JIMD Reports

E. Morava, G. Brown (Eds), Managing editor: V. Peters, Editors-in-chief: J. Zschocke, K. M. Gibson

Volume 7

G. Brown, University of Oxford, UK; E. Morava, Radboud University Nijmegen, The Netherlands (Eds)

JIMD Reports - Case and Research Reports, 2012/4

Editors-in-chief: J. Zschocke, Medical University Innsbruck, Austria; K. M. Gibson, Michigan Technological University, Houghton, USA; Managing editor: V. Peters, Heidelberg University Hospital, Germany

JIMD Reports publishes case and short research reports in the area of inherited metabolic disorders. Case reports highlight some unusual or previously unrecorded feature relevant to the disorder, or serve as an important reminder of clinical or biochemical features of a Mendelian disorder.

Features

► Unique collection of case and research reports on rare metabolic disorders
► Contains unusual or previously unrecorded features relevant to metabolic disorders
► All contributions rigorously peer-reviewed

Contents

Different case studies.

Fields of interests

Human Genetics; Metabolic Diseases; Pediatrics

Target groups

Research

Discount group

Professional Non-Medical

Twenty Years of Progress in GW/P Body Research

GW bodies are novel cytoplasmic foci that were discovered and named by Dr. Chan’s group in 2002. These bodies are now known to be active cytoplasmic foci involved with the new gene regulation process mediated by microRNA that leads to translational repression and mRNA degradation.

Features

► Provides a history of the discovery of cytoplasmic structures
► Serves as a 10 year review of researchers’ current knowledge in subcellular structures
► This book appeals to cell biologists, investigators involved in microRNA and post-translational regulation of gene expression research, clinical scientists, and industries that are now using knowledge of the miRNA pathway to design and develop new therapeutics for a broad range of conditions

Contents

Preface.
Introduction.
The Discovery of GW Bodies and GW 182.
The Discovery of P Bodies.
Autoantibodies to Su/Ago2.
Autoantibodies to Ge-1 and other antigens associated with GW/P Bodies.
Function of GW 182 in RNAi.
mRNA Translation Repression.
Gawky.
GW 182 and Translation Repression.
GW 182 Associated Complex.
Dcp-1 and Role in Assembly of P Bodies.
GW/P Bodies-Relationship to and Interaction with Stress Granules.
Relationship of Other Cellular RNP-containing bodies to GW/P Bodies.
GWBs and other LPS Response.
Conclusion.

Fields of interests

Human Genetics; Cell Biology; Biochemistry, general

Target groups

Research

Discount group

Professional Non-Medical

Due December 2012

2013. XXXIV, 480 p. 49 illus., 1 in color. (Advances in Experimental Medicine and Biology, Volume 771)

Hardcover

► approx. $239.00


Due December 2012

2013. V, 200 p. 46 illus., 19 in color. (Advances in Experimental Medicine and Biology, Volume 768)

Hardcover

► $189.00

ISBN 978-1-4614-5106-8

Due September 2012

2013. VII, 128 p. 28 illus., 8 in color. Softcover

► $139.00

ISBN 978-3-642-32441-3

Due September 2012

2013. XXXIV, 480 p. 49 illus., 1 in color. (Advances in Experimental Medicine and Biology, Volume 771)

Hardcover

► approx. $239.00

A. J. Hannan, University of Melbourne, Parkville, VIC, Australia (Ed)

**Tandem Repeat Polymorphisms**

**Genetic Plasticity, Neural Diversity and Disease**

**Features**
- Focuses on key aspects of TRPs in health and disease
- Provides a detailed discussion of repeat sequences as mutable sites providing genetic variability upon which natural selection can act
- Provides insights into how expanded polyalanine in specific proteins leads to developmental abnormalities and neurocognitive dysfunction

