

Arenaviruses I The Epidemiology Molecular And Cell Biology Of Arenaviruses Current Topics In Microbiology And Immunology Volume 1

Reflecting the critical threat posed by biological warfare and terrorism in a post 9-11 world, *Medical Aspects of Biological Warfare, 2e*, addresses the weaponization of biological agents, categorizing potential agents as food, waterborne, or agricultural agents or toxins, and discusses their respective epidemiology. Recent advances in biomedical knowledge are presented that include descriptions of individual agents and the illnesses induced. Authors discuss biotoxins and explain methods for early identification for anthrax, plague, smallpox, alphaviruses, and staphylococcal enterotoxins. Case studies and research on successful management practices, treatments, and antidotes are also included. Contains updated and revised material since previous, 2007 edition. (Previous Print Hardcover ISBN:

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Essential Human Virology is written for the undergraduate level with case studies integrated into each chapter. The structure and classification of viruses will be covered, as well as virus transmission and virus replication strategies based upon type of viral nucleic acid. Several chapters will focus on notable and recognizable viruses and the diseases caused by them, including influenza, HIV, hepatitis viruses, poliovirus, herpesviruses, and emerging and dangerous viruses. Additionally, how viruses cause disease, or

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pathogenesis, will be highlighted during the discussion of each virus family, and a chapter on the immune response to viruses will be included. Further, research laboratory assays and viral diagnosis assays will be discussed, as will vaccines, anti-viral drugs, gene therapy, and the beneficial uses of viruses. By focusing on general virology principles, current and future technologies, familiar human viruses, and the effects of these viruses on humans, this textbook will provide a solid foundation in virology while keeping the interest of undergraduate students. Focuses on the human diseases and cellular pathology that viruses cause Highlights current and cutting-edge technology and associated issues Presents real case studies and current news highlights in each chapter Features dynamic illustrations, chapter assessment questions, key terms, and summary of concepts, as well as an instructor website with lecture slides, test bank, and recommended activities The Oxford Textbook of Medicine provides all that any doctor needs to know to practice top-level internal medicine. It

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gives comprehensive coverage of the epidemiology, aetiology, and mechanism of disease, as well as clear, unambiguous coverage of the diagnosis, practical management and prevention of the entire spectrum of medical disorders. There are major introductory sections on the scientific basis of disease; and in the system-based clinical sections genetic predisposition, pathophysiology, pathogenesis, molecular mechanisms, and cell biology are covered in depth for all significant medical syndromes. Clinical descriptions of diseases are clearly and memorably written, based on the experience and insight of the authors--many of whom are among the world's most distinguished medical scientists. Chapters are not only "evidence based" but also on clinical experience and a thorough survey of all the relevant literature. Throughout, the approach of OTM is humane and ethical and, at the same time, factual, reliable, honest (especially where knowledge is limited) and rigorously scientific. This is not just a textbook of "First World" medicine. It provides practical guidance for doctors working

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in a variety of medical setting the value of a logical clinical approach rather than immediate resort to expensive imaging and laboratory tests. Moore of the contributing authors than ever before are from outside Europe, including strong representation of North American medicine. The new editorial team has ensured that the OTM continues to reflect rapid changes in medical practice: there are new sections on intensive care, alcohol and drug abuse, clinical pharmacology and therapeutics, world health, clinical trials and evidence-based medicine, adolescent medicine, sports medicine, and emergency medicine; more than half the contributors are new for this edition; and most of the text has been heavily revised. The striking new page and cover design reflect the significant changes made in this new edition. The Textbook is illustrated by over 2000 two-color diagrams and many color Plates. The index is the most detailed and user-friendly of any major medical textbook: in an emergency, the reader can access information quickly-whether on the ward, in office or at home. Like its

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predecessors, OTM4 will be the trusted and ultimate reference in libraries, hospitals, doctors' consulting rooms, solicitors' offices, press offices, and primary care practices worldwide.

