Animal Cell And Tissue Culture

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Animal Cell and Tissue Culture John Wiley & Sons Incorporated
An interdisciplinary approach, integrating biochemistry, biology, genetics, and engineering for the effective production of protein pharmaceuticals. The volume offers a biological perspective of large-scale animal cell culture and examines diverse processing strategies, process management, regulator

Bioreactors Wiley
This book describes many aspects of tissue culture models in an extensive manner. The book includes many topics like, the development of cultural methods to produce massive neuronal syncytial connections and induce their fusion with formation of bi- and multinucleated cells, the applicability in research of cell lines derived from the cultivation of placenta derived cells and cell populations with properties of progenitor/stem cells, the procedures that may be used to regenerate cartilage tissue with appropriate mechanical properties, the improvements made in the use of cell culture for virus isolation, tissue-based models for HCV replication in vitro, cultures to study the pathogenicity of enteropathogenic bacteria, the use of viral DNA and cDNA Array in the diagnosis of respiratory tract infections (RTI) in comparison with routine diagnosis methods.

Principles Of Animal Cell Culture: Student Compendium. Textbook Student Edition Mjp Publishers
Both practical and theoretical issues of animal cell cultivation are described, including media formulation, the production and characterisation of cell issues from explants and the preservation of cell lines. The book investigates how pure cultures of animal cells may be isolated from their primary sources, examines the parameters which influence their growth in culture and explores how such parameters may be manipulated to modify cell yields.

Culture of Animal Cells LAP Lambert Academic Publishing
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.

Large-Scale Mammalian Cell Culture Technology Institute of Physics Publishing

This volume is intended as comprehensive introduction to current techniques in animal cell culture and the equipment needed to set up a tissue culture facility. The emphasis throughout, is on the practical aspects of cell culture required by advanced undergraduate students and postgraduates. It is intended for 2nd and 3rd year undergraduates in the biological sciences, postgraduates, research technicians and all who are new to working with tissue culture. Experienced workers should also find the book useful.

Principles and Practice of Animal Tissue Culture (Second Edition) Oxford University Press

Animal Cell Bioreactors provides an introduction to the underlying principles and strategies in the in vitro cell culture biotechnology. It addresses engineering aspects such as mass transfer, instrumentation, and control ensuring successful design and operation of animal cell bioreactors. The goal is to provide a comprehensive analysis and review in the advancement of the bioreactor systems for large-scale animal cell cultures. The book is organized into four parts. Part I traces the historical development of animal cell biotechnology. It presents examples of work in progress that seeks to make animal cell biotechnology processes as productive on a cost per unit of product basis as that achieved by other microbial systems. Part II includes chapters dealing with the implications of cell biology in animal cell biotechnology; protein-bound oligosaccharides and their structures; the development of serum-free media and its use in the production of biologically active substances; and the metabolism of mammalian cells. Part III focuses on animal cell cultivation, covering topics such as the fixed bed immobilized culture; three-dimensional microcarriers; and hydrodynamic phenomena in microcarrier cultures. Part IV discusses the design, operation, and control of animal cell bioreactors.

Aging in Cell and Tissue Culture BoD – Books on Demand

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.

Cell and Tissue Culture Springer Science & Business Media

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.

Animal Biotechnology Wiley-Interscience

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 experiences 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 reagants 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

Principles&Practices Of Animal Tissue Culture Springer Science & Business Media

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.

Molecular Biology of the Cell Universities Press

Tissue Culture: Methods and Applications presents an overview of the procedures for working with cells in culture and for using them in a wide variety of scientific disciplines. The book discusses primary tissue dissociation; the preparation of primary cultures; cell harvesting; and replicate culture methods. The text also describes protocols on single cell isolations and cloning; perfusion and mass culture techniques; cell propagation on miscellaneous culture supports; and the evaluation of culture dynamics. The recent techniques facilitating microscopic observation of cells; cell hybridization; and virus propagation and assay are also encompassed. The book further tackles the production of hormones and intercellular substances; the diagnosis and understanding of disease; as well as quality control measures. Scientists and professionals interested in methodology per se will find the book invaluable.

In Vitro Cultivation of Animal Cells John Wiley & Sons

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.

Cell Culture and Its Application Bios Scientific Pub Limited

This is a comprehensive research guide that describes both the key new techniques and more established methods. Every chapter discusses the merits and limitations of the various approaches and then provides selected tried-and-tested protocols, as well as a plethora of good practical advice, for immediate use at the bench. It presents the most accessible and comprehensive introduction available to the culture and experimental manipulation of animal cells. Detailed protocols for a wide variety of methods provide the core of each chapter, making new methodology easily accessible. This book is an essential laboratory manual for all undergraduates and graduates about to embark on a cell culture project. It is a book which both experienced researchers and those new to the field will find invaluable.