**Contents**
Tandem Repeat Polymorphisms: Mediators of Genetic Plasticity, Modulators of Biological Diversity and Dynamic Sources of Disease Susceptibility. - Evolution of Simple Sequence Repeats as Mutatable Sites. - Single Amino Acid and Trinucleotide Repeats: Function and Evolution. - Promoter Microsatellites as Modulators of Human Gene Expression. - Dynamic Mutations: Where Are They Now?. - Unstable Mutations in the FMR1 Gene and the Phenotypes. - Molecular Pathways to Polyglutamine Aggregation. - Polyglutamine Aggregation in Huntington and Related Diseases. - Selective Neurodegeneration, Neuropathology and Symptom Profiles in Huntington's Disease. - Kennedy's Disease: Clinical Significance of Tandem Repeat s in the Androgen Receptor. - Characterising the Neuropathology and Neurobehavioural Phenotype in Friedreich Ataxia: A Systematic Review. - Polyalanine Tract Disorders and Neurocognitive Phenotypes.

**Fields of interest**
Biomedicine general; Neurosciences; Gene Function

**Target groups**
Research

**Discount group**
Professional Non-Medical

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J. R. Harris, University of Mainz, Germany (Ed)

**Protein Aggregation and Fibrillogenesis in Cerebral and Systemic Amyloid Disease**

**Contents**

**Fields of interest**
Biomedicine general; Entomology; Medicine/Pub lic Health, general

**Target groups**
Research

**Discount group**
Professional Non-Medical

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C. Has, C. Sitaru, Universitätsklinikum Freiburg, Germany (Eds)

**Molecular Dermatology**

**Methods and Protocols**

**Contents**
- Molecular Dermatology Comes of Age.
- Molecular Diagnosis of Autoimmune Blistering Diseases.
- Molecular Diagnosis of Genodermatoses.
- Three-Dimensional Visualization of the Molecular Architecture of Cell-Cell Junctions In Situ by Cryo-Electron Tomography of Vitreous Sections.
- 3D Visualization of Epidermal Langerhans Cells.
- In Vivo Imaging of Lymph Node Lymphangiogenesis by Immuno-Positron Emission Tomography.
- Optical Imaging of HPV Infection in a Murine Model.
- Laser Scanning Microscopy Approach for Semiquantitation of In Vitro Dermal Particle Penetration.
- Analysis of Cutaneous Somatic Mosaicism.
- Global Proteome Analyses of SILAC Labeled Skin Cells.
- MicroRNA Profiling During Human Keratinocyte Differentiation Using a Quantitative Real Time PCR Method.
- Cell Death in the Skin: How to Study Its Quality and Quantity?
- In Vitro Pathogenicity Assay for Anti-Demoglein Autoantibodies in Pemphigus.
- Induction of Granulocyte-Dependent Dermal Epidermal Separation by Autoantibodies Ex Vivo.
- Analysis of Collective Invasion of Carcinoma Cells in a 3D Organotypic Model.
- Isolation of Melanoma Tumor Initiating Cells from Surgical Tissues.
- Detection, Enumeration, and Characterization of Immune Cells Infiltrating Melanoma Tumors.
- Analysis of Cell Movement Between Skin and Other Anatomical Sites In Vivo Using Photoconvertible Fluorescent Protein "Kaede".
- Transgenic Mice.
- Reconstitution of Skin Fibrosis Development Using a Tissue Engineering Approach.
- Bioengineered Skin Humanized Model of Psoriasis.
- Induction of Contact Hypersensitivity in the Mouse Model. [...]
Cognitive Agent-based Computing

Exploring Emergent Behavior in Complex Adaptive Systems using Agent-based Modeling & Complex Networks

Complex Systems are made up of numerous interacting sub-components. Non-linear interactions of these components or agents give rise to emergent behavior observable at the global scale. Agent-based modeling and simulation is a proven paradigm which has previously been used for effective computational modeling of complex systems in various domains.