This book provides an intimate portrait of multiple outbreaks of Ebola in Africa and reveals how the results of that experience can help us fight COVID-19. Michael B.A. Oldstone, who led the Viral-Immunobiology Laboratory at the Scripps Research Institute worked with Ebola, teams up with Madeleine Rose Oldstone to give a detailed account of the 2013-2016 and 2018-2020 Ebola outbreaks. The authors trace the origin of the disease, its spread like a tsunami thru Guinea, Sierra Leone and Liberia, the collapse of economies, and the development of anti-viral therapies against Ebola. They compare the outbreaks of one of the world's deadliest viruses with today's struggle to overcome the COVID-19 pandemic. You will gain intimate knowledge of a deadly pathogen that devastated a region of the world that lacks resources to fight it, and learn why the world was

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unprepared for the Ebola outbreak. You will meet people who fought heroically with limited resources, including Sheik Kahn who died fighting Ebola and was declared a national hero by the Sierra Leone government, Pardis Sabeti, a geneticist working in infectious diseases from Harvard and MIT who was named "Scientist of the Year" by Time magazine, and Robert Garry, who headed the fight against viral hemorrhagic diseases and kept the White House and the press informed. Sabeti and Garry worked with Oldstone and provided information about the outbreak to the authors, making the narrative particularly incisive and timely. Ebola's Evolution will give you a fast paced, detailed, and fascinating picture of a feared disease that killed thousands of people and threatening to become a global pandemic before it was stopped.

Viral Haemorrhagic Fevers

Practical Healthcare Epidemiology

Viral Infections and Global Change

Volume II

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Molecular Virology of Human Pathogenic Viruses

The Epidemiology, Molecular and Cell Biology of Arenaviruses

Striking changes have occurred in the world since the publication of the last edition of *Viral Infections of Humans*. The global population is rapidly approaching 8 billion; climate change is leading to the introduction of new hosts, vectors and virus diseases heretofore never seen in many parts of the world; technological advances have revolutionized the ability to recognize and characterize viruses new and old; vaccines are altering the epidemiological landscape of the diseases they target, in some cases raising the hope of their eradication and remarkably powerful computational tools are enabling not only detection of outbreaks of disease much sooner than in the past but also, through complex mathematical modeling, more accurate prediction of their potential impact. The new Fifth Edition of *Viral Infections of Humans* captures the both the excitement and frustration of the dynamic struggle between humankind and the viruses that continue to cause immense suffering. It presents the latest concepts, methods and technologies in epidemiology, detection, investigation, modeling and intervention. Updated and entirely new chapters by dozens of experts across the field provide analytic summaries of current knowledge of viruses and prions causing acute syndromes, chronic illnesses and/or malignancies. In sum, this ambitiously expanded volume offers a uniquely comprehensive perspective on

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viruses in humans, from agents of classic diseases (e.g., hepatitis, measles, polio, rabies and yellow fever), to those with greatest pandemic impact (e.g., influenza and human immunodeficiency virus), to those discovered relatively recently (e.g., henipavirus, metapneumovirus and norovirus). The new Fifth Edition of *Viral Infections of Humans* is an invaluable reference for students, fellows and established professionals in the fields of microbiology, public health and infectious disease epidemiology, medicine and health policy.

Each chapter describes the major causes of viral haemorrhagic fevers, grouped according to families. The properties of each virus are outlined in relation to epidemiology, clinical presentation and treatment and an overview of the molecular virology of these viruses is also provided. Final chapter discusses the potential use of these viruses as agents of bioterrorism.

Divided into three sections along the lines of bacteriology, parasitology and virology, this book comprehensively provides a systematic, cross disciplinary approach to the science and control of all zoonoses, written by international specialists in human and veterinary medicine.

also occurs. New outbreaks of yellow fever have occurred in Colombia and Trinidad and new outbreaks of rift valley fever have occurred in Egypt. Chapter 6, *Arenaviruses: The biochemical and physical properties have now been clarified, and they show a remarkable uniformity in the various viruses constituting the*

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group. The possibility that prenatal infection with LCM may result in hydrocephalus and chorioretinitis has been raised. Serologic surveys have suggested the existence of Lassa virus infection in Guinea, Central African Empire, Mali, Senegal, Cameroon, and Benin, in addition to earlier identification in Nigeria, Liberia, and Sierra Leone. Chapter 7, Coronaviruses: New studies have confirmed the important role of these viruses in common respiratory illnesses of children and adults. The viruses are now known to contain a single positive strand of RNA. About 50% of corona virus infections result in clinical illness. About 5% of common colds are caused by strain DC 43 in winter. Chapter 8, Cytomegalovirus: Sections on pathogenesis of CMV in relation to organ transplantation and mononucleosis, as well as sections on the risk and features of congenital infection and disease, have been expanded. There are encouraging preliminary results with a live CMV vaccine, but the questions of viral persistence and oncogenicity require further evaluation.

