also addresses the recent dramatic expansion in cell-based therapies, including the use of live cells for tissue regeneration and the culture of stem cells. *Medicines from Animal Cell Culture: Provides comprehensive descriptions of methods for cell culture and nutrition as well as the technologies for the preservation and characterisation of both the cells and the derived products Describes the preparation of stem cells and others for use in cell-based therapies – an area of burgeoning research Includes experimental examples to indicate expected results Covers regulatory issues from the UK, the EU and the USA and reviews how these are developing around the world Addresses the key issues of standardisation and validation with chapters on GLP and GMP for cell culture processes Delivering insight into the exciting world of biological medicines and directions for further investigation into specific topics, Medicines from Animal Cell Culture is an essential resource for researchers and technicians at all levels using cell culture within the pharmaceutical, biotechnology and biomedical industries. It is of value to laboratory managers in these industries and to all those interested in this topic alike.*

Production of Biologicals from Animal Cells in Culture John Wiley & Sons

Animal Cell Technology: Developments, Processes and Products is a compilation of scientific papers presented at the 11th European Society for Animal Cell Technology (ESACT) Meeting, held in Brighton, United Kingdom. The book is a collection of various works of scientists, engineers, and other specialists from Europe and other parts of the world who are working with animal cells. The book's aim is to communicate experiences and research findings on the development of cell systems. The research papers are grouped into 25 sections encompassing 145 chapters. Subjects covered range from cells and physiology engineering dealing with cell characterization, cell culture establishment, cloning, and cell engineering. Topics on culture media, ammonium detoxification, the effects of physical parameters on cell cultures, assays and monitoring systems, and bioreactor techniques are also covered. Discussions are likewise made on the products from animal cells in culture, virus removal, and DNA determination and characterization in relation to safety issues. The book will be useful for cell biologists, molecular biologists, biochemists, biochemical engineers, and students engaged in the study of animal cell cultures.

Animal Cell Technology Elsevier

Integrating advances in molecular biology into bioprocesses presents a continuous challenge to scientists and bioengineers. This series is conceived to help meet this challenge. It examines and assesses the feasibility of new approaches for the modification of cellular function such as gene expression, protein processing, secretion, glycosylation, immortalisation, proliferation, and apoptosis as well as the systematic study of the metabolic genotype-phenotype relationship. The series provides detailed coverage of the methodology for improving cellular properties of cells used in the production of biopharmaceuticals, gene and cell therapies and tissue engineering. It also seeks to explain the cellular mechanisms underlying in vitro physiological activity and productivity. This volume, which is based on presentations at the 'European Workshop on Animal Cell Engineering' held in Costa Brava, Spain, contains a collection of chapters relating to cellular function and modification by leading authorities in several different areas of basic research and the biopharmaceutical industry.

Animal Cell Biotechnology Oxford University Press

Production of Biologicals from Animal Cells in Culture reviews the state of the art in animal cell biotechnology, with emphasis on the sequence of events that occur when generating a biological

from animal cells in culture. Methods that enable adjustment of nutrient feed streams into perfusion bioreactors so as to increase productivity are described. A number of issues are also addressed, such as the usefulness of the fingerprint method for cell characterization. Comprised of 135 chapters, this book begins with an overview of the problems and benefits of animal cell culture, followed by a discussion on the isolation of immortal murine macrophage cell lines. The reader is systematically introduced to the use of DNA fingerprinting to characterize cell banks; immortalization of cells with oncogenes; lipid metabolism of animal cells in culture; and energetics of glutaminolysis. Subsequent chapters explore serum-free and protein-free media; the physiology of animal cells; gene expression in animal cell systems; and animal cell bioreactors. The monitoring and assay of animal cell parameters are also considered, along with downstream processing and regulatory issues. This monograph will be of interest to students, practitioners, and investigators in the fields of microbiology and biotechnology.

Cell Culture Bioprocess Engineering, Second Edition IBDC Publishers

Animal cells are the preferred "cell factories" for the production of complex molecules and antibodies for use as prophylactics, therapeutics or diagnostics. Animal cells are required for the correct post-translational processing (including glycosylation) of biopharmaceutical protein products. They are used for the production of viral vectors for gene therapy. Major targets for this therapy include cancer, HIV, arthritis, cardiovascular and CNS diseases and cystic fibrosis. Animal cells are used as in vitro substrates in pharmacological and toxicological studies. This book is designed to serve as a comprehensive review of animal cell culture, covering the current status of both research and applications. For the student or R&D scientist or new researcher the protocols are central to the performance of cell culture work, yet a broad understanding is essential for translation of laboratory findings into the industrial production. Within the broad scope of the book, each topic is reviewed authoritatively by experts in the field to produce state-of-the-art collection of current research. A major reference volume on cell culture research and how it impacts on production of biopharmaceutical proteins worldwide, the book is essential reading for everyone working in cell culture and is a recommended volume for all biotechnology libraries.