Features
- Provides a single hands-on guide to developing cognitive agent-based models
- Presents practical ideas and examples for researchers and practitioners
- Explores the emergence across various types of complex systems

Contents
1. Introduction to Agent-based Computing.
2. Concept of Agent.
3. Agent vs. Intelligent Agent.
4. Unstructured programming.
5. Structured programming.
6. Object Oriented programming.
8. Intelligent Agent Design issues.
10. Agent-based Modeling in depth.
13. Applications in Social Sciences.
14. Application in CS.
15. Applications in Life Sciences.

Fields of interests
Neurosciences; Computer Science; general; Mathematics; general

Target groups
Research

Discount group
Professional Non-Medical
Current Topics in Microbiology and Immunology


Volume 363

M. G. Katze, University of Washington at Seattle, WA, USA (Ed)

Systems Biology

Features

► This volume will be of great interest to investigators already engaged in systems biology research as well as to those scientists and clinicians who may be seeking an introduction to the field. ► By assembling a diverse spectrum of perspectives and expertise, it is hoped that the information provided will serve as a catalyst for additional innovative approaches.

Contents

Introduction.- Editorial.- System approaches to dissecting Immunity.- Integrative omics and modeling of pathogenic Salmonellae and Yersinia.- The role and contribution of system biology to the non-human primate model of influenza pathogenesis and vaccinology.- Host-pathogen genome politics and policies.- The TB regulatory network.- Proteomic network understanding of immune cell signaling and cell-cell communication via data-driven modeling.- Systems vaccinology.- Correlates of vaccine and natural mediated immune protection in HIV infection.- System biology approach for new target and biomarker identification.- Subject index.

Fields of interests

Biomedicine general; Medical Microbiology; Immunology

Target groups

Research

Discount group

Professional Non-Medical

S. R. King, Baylor College of Medicine, Houston, TX, USA

Neurosteroids and the Nervous System

While steroids from the periphery have profound effects on the nervous system, the nervous system also produces its own steroids de novo ("neurosteroids"). The physiological importance of neurosteroids is beginning to be understood. These steroids potentially have roles in sedative/hypnotic behavior, anxiety, learning, and memory. At the cellular level, neurosteroids affect neuronal excitability, synaptic plasticity and cell proliferation and survival. Early findings hold promise for future strategies to treat specific psychological-conditions and neurological diseases. This Brief will focus on the current state of understanding of brain-derived neurosteroids.

Contents

N/A

Fields of interests

Neurosciences; Neurochemistry

Target groups

Research

Discount group

Professional Non-Medical

A. Krause, Actelion Pharmaceuticals Ltd., Allschwil, Switzerland; M. O’Connell, Tibco Software Inc., New York, NY, USA (Eds)

A Picture is Worth a Thousand Tables

Graphics in Life Sciences

Contents

TRIM/RBCC Proteins

The genomic ‘golden age’ has delivered the sequence of numerous novel genes while leaving us with many unanswered questions about their function. This is particularly true for gene families as, often, members are annotated based on homology rather than function. The tripartite motif family belonged to this category, although, during the last few years, the field boosted an important wealth of biochemical, cellular and physiological breakthrough data.

Features
- Gives an overview of state-of-the-art basic findings on the tripartite motif (TRIM, also known as RBCC) family members
- Discusses physiological and pathological roles of the TRIM
- Provides the foundation to contribute to foster novel discoveries in the rapidly evolving field of TRIM proteins biology

Contents

Fields of interests
Biomedicine general; Molecular Medicine

Target groups
Research

Discount group
Professional Non-Medical

Due November 2012

2013. XX, 146 p. 25 illus. (Advances in Experimental Medicine and Biology, Volume 770) Hardcover

► approx. $189.00
ISBN 978-1-4614-5397-0

Microdialysis in Drug Development

A vast number of diagnostic and therapeutic decisions are based on measuring blood concentrations of molecules, yet most biochemical and pharmacological events actually take place in the tissues.