The Molecular Pathogenesis of Arenavirus Infections

Turning Despair to Deliverance: a Road Map for Covid-19

Special Focus Issue

Viral Hemorrhagic Fevers

2013-2016 Outbreak in West Africa

The Molecular Epidemiology of Human Viruses

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More than 30 newly emerged microorganisms and related diseases have been discovered in the past 20 years. Since these infections are so new, even infectious diseases experts and clinical microbiologists need more information. This book covers recently emerged infectious diseases based on real cases and provides comprehensive information including different aspects of the infections. Written in a 'teaching' style, this book is of interest to every medical specialist and student. Includes more than 35 emerging infection cases based on the following criteria: newly emerged or re-emerged recently acquired significance in clinical practice recently radically changed in case management Offers a balanced synthesis of basic and clinical sciences for each individual case, presenting clinical courses of the cases in parallel with the pathogenesis and detailed microbiological information for each infection Describes the prevalence and incidence of the global issues and current therapeutic approaches Presents the measures for infection control

This book is a compilation of some of the most remarkable contributions made by scientists currently working in Latin America to the understanding of virus biology, the pathogenesis of virus-related diseases, virus epidemiology, vaccine trials and antivirals development. In addition to recognizing the many fine virologists working in Latin America, Human Virology in Latin America also discusses both the state-of-the-art research and the current challenges that are being faced in the region, in hopes of inspiring young scientists worldwide to become eminent virologists.

Reference source of current virological knowledge. It is also the first to bring together all aspects of the subject for a wide variety of readers. Unique in its use of concise 'mini-review' articles, the material covers biological, molecular, and medical topics concerning viruses in

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animals, plants, bacteria, and insects. More general articles focus on the effects of viruses on the immune system, the role of viruses in disease, oncology, gene therapy, and evolution, plus a wide range of related topics.

In this volume, a distinguished international group of contributors present the latest molecular, organismal, and epidemiological research on arenaviruses. Their work will broaden both the clinician's and the researcher's knowledge of basic mechanisms of immunological tolerance, viral immunosuppression, the nature of protective immune responses to vaccination, and viral effects on cell functions.

Principles and Practice of Clinical Virology

Clinical Virology

Essential Human Virology

A Guide to Applied Molecular Testing

Hantaviruses

The Arenaviridae

This second edition is a comprehensive study of the viruses that affect the brain and the central nervous system. Along with a focus on the viruses themselves, it addresses the diseases they cause, current treatments and preventive measures. Also discussed are the unique aspects of how viruses cause disease and why certain hosts are more susceptible (e.g., polymorphisms, age, co-morbidities). Because there are 29 cutting edge chapters, written by experts in the fields, Neurotropic Viral Infections has been divided into two separate

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volumes. Volume 1, Neurotropic RNA Viruses, includes 14 chapters on RNA viruses that cause human disease of the central nervous system ranging from Bornavirus to polio to West Nile. Volume 2, Neurotropic Retroviruses, DNA Viruses, Immunity and Transmission, includes 15 chapters divided into two parts. Part 1 includes 7 chapters on retroviruses and DNA viruses that cause human disease of the central nervous system ranging from HIV to varicella zoster virus. Part 2 includes chapters on transmission of these viruses by transplantation, bites by bats and insects, clinical management of the infections, and beneficial uses of attenuated viruses. Neurotropic Viral Infections is a unique resource, bridging basic, clinical, and translational approaches.?

