Culture Of Animal Cells A Manual Of Basic Technique

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Principles Of Animal Cell Culture: Student Compendium. Textbook Student Edition

KOLE CORDOVA

Animal Cell Bioreactors
Cambridge University Press
Animal cell technology is a discipline of growing importance, which aims not merely at understanding structure, function and behaviour of differentiated animal cells, but especially at the development of their abilities useful for clinical application. Topics of interest in this regard include: viral vaccines, pharmaceutical proteins and novel applications such as gene therapy and organ culture. Undoubtedly, these Proceedings of the joint Meeting of the European Society for Animal Cell Technology and the Japanese Association for Animal Cell Technology (Veldhoven, The Netherlands, September 1994) review the most recent status of the field, and will be most valuable to anyone actively involved in the culture of animal cells and its applications. The contributions to this volume were strictly selected on the basis of quality and novelty of contents. Kluwer is honoured to be able to add this work to its strongly developing publication programme in cell and tissue culture, which now has its connections to all major Societies in this field worldwide. Audience: Cell biologists, biochemists, molecular biologists, immunologists, virologists and all other disciplines related to animal cell technology, working in an academic environment, as well as in (biotechnology or pharmaceutical) industry.

Methods in Cell Biology
Alpha Science International, Limited
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 Technology: Basic & Applied Aspects
Cram101
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 Culture Jones & Bartlett Learning

Culture of Animal CellsJohn Wiley & Sons

Animal Cell Culture Methods New India Publishing

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 Taylor & Francis

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 transaction, transgenic animals, Bioforming, In-vitro fertilization, gene therapy delivery vehicle have been discussed in detail.

Animal Cells: Culture and Media Academic Press

The book is written in a very simple and lucid manner so that everybody can read and understand it very easily. The book is useful for scientists, teachers, students, officers, diagnosticians and laboratory technicians as cell culture has become an essential and indispensable tool in many branches of life sciences and application of cell culture is getting increased exponentially day by day in various fields of biological and medical research arena. This book will provide detailed information on all the aspects of the cell culture starting from establishment of a cell culture laboratory, primary culture, secondary culture, media filtration, collection, preservation and dispatch of samples for diagnosis of viral diseases, cell line authentication and characterization, contamination and curing, cryopreservation of cells and revival of cells besides description on ELISA, SNT, virus titration etc. In my opinion, this book will be extremely useful to the persons who are directly and indirectly involved in cell culture work for various biological experiments. Finally, students and examinees can enrich their knowledge on cell culture from the book and can face any challenge easily and confidently. s on the latest developments on

biotechnological approaches for fish disease diagnostic, infection and immunity of brood carps, cryoconservation of fishes, probiotics and nanotechnology in aquaculture are of paramount interest, in addition to information on prawn aquaculture, ornamental fish farming and trade. Information on various software and their application for exploratory data analysis and data mining leading to knowledge discovery and visualization is the main attraction of the book. Another important feature of the book is that one can find appropriate as well as illustrated examples exclusively with fisheries data. The statistics section includes biometrical and qualitative techniques in genetics and selective breeding of fish, besides fundamental statistical test, design of experiments and sampling methods for planning of experiments and survey in fisheries and aquaculture research. The book also includes econometric approach for technical efficiency estimation and input-output analysis, project evaluation, and impact assessment, linear programming, market intelligence, fisheries legislation, policy and IPR issues all of which are new in the field of fisheries and aquaculture.

General Techniques of Cell Culture Taylor & Francis

New data on animal cell technology are brought together in this volume, with emphasis given to the basic characterization of cell lines. The merits of different cell culture systems are examined and investigations into the factors influencing cell growth and productivity are presented. A special section deals with the biological properties of proteins produced by engineered animal cells. All those involved in the culture of animal cells will find this volume invaluable.

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

This reference guide covers the fundamentals of animal cell cultures. It includes details of culture media, supplements, culture vessels, standard cell lines, passaging, cell separation techniques, cryopreservation, transfection, cell cloning and the creation of cell lines.

Modern Approaches to Animal Cell Technology John Wiley & Sons

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 Cell Culture OUP Oxford

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 Biotechnology Universities 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.

Culture of Animal Cells Set 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.

Fundamental and Applied Aspects of Animal Cell Cultivation Wiley-Liss
Vol. I: The work presented in these two volumes is the collaborative effort of over twenty undergraduate science faculty, whose common goal was to develop a text of unique and flexible laboratory activities focusing on the theory and practice of biotechnology for undergraduate students. The books are designed to provide flexibility for easy integration into any course in the life sciences with an experimental emphasis.