Features
- Authored by international experts
- Provides a comprehensive overview of microdialysis and its application for measuring drug distribution in drug development
- Describes cutting edge field

Contents

Fields of interests
Pharmaceutical Sciences/Technology; Biomedicine general

Target groups
Professional/practitioner

Discount group
Professional Non-Medical

Due August 2012

2013. XI, 408 p. 55 illus., 29 in color. (AAPS Advances in the Pharmaceutical Sciences Series, Volume 4) Hardcover

► $209.00

Advances in Biology and Therapy of Multiple Myeloma

Volume 1: Basic Science

Despite the advances in conventional, novel agent and high dose chemotherapy multiple myeloma (MM) remains incurable. In order to overcome resistance to current therapies and improve patient outcome, novel biologically-based treatment approaches are being developed. Current translational research in MM focusing on the development of molecularly-based combination therapies has great promise to achieve high frequency and durable responses in the majority of patients. Two major advances are making this goal possible.

First, recent advances in genomics and proteomics in MM have allowed for increased understanding of disease pathogenesis, identified novel therapeutic targets, allowed for molecular classification, and provided the scientific rationale for combining targeted therapies to increase tumor cell cytotoxicity and abrogate drug resistance. Second, there is now an increased understanding of how adhesion of MM cells in bone marrow (BM) further impacts gene expression in MM cells, as well as in BM stromal cells (BMSCs).

Features
- Focuses on biology of MM especially, oncogenic changes, cell signaling pathways and intermediate molecules that are being investigated for development of novel therapies
- Explores all clinically important targets including those which have either therapeutic or prognostic significance
- Provides perspective on new developments and information with emphasis both on basic science as well as its clinical impact

Fields of interests
Cancer Research; Pharmacology/Toxicology

Target groups
Research

Discount group
Professional Non-Medical

Due November 2012

2013. VIII, 319 p. 34 illus., 23 in color. Hardcover

► $209.00
ISBN 978-1-4614-4665-1
Central Nervous System Metastasis, the Biological Basis and Clinical Considerations

This volume will cover what is known regarding the biology and treatment of CNS metastasis, including novel chapters such as the future of targeted therapies. It will begin with an overview of the natural history and risk factors for CNS metastases that will broadly cover all cancer histologies. This will be followed by 3 chapters that will cover the biology.

Contents


Fields of interests

Cancer Research; Neurosciences; Oncology

Target groups

Research

Discount group

Professional Non-Medical

Advances in DNA Repair in Cancer Therapy

A comprehensive review of the recent developments in DNA repair research that have potential for translational applications. The book explains in detail the various biological mechanisms by which cancer cells can circumvent anticancer therapy and limits its usefulness in patients.

Contents

Preface.- Repair of DNA Interstrand Cross-links Produced by Cancer Chemotherapeutic Drugs.- DNA-PK, a pharmacological target in cancer chemotherapy and radiotherapy?.- Growth factor receptor signaling, DNA damage response, and cancer cell susceptibility to chemotherapy and relapses.- The relationship between DNA-repair genes, cellular radiosensitivity and the response of tumors and normal tissues to radiotherapy.- Important Roles of ERCC1 in DNA Repair and Targeted Therapy.- The role of BRCA1 and BRCA2 in anticaner drug therapy.- DNA-PK in CLL Chemotherapy.- Poly(ADP) ribose polymerase at the interface of DNA damage signalling and DNA repair.- Cellular protection against the antitumor drug bleomycin.- ATR as a Therapeutic Target.- Telomeres, Telomerase and DNA Damage Response in Cancer Therapy.- RAD51 is a key protein of DNA repair and homologous recombination in humans.- Index.

Fields of interests

Cancer Research; Molecular Medicine

Target groups

Research

Discount group

Professional Non-Medical

Phosphorescent Oxygen-sensitive Probes

Biological O2 sensing probes and measurement techniques were first introduced in the late 80s. In the last 3-5 years they have undergone major development that have made them available and affordable for a broad range of applications in various disciplines of the life and biomedical sciences. These new chemistries and technologies, which are significantly different from the majority of other fluorescence-based probes and detection techniques, have already demonstrated their high utility. This book will provide a systematic overview of the existing and emerging O2 sensing technologies in their different modifications, a practical guide to their rational selection and use, and examples of biological applications/case studies, including details on how to set up and conduct such experiments, troubleshoot and interpret the data.