M. B. A. OLDSTONE Viruses are generally studied either because they cause significant human, animal or plant disease or for their utility as materials to probe a basic phenomenon in biology, chemistry, genetics or molecular biology. Arenaviruses are unusually interesting in that they occupy both of these categories. Arenaviruses cause severe human diseases known primarily as the hemorrhagic fevers occurring in South and Latin America (Bolivia: Machupo virus and Argentina: Junin virus) and in Africa (Lassa virus). Because such viruses produce profound disability and may kill the persons they infect, they are a source of economic hardship in the countries where

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they are prevalent. Further, they provide new problems for health care personnel owing to the narrowing of the world as visitors from many countries increasingly travel to and from these endemic areas. In addition, lymphocytic choriomeningitis virus (LCMV) can infect humans worldwide, although the illness is most often less disabling than those elicited by other arenaviruses. Yet LCMV is likely of greater concern to non-arena-virologists and experimentalists using tissue culture or animals, i. e. , workers in molecular biology, cancer research, virology, immunobiology, etc. , because normal appearing cultured cells or tissues and animals used for research may be persistently infected with LCMV without manifesting clinical disease or cytopathology and transmit that infection to laboratory workers (reviewed OLDSTONE and PETERS 1978). For example, HINMAN et al. Despite being recognized and fought against over countless centuries, human viral pathogens continue to cause major public health problems worldwide—killing millions of people and costing billions of dollars in medical care and lost productivity each year. With contributions from specialists in their respective areas of viral pathogen research, Molecular Detection of Human Viral Pathogens provides a reliable reference on molecular detection and identification of major human viral pathogens. Each chapter briefly reviews the classification, epidemiology, clinical features, and diagnosis of one related viral

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pathogen or a group of them. The clinical sample collection and preparation procedures are outlined, and a selection of representative stepwise molecular detection protocols is covered. The chapters conclude with a discussion on further research requirements relating to improved diagnosis. With its judicious selection of streamlined, ready-to-use protocols for major human viral pathogens—including commercial kits—Molecular Detection of Human Viral Pathogens is an indispensable tool for medical, veterinary, and industrial laboratory scientists involved in virus determination.

The Role of Animals in Emerging Viral Diseases presents what is currently known about the role of animals in the emergence or re-emergence of viruses including HIV-AIDS, SARS, Ebola, avian flu, swine flu, and rabies. It presents the structure, genome, and methods of transmission that influence emergence and considers non-viral factors that favor emergence, such as animal domestication, human demography, population growth, human behavior, and land-use changes. When viruses jump species, the result can be catastrophic, causing disease and death in humans and animals. These zoonotic outbreaks reflect several factors, including increased mobility of human populations, changes in demography and environmental changes due to globalization. The threat of new, emerging viruses and the fact that there are no vaccines for the most common zoonotic viruses drive research in the biology and

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ecology of zoonotic transmission. In this book, specialists in 11 emerging zoonotic viruses present detailed information on each virus's structure, molecular biology, current geographic distribution, and method of transmission. The book discusses the impact of virus emergence by considering the ratio of mortality, morbidity, and asymptomatic infection and assesses methods for predicting, monitoring, mitigating, and controlling viral disease emergence. Analyzes the structure, molecular biology, current geographic distribution and methods of transmission of 10 viruses Provides a clear perspective on how events in wildlife, livestock, and even companion animals have contributed to virus outbreaks and epidemics Exemplifies the "one world, one health, one medicine" approach to emerging disease by examining events in animal populations as precursors to what could affect humans

Research Methodology and Animal Models
The Role of Animals in Emerging Viral Diseases
Oxford Textbook of Zoonoses
Diagnostic Molecular Pathology
Biology, Clinical Practice, and Public Health Control
Arenaviruses I

Diagnostic Molecular Pathology: A Guide to Applied Molecular Testing

is organized around disease types (genetic disease, infectious disease, neoplastic disease, among others). In each section, the authors provide background on disease mechanisms and describe how laboratory testing is built on knowledge of these mechanisms. Sections are dedicated to general methodologies employed in testing (to convey the concepts reflected in the methods), and specific description of how these methods can be applied and are applied to specific diseases are described. The book does not present molecular methods in isolation, but considers how other evidence (symptoms, radiology or other imaging, or other clinical tests) is used to guide the selection of molecular tests or how these other data are used in conjunction with molecular tests to make diagnoses (or otherwise contribute to clinical workup). In addition, final chapters look to the future (new technologies, new approaches) of applied molecular pathology and how discovery-based research will yield new and useful biomarkers and tests. Diagnostic Molecular Pathology: A Guide to Applied Molecular Testing contains exercises to test readers on their understanding of how molecular diagnostic tests are utilized and the value of the information that can be obtained in the context of the