Animal Cell Culture Techniques Academic Press

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.

Basic Cell Culture Protocols Academic Press

Cell Culture and Its Application covers the proceedings of the First International Cell Culture Congress Symposium, which focuses on how cell culture technology could impact on cell biology. The symposium aims to establish facilities for the cultivation of mammalian cells, which in turn would hopefully enhance basic cell biology research. The book is organized into four symposium and workshop sessions, encompassing 45 chapters. The opening chapter recognizes the interlocking relationship of cell culture technology and substantive cell biology. Chapters 2-5 describe the biochemical events that mark the cell cycle, with emphasis on occurrence of histone phosphorylation at each cycle. A discussion on cell differentiation, as a phenomena of interacting, inductive, and inhomogeneous cell populations, is included in these chapters. The second symposium session deals with signs of a revolution in progress in cell culture technology. This includes impact of tissue culture in physiological research course and in understanding of integrated physiology. The last two symposium sessions cover the large-scale production of virus from tissue cultures for cell antigens. An approach to the study of aging using diploid human cells in culture as a model system is also presented. It involves isolation and characterization of HLA antigens from cultured cells and their contribution to the study of disease. A brief discussion on mycoplasma contamination, microplasma-cell-virus interaction, and advantages and limitations of direct and indirect culture for primary isolation and detection of mycoplasma contamination is provided. The book then proceeds by discussing cell differentiation of specific cell or organ, such as testis, sensory cell, hepatocyte, embryonic muscle cell, and brain cortex. The concluding chapters cover nutritional requirements for cell growth, defined culture media for specific cell type, issues and problems related to large-scale cell production, and quality control. Cell biologists and researchers will find this book invaluable.

Culture of Animal Cells OUP Oxford

Cell and tissue culture is a technique in which plant or animal cells are grown under controlled conditions in the laboratory. This is then used for the analysis of the cells themselves, the assessment of the cell's response to chemicals, or as a tool to produce cellular-derived protein products. This book is a collection of fundamental and specific applied procedures in cell and tissue culture which form the basis of the new medical techniques of tissue engineering and gene therapy. It combines both detailed laboratory procedures and informative overviews. * Provides step-by-step protocols with troubleshooting tips and notes on time considerations. * Main procedures are supplemented by alternative procedures, background information and references. * Experimental examples indicate expected results.

Applications of Plant Cell and Tissue Culture Garland Science

The annual meeting of the European Tissue Culture ., Society was held at the Castle of Zinkovy in Czechoslovakia from May 7-10,1969. Included as part of this meeting was a symposium on "Aging in Cell and Tissue Culture." This volume contains the papers presented at that symposium. The use

of cell and tissue culture techniques to study the mechanism of aging is not new. For example, it has long been known that age-associated changes which occur in plasma can inhibit cell proliferation in vitro; also that the time lapse prior to cell migration from ex planted tissue fragments increases with increasing age. These are both examples of the expression in vitro of aging in vivo. More recently, attention has been focused on the occurrence of senescence in vitro. These investi gations have included studies of alterations in non dividing cell cultures, and to a somewhat greater extent, of age-related changes in the proliferative capacity of cells in vitro. For example, cells derived from human fetal lung retain many properties of normal cells including a stable normal diploid karyotype and these cultures have been shown to have a limited life-span in vitro. In addi tion, cultures derived from human adult lung show the same normal characteristics and appear to have a shorter life span than cells derived from fetal lung.

Animal Tissue Culture Firewall Media

The book "New Insights into Cell Culture Technology" focuses on many advanced methods and techniques concerned with cell culture. The contributing authors have discussed various developments in cell culture methods, the application of insect cells for the efficient production of heterologous proteins, the expansion of human mesenchymal stromal cells for different clinical applications, the remote sensing of cell culture experiments and concepts for the development of cell culture bioprocess, continuous production of retroviral pseudotype vectors, and the production of oncolytic measles virus vectors for cancer therapy. This book is an original contribution of experts from different parts of the globe, and the in-depth information will be a significant resource for students, scientists, and physicians who are directly dealing with cells.["Culture" is essential for human life and also the life of a cell. - Sivakumar Gowder]

Animal Cell Culture Methods Elsevier

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.

Introduction to Cell and Tissue Culture Springer

Biotechnology as any technique that used to living organisms to make or modify a product, to improve animals or plants or to develop micro-organisms for specific uses. The book focuses on development and modern applications of animal biotechnology.based on newly developed techniques. The book is intended for and post graduates of pure, applied science and veterinary students and also for the non specialists in other disciplines who wish to understand animal biotechnology.