Contents

O2-sensitive probes based on phosphorescent metalloporphyrins.- O2 analysis on a fluorescence spectrometer or plate reader.- O2 Imaging in biological specimens.

Fields of interests

Molecular Medicine; Biological Techniques; Biochemical Engineering

Target groups

Research

Discount group

Professional Non-Medical
Antibody-Drug Conjugates and Immunotoxins
From Pre-Clinical Development to Therapeutic Applications

Contents

Fields of interests
Cancer Research; Biomedicine general; Antibodies

Target groups
Research

Discount group
Professional Non-Medical

Stimulation and Inhibition of Neurons

Contents
HPV and Cancer

“HPV and Cancer” is a concise read that covers all aspects of the Human Papilloma Virus as it relates to human cancers. While written by professionals, it is designed to be understandable by those that are not in the field, yet it has the technical details that professionals want to stay abreast of this changing field. The book starts out the history of HPV and progresses into the molecular biology of the virus and our current understanding of the structure and functions of the proteins and genes it encodes. We then look at the dynamic trends of this infectious agent in the human population, how it interacts with human cells, and the role it plays with other organisms to produce both benign and malignant tumors.

Features
- Up to date information on the topic
- Completes the reader from very basic to advance concepts
- Global in the nature of the content - basic science to clinical

Contents

Fields of interests
Cancer Research; Biomedicine general; Virology

Target groups
Professional/practitioner

Discount group
Professional Non-Medical

Seed-borne plant virus diseases

Seeds provide an efficient means in disseminating plant virus and viroid diseases. The success of modern agriculture depends on pathogen free seed with high yielding character and in turn disease management. There is a serious scientific concern about the transmission of plant viruses sexually through seed and asexually through plant propagules. The present book provides the latest information along with the total list of seed transmitted virus and viroid diseases at global level including, the yield losses, diagnostic techniques, mechanism of seed transmission, epidemiology and virus disease management aspects. Additional information is also provided on the transmission of plant virus and virus-like diseases through vegetative propagules. It is also well known that seed transmitted viruses are introduced into new countries and continents during large-scale traffic movements through infected germplasm and plant propagules.

Features
- No such information available in the market
- Information is recent and useful for researchers, certification agencies, seed industry and for policy makers
- Importance of seed transmitted viruses very succinctly highlighted

Contents

Fields of interests
Virology; Plant Pathology; Plant Sciences

Target groups
Research

Discount group
Professional Non-Medical

Novel Immune Potentiators and Delivery Technologies for Next Generation Vaccines

Development of new-generation vaccines is now more challenging than ever, as identifying, purifying and evaluating vaccine antigens is a complex undertaking. Most importantly, once the relevant antigens have been identified, key focus then shifts to the development of suitable delivery systems and formulations to achieve maximum in vivo potency with minimum potential side effects.

Features
- Focus on the future of vaccines
- Address delivery systems for vaccines
- Explore the use of nanoparticles in vaccine delivery

Contents
Critical parameters that govern the optimization of vaccine formulations. - Development of Biophysical assays to better understand vaccine formulation stability. - Rational design of vaccine formulations. - Monitoring stability and efficacy of multi-valent vaccine formulations. - Overcoming challenges of multi component alum formulations. - Delivery of various TLR adjuvants using alum platform. - History of use of emulsions for vaccine delivery. - MF59 o/w emulsion: History and safety over the last 2 decades. - Optimizing novel nanoemulsions for delivery of next generation antigens and adjuvants. - Modulating vaccine responses with innate immunity: Use of PLGA nanoparticles for delivering multiple TLR agonists. - Shape matters: Role of nanoparticle shape in induction of immune responses to a vaccine.