patient workup. Readers are directed to an ancillary website that contains supplementary materials in the form of exercises where decision trees can be employed to simulate actual clinical decisions. Focuses on the menu of molecular diagnostic tests available in modern molecular pathology or clinical laboratories that can be applied to disease detection, diagnosis, and classification in the clinical workup of a patient Explains how molecular tests are utilized to guide the treatment of patients in personalized medicine (guided therapies) and for prognostication of disease Features an ancillary website with self-testing exercises where decision trees can be employed to simulate actual clinical decisions Highlights new technologies and approaches of applied molecular pathology and how discovery-based research will yield new and useful biomarkers and tests

The most recent Ebola epidemic that began in late 2013 alerted the entire world to the gaps in infectious disease emergency preparedness and response. The regional outbreak that progressed to a significant public health emergency of international concern (PHEIC) in a matter of months killed 11,310 and infected more than 28,616.

While this outbreak bears some unique distinctions to past outbreaks, many characteristics remain the same and contributed to tragic loss of human life and unnecessary expenditure of capital: insufficient knowledge of the disease, its reservoirs, and its transmission; delayed prevention efforts and treatment; poor control of the disease in hospital settings; and inadequate community and international responses. Recognizing the opportunity to learn from the countless lessons of this epidemic, the National Academies of Sciences, Engineering, and Medicine convened a workshop in March 2015 to discuss the challenges to successful outbreak responses at the scientific, clinical, and global health levels. Workshop participants explored the epidemic from multiple perspectives, identified important questions about Ebola that remained unanswered, and sought to apply this understanding to the broad challenges posed by Ebola and other emerging pathogens, to prevent the international community from being taken by surprise once again in the face of these threats. This publication summarizes the presentations and discussions from the workshop.

Practical Healthcare Epidemiology takes a hands-on approach to

infection prevention for physicians, healthcare epidemiologists, infection preventionists, microbiologists, nurses, and other healthcare professionals. Increased regulatory requirements and patient knowledge and involvement has elevated patient safety, healthcare-associated infections, antibiotic stewardship and quality-of-care to healthcare wide issues. This fully updated new edition brings together the expertise of leaders in healthcare epidemiology to provide best practice expert guidance on infection prevention for adult and pediatric patients in all types of healthcare facilities, from community hospitals and academic institutions, to long-term care and resource limited settings. Written in clear, straightforward terms to address prevention planning and immediate responses to specific situations, this is the go-to resource for any practitioners in medicine or public health involved in infection prevention, regardless of their current expertise in the field.

Security sensitive microbes (viruses, bacteria, fungi, and parasites) and toxins, which are often referred to as the select agents and toxins, have the capacity to cause serious illness and death in humans, animals, and plants. Throughout history, these microbes and

toxins have been exploited in one form or another as biowarfare and bioterror agents that create fear and panic well beyond any actual physical damages they might cause. Manual of Security Sensitive Microbes and Toxins provides comprehensive, state-of-the-art coverage of microbes and toxins of biosecurity concern. The ultimate goal is to increase our awareness of these agents and enhance our preparedness against any future bio-emergencies. The book begins with an introduction containing a brief overview of the historical aspects of security sensitive microbes and toxins. This is followed by a concise summary of the current status in relation to the regulation of security sensitive microbes and toxins and a discussion of future development trends. The book is divided into seven parts: Microbes and Toxins Affecting Humans and Animals: Viruses Microbes and Toxins Affecting Human and Animals: Bacteria Microbes and Toxins Affecting Human and Animals: Fungus and Parasite Microbes and Toxins Affecting Human and Animals: Toxins Microbes Affecting Animals: Viruses Microbes Affecting Animals: Bacteria Microbes Affecting Plants Written by experts in the relevant areas of research, the chapters are authoritative reviews, each one covering a single

microbe or toxin with respect to its classification, biology, epidemiology, pathogenesis, identification, diagnosis, treatment, and prevention. The chapters also discuss the limitations of our current knowledge and challenges relating to improved detection and control of the microbe or toxin.