Animal Cells as Bioreactors Garland Science

Modern Approaches to Animal Cell Technology is a collection of papers presented at the 1987 joint European Society for Animal Cell Technology-OHOLE conference held in Tiberias, Israel. Contributors explore modern approaches to animal cell technology and discuss the construction of the animal cell substrate, the physiology of those cells in a bioreactor type of environment, and the ways in which different products can be made from animal cells in culture and tested. This book is comprised of 59 chapters divided into nine sections and begins by outlining the history of issues and decisions that were made regarding the acceptability of various cell substrates, along with the use of continuous cell lines in biotechnology. The next chapter explores the feasibility, reproducibility, and the sensitivity of the dot-blot filter hybridization test to detect minute amounts of residual cellular DNA. The reader is then introduced to cells and cell lines such as monoclonal antibodies; cell growth and development; physiology of cells; and the use of bioreactors for culturing animal cells. Downstream unit processes, vaccines, immune system products, and toxicity testing with animal cells are also considered. This monograph will be a valuable resource for animal-cell technologists, biotechnologists, and microbiologists.

Animal Cell Culture Techniques Springer Science & Business Media

Gives an integrated view of how cultured animal cells are used for biopharmaceutical production, and of the new technical developments contributing to the improvements in safety, economics, and approach to drug production.

Bioreactors Alpha Science International Limited

Concise introduction to a major technique of cell biology laboratories for those new to the field.

Animal Cell Culture Garland Science

Cell culture techniques allow a variety of molecular and cell biological questions to be addressed, offering physiological conditions whilst avoiding the use of laboratory animals. In addition to basic techniques, a wide range of specialised practical protocols covering the following areas are included: cell proliferation and death, in-vitro models for cell differentiation, in-vitro models for toxicology and pharmacology, industrial application of animal cell culture, genetic manipulation and analysis of human and animal cells in culture.

Animal Cell Culture and Virology Butterworth-Heinemann

Scientists with long-refined expertise describe cutting-edge techniques for the production of therapeutic proteins and vaccines. Capturing the major advances that have occurred in both the science and the technology of these biopharmaceuticals, this important book covers the powerful new techniques used in genetically manipulating animal cells, optimizing their growth in defined media (particularly at large-scale), avoiding contamination, and in the harvesting and analysis of cell products. Topics include basic culture facilities and methods; molecular methods for gene transfection, cell immortalization and cell fusion; and techniques for the study of cell growth, viability, metabolism, and productivity. Animal Cell Biotechnology constitutes a comprehensive manual of state-of-the-art techniques for setting up a cell culture laboratory, maintaining cell lines, and optimizing critical parameters for cell culture.

Animal Cell Culture Butterworth-Heinemann

This new edition of Animal Cell Culture covers new or updated chapters on cell authentication, serum-free culture, apoptosis assays, FISH, genetic modification, scale-up, stem cell assays, 3-dimensional culture, tissue engineering and cytotoxicity assays. Detailed protocols for a wide variety of methods provide the core of each chapter, making new methodology easily accessible. Everyone working in biological and medical research, whether in academia or a commercial organization, practising cell culture will benefit greatly from this book.

Modern Approaches to Animal Cell Technology Springer Science & Business Media

Animal Cell Technology: from Biopharmaceuticals to Gene Therapy provides a comprehensive insight into biological and engineering concepts related to mammalian and insect cell technology, as well as an overview of the applications of animal cell technology. Part 1 of the book covers the Fundamentals upon which this technology is based and covers the science underpinning the technology. Part 2 covers the Applications from the production of therapeutic proteins to gene therapy. The authors of the chapters are internationally-recognized in the field of animal cell culture research and have extensive experience in the areas covered in their respective chapters.

Animal Cells: Culture and Media CRC Press

This book traces the history of the major ideas and gives an account of our current knowledge of cytokinesis.

Introduction to Cell and Tissue Culture Cambridge University Press

Animal Cell Culture is intended to fill any gaps in theoretical background of students of Biotechnology. The book, written after full laboratory exposure and experience will help updating the concepts in animal biotechnology and in developing ideas and concepts about the subject. New topics like method of transfection, transgenic animals, Bioforming, In-vitro fertilization, gene therapy delivery vehicle have been discussed in detail.