Fields of interests
Immunology; Medical Microbiology; Vaccine

Target groups
Research

Discount group
Professional Non-Medical
Neurofibromatosis Type 1
Molecular and Cellular Biology

Neurofibromatosis type 1 (NF1), caused by mutational inactivation of the NF1 tumour suppressor gene, is one of the most common dominantly inherited human disorders, affecting 1 in 3000 individuals worldwide.

Features
- Represents the most comprehensive and up-to-date account of this common neuroectodermal disorder
- An outstanding panel of scientists and clinicians covering all aspects of NF1 biology
- Lessons learned from the molecular biology of NF1 tumorigenesis can be extrapolated to many other cancers

Contents
From the Contents: von Recklinghausen disease.- Clinical diagnosis and atypical cases.- Management and treatment of NF1: complex UK NF1 clinics.- Mortality in NF1.- The cognitive profile of NF1 children, therapeutic implications.- Clinical expression of NF1 in monozygotic twins.- Whole body MRI studies in NF1 patients.- Quality of Life in NF1.- NF1 gene: promoter, 3’UTR and complex features.- Germline mutational spectrum of NF1 and Genotype-Phenotype Correlations.- Splicing mechanisms and mutations in the NF1 gene.- NF1 Germline and somatic mosaicism.- Deep intronic NF1 mutations and possible therapeutic interventions.- NF1 microdeletions and mutational mechanisms.- NF1 somatic mutational spectrum.- Social Stigma in NF1.- Personalized Medicine in NF1.- Future Directions - Where do we go from here.

Fields of interests
Human Genetics; Cancer Research; Oncology

Target groups
Research

Discount group
Professional Non-Medical

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Antigen Processing
Methods and Protocols

Features
- Details comprehensive methods to study antigen presentation by classical and non-classical MHC proteins
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

Fields of interests
Immunology; Antibodies

Target groups
Professional/practitioner

Discount group
Professional Non-Medical

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Advances in Understanding the Biology of Halophilic Microorganisms

This book is designed to be a long term career reference. The chapters present modern procedures. This is a how-to-book with a difference.

Features
- The development of halophilic geomicrobiology using underground halite
- How to identify the best, most pristine salt crystals
- How to conduct field research on hypersaline microbes and viruses
- The use of halophilic microbes in education
- The application of population genetics to understand hypersaline microbial communities

Contents
1. Approaches toward the study of halophilic microorganisms in their natural environments: who are they and what are they doing?.
3. Taxonomy of Halophilic Archaea and Bacteria.
7. DNA Replication and Repair in Halophiles.
9. Worth Your Salt: Halophiles in Education.

Fields of interests
Biomedicine general; Life Sciences, general; Microbiology

Target groups
Research

Discount group
Professional Non-Medical
**New Series**

Y. Yao Shugart, National Institute of Mental Health, Bethesda, MD, USA (Ed)

**Applied Computational Genomics**

“Applied Computational Genomics” focuses on an in-depth review of statistical development and application in the area of human genomics including candidate gene mapping, linkage analysis, population-based, genome-wide association, exon sequencing and whole genome sequencing analysis. The authors are extremely experienced in the area of statistical genomics and will give a detailed introduction of the evolution in the field and critical evaluations of the advantages and disadvantages of the statistical models proposed.

**Features**

- Provides detailed introduction for the evolution of the field
- Reviews statistical development and application in the area of human genomics
- Describes the view of future direction towards translational biology

**Contents**


**Fields of interests**

Human Genetics; Bioinformatics; Biotechnology

**Target groups**

Research

**Discount group**

Professional Non-Medical

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**Due November 2012**

2013. Approx. 200 p. 10 illus., 8 in color. Hardcover
- $189.00
ISBN 978-94-007-5557-4

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**Due November 2012**

2013. X, 260 p. 36 illus., 26 in color. Hardcover
- $189.00
ISBN 978-1-4614-5304-8

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**Due November 2012**

2013. X, 300 p. 31 illus., 20 in color. Hardcover
- $209.00