Principles and Practice of Animal Tissue Culture (Second Edition) Oxford University Press, USA
This updated and expanded edition of a

classic text allows novices and experienced researchers alike to apply both basic and sophisticated techniques of tissue culture. Coverage helps readers assess the role of cell cultures as models for in vivo processes, while expanded descriptions of protocols in areas of new technology and descriptions of improved serum-free media enables them to perform a wide range of specialized procedures without conducting additional research. New to this edition is coverage of induction of differentiation, the transformed phenotype, cytotoxicity and viability assays, culture of tumor tissue from animals and humans, and three-dimensional culture systems, including organotypic and histotypic cultures. Also includes a glossary, an international list of cell banks, an extensive listing of reagents and commercial suppliers, and over 600 literature references.

Animal Cell Culture Wiley-Liss

Cell culture refers to the removal of cells from an animal or plant and their subsequent growth in a favourable artificial environment. The cells may be removed from the tissue directly and disaggregated by enzymatic or mechanical means before cultivation, or they may be derived from a cell line or cell strain that has already been established. Stem cells retain the capacity to self renew as well as to produce progeny with a restricted mitotic potential and restricted range of distinct types of differentiated cell they give rise to. The formation of blood cells, also called haematopoiesis, is the classical example of concept of stem cells. Animal cell and tissue culture is an integral part of biotechnology and this book covers all the aspects of animal cell culture. Animal cells are used for making new vaccines, specific animal proteins such as intergerons, blood factors and hormones, monoclonal antibodies for use as diagnostic and therapeutics, gene probes as diagnostic too, enzymes and last but not the least many new and important compounds. This book contains eleven Chapters, which deal with historic developments, laboratory design, sterilization procedures and various facets of animal cell culture. This includes preservation, characterizations, storage and transport of cells, their monitoring and technologies for cell banking.

Culture of Animal Cells Set Wiley-Liss

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

Animal Cell Technology NUS 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.

Biotechnology: Plant biotechnology, animal cell culture, immunobiotechnology

Butterworth-Heinemann

Animal Cell Culture: A Practical Approach has sold over 10,000 copies since its publication in 1986, and remains one of the most popular titles in the series. This new edition takes account of the progress that has been made in the field. Although the basic principles remain the same,significant advances have been made in areas such as serum-free media, scale-up, and flow cytometry. As these techniques have developed as tools for the cell biologist, their availability to the non-specialist has also increased dramatically. Use of the tetrazolium salt MTT as a colorimetricindicator of viability has made a considerable impact on cytotoxity assay, and DNA fingerprinting has revolutionized the identification of individual cell strains. These, and other developments in the techniques described have made this new edition essential. The emphasis remains on presentingtechniques in a readily accessible form, with detailed protocols given throughout. This volume will be of use to researchers involved in both biological research and the commercial exploitation of animal cell culture.

Culture of Animals Cells

Cambridge University Press

FRESHNEY'S CULTURE OF ANIMAL CELLS THE NEW EDITION OF THE LEADING TEXT ON THE BASIC METHODOLOGY OF CELL CULTURE, FULLY UPDATED TO REFLECT NEW APPLICATIONS INCLUDING IPSCS, CRISPR, AND ORGAN-ON-CHIP TECHNOLOGIES Freshney's Culture of Animal Cells is the most comprehensive and up-to-date resource on the principles, techniques, equipment, and applications in the field of cell and tissue culture. Explaining both how to do tissue culture and why a technique is done in a particular way, this classic text covers the biology of cultured cells, how to select media and substrates, regulatory requirements, laboratory protocols, aseptic technique, experimental manipulation of animal cells, and much more. The eighth edition contains extensively revised material that reflects the latest techniques and emerging applications in cell culture, such as the use of CRISPR/Cas9 for gene editing and the adoption of chemically defined conditions for stem cell culture. A brand-new chapter examines the origin and evolution of cell lines, joined by a

dedicated chapter on irreproducible research, its causes, and the importance of reproducibility and good cell culture practice. Throughout the book, updated chapters and protocols cover topics including live-cell imaging, 3D culture, scale-up and automation, microfluidics, high-throughput screening, and toxicity testing. This landmark text: Provides comprehensive single-volume coverage of basic skills and protocols, specialized techniques and applications, and new and emerging developments in the field Covers every essential area of animal cell culture, including lab design, disaster and contingency planning, safety, bioethics, media preparation, primary culture, mycoplasma and authentication testing, cell line characterization and cryopreservation, training, and troubleshooting Features a wealth of new content including protocols for gene delivery, iPSC generation and culture, and tumor spheroid formation Includes an updated and expanded companion website containing figures, artwork, and supplementary protocols to download and print The eighth edition of Freshney's Culture of Animal Cells is an indispensable volume for anyone involved in the field, including undergraduate and graduate students, clinical and biopharmaceutical researchers, bioengineers, academic research scientists, and managers, technicians, and trainees working in cell biology, molecular biology, and genetics laboratories.