Principles Of Animal Cell Culture: Student Compendium. Textbook Student Edition Oxford University Press

It is a pleasure to contribute the foreword to Introduction to Cell and Tissue Culture: The Ory and Techniques by Mather and Roberts. Despite the occasional appearance of thought ful works devoted to elementary or advanced cell culture methodology, a place remains for a comprehensive and definitive volume that can be used to advantage by both the novice and the expert in the field. In this book, Mather and Roberts present the relevant method ology within a conceptual framework of cell biology, genetics, nutrition, endocrinology, and physiology that renders technical cell culture information in a comprehensive, logical for mat. This allows topics to be presented with an emphasis on troubleshooting problems from a basis of understanding the underlying theory. The material is presented in a way that is adaptable to student use in formal courses; it also should be functional when used on a daily basis by professional cell culturists in a- demia and industry. The volume includes references to relevant Internet sites and other use ful sources of information. In addition to the fundamentals, attention is also given to mod ern applications and approaches to cell culture derivation, medium formulation, culture scale-up, and biotechnology, presented by scientists who are pioneers in these areas. With this volume, it should be possible to establish and maintain a cell culture laboratory devot ed to any of the many disciplines to which cell culture methodology is

applicable.

Studyguide for Culture of Animal Cells Cambridge University Press

Animal cell culture is an important laboratory technique in the biological and medical sciences. It has become an essential tool for the study of most biochemical and physiological processes and the use of large-scale animal cell culture has become increasingly important to the commercial production of specific compounds for the pharmaceutical industry. This book describes the basic requirements for establishing and maintaining cell cultures both in the laboratory and in large-scale operations.

Minimal background knowledge of the subject is assumed and therefore it will be a readable introduction to animal cell culture for undergraduates, graduates and experienced researchers.

Reflecting the latest developments and trends in the field, the new topics include the latest theory of the biological clock of cell lines, the development of improved serum-free media formulations, the increased understanding of the importance and control of protein glycosylation, and the humanization of antibodies for therapeutic use.

Animal Cell Biotechnology Wiley-Liss

The aim of the Handbooks in Practical Animal Cell Biology is to provide practical workbooks for those involved in primary cell culture. Each volume addresses a different cell lineage, and contains an introductory section followed by individual chapters on the culture of specific differentiated cell types. The authors of each chapter are leading researchers in their fields and use their first-hand experience to present reliable techniques in a clear and thorough manner. Endothelial Cell Culture contains chapters on endothelial cells derived from 1) lung, 2) bone marrow, 3) brain, 4) mammary glands, 5) skin, 6) adipose tissue, 7) female reproductive system, and 8) synovium.

Molecular Biology of the Cell Universities Press

This masterful third edition of Freshney's Culture of Animal Cells updates and considerably expands the scope of its predecessor and still enables both the novice and the experienced researcher to apply the basic and more sophisticated techniques of tissue culture. New Topics covered include: the use of molecular techniques in cell culture, such as DNA fingerprinting, fluorescence in situ hybridization, and chromosome painting cell interactions in cell culture new methods for separating cells new or refined methods for accessing cytotoxicity, viability, and mutagenicity experimental details for culture of specialized cells types not covered in previous editions new or refined techniques for visualizing clues, including time-lapse photography and confocal microscopy The revised and expanded third edition offers the following features: over 350 new reference to the primary literature an international list of cell banks an international listing of reagents and commercial supplies a subject index a glossary Also available: 0471169021 Culture of Animal Cells: A Multimedia Guide CD-ROM \$150 est. From the reviews: "I strongly recommend this volume for any laboratory wishing to culture mammalian cells" - Biotechnology "It is not very often that it is possible to say of a book, 'I don't know how I managed without it previously.' Here is such a book" - Cell Biology International Reports

Basic Cell Culture Springer

Since the publication of the sixth edition of this benchmark text, numerous advances in the field have been made - particularly in stem cells, 3D culture, scale-up, STR profiling, and culture of specialized cells. Culture of Animal Cells: A Manual of Basic Technique and Specialized Applications, Seventh Edition is the updated version of this benchmark text, addressing these recent developments in the field as well as the basic skills and protocols. This eagerly awaited edition reviews the increasing diversity of the applications of cell culture and the proliferation of specialized techniques, and provides an introduction to new subtopics in mini-reviews. New features also include a new chapter on cell line authentication with a review of the major issues and appropriate protocols including DNA profiling and barcoding, as well as some new specialized protocols. Because of the continuing expansion of cell culture, and to keep the bulk of the book to a reasonable size, some specialized protocols are presented as supplementary material online. Culture of Animal Cells: A Manual of Basic Technique and Specialized Applications, Seventh Edition provides the most accessible and comprehensive introduction available to the culture and experimental manipulation of animal cells. This text is an indispensable resource for those in or entering the field, including academic research scientists, clinical and biopharmaceutical researchers, undergraduate and graduate students, cell and molecular biology and genetics lab managers, trainees and technicians.

General Techniques of Cell Culture CRC Press

This volume provides complete and thorough coverage of the classical and state-of-the-art methods used in cell culture. It also includes basic principles used in the selection of cells for specific scientific study, as well as analytical and procedural techniques. Key Features * Reviews basic principles of cell culture * Gives options and techniques on how to look at cells