The Ebola Epidemic in West Africa

Index Medicus

Defense Against Biological Attacks

Arenaviruses II

Clinical Case Studies

From Biology to Control

The importance attached to rapidly developing our biodefensive capabilities has recently resulted in a significantly increased funding for biodefense research. Accordingly, researchers will respond with an effort equal to the challenge, producing an impressive body of findings. To ensure that this effort continues in the most efficient manne

The knowledge and practice of clinical virology continues to

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expand. This new fifth edition has thirty-six comprehensive chapters, each of which has been extensively revised or rewritten, with the addition of new colour plates. This updated version takes into account knowledge accumulated in molecular biology with its applications for laboratory diagnosis, immunisation and antiviral chemotherapy. Each chapter highlights the clinical features and epidemiological patterns of infection. Similarly, in response to the global concern of the threat posed by new viruses, a new chapter on Emerging Infections is included. There is also new material on Hospital Acquired Infections, including some advice relating to SARS, that will be of benefit to those dealing with the day-to-day management of patients in hospital.

"Recognition of viruses as a major contributor to vector-borne diseases and other zoonoses dates back many decades. The term arbovirus (arthropod-borne virus) is widely recognized even among the lay public. A few rodent-borne viruses recognized long ago (e.g., the arenaviruses associated with Lassa fever and South American hemorrhagic

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fevers, and the hantaviruses associated with hemorrhagic fever with renal syndrome in Asia and Europe) were discussed under the rubric of arboviruses and even listed in the Arbovirus Catalog. A turning point came 17 years ago with the discovery of the often-fatal hantavirus pulmonary syndrome in the Americas. This discovery stimulated interest, funding, and research on rodent hosts of viruses and led to the discovery of dozens of new hantaviruses and arenaviruses; ultimately, the study of roboviruses (rodent-borne viruses) became a discipline in itself. In the last few years, we have learned that a separate order of mammals, the insectivores, are also hosts to likely dozens of hantaviruses whose role in disease is uncertain. The roboviruses have become the rainboviruses (rodent- and insectivore-borne viruses). The discovery of this tremendous diversity of viruses and hosts and the desire to understand their relationships to human disease and to environmental change have spawned new theories, controversies, and terminology: coevolution, cospeciation, spillover, host-

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jumping, bottom-up trophic cascades, dilution effects, and delayed density-dependence. The development of these concepts and much of the rapid growth in understanding of host-virus-human disease relationships are due to a multidisciplinary approach that combines ecology, epidemiology, virology, and molecular biology. This issue of Vector-Borne and Zoonotic Diseases includes a sampling of articles that capture some of the excitement of this new and rapidly growing field of study. The following 10 articles concern viruses belonging to the family Arenaviridae, genus Arenavirus and family Bunyaviridae, genus Hantavirus. Included are two up-to-date reviews of hantavirus-host ecology in Europe and North America and eight cutting-edge research papers on rodent-borne and insectivore-borne hantaviruses and rodent-borne arenaviruses. Collectively, these articles are indicative of the growing interest of the journal's readership in zoonoses caused by pathogens that are naturally associated with rodents or other small mammals."- p. 549

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Molecular Detection of Animal Viral Pathogens presents expert summaries on state-of-the-art diagnostic approaches for major animal viral pathogens, with a particular emphasis on identification and differentiation at the molecular level. Written by specialists in related research areas, each chapter provides a concise overview of an individual virus

Emerging Infectious Diseases

Fenner and White's Medical Virology

Biodefense

Medical Aspects of Biological Warfare, 2e

Arenaviruses

Clinical Virology Manual

A timely exploration of the impact of global change on the emergence, reemergence, and control of vector-borne and zoonotic viral infections From massively destructive "superstorms" to rapidly rising sea levels, the world media is abuzz with talk of the threats to civilization posed by global warming. But one hazard that is rarely discussed is the dramatic

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rise in the number and magnitude of tropical virus outbreaks among human populations. One need only consider recent developments, such as the spread of chikungunya across southern Europe and dengue in Singapore, Brazil, and the southern United States, to appreciate the seriousness of that threat. Representing a major addition to the world literature on the subject, *Viral Infections and Global Change* explores trends of paramount concern globally, regarding the emergence and reemergence of vector-borne and zoonotic viruses. It also provides up-to-date coverage of both the clinical aspects and basic science behind an array of specific emerging and reemerging infections, including everything from West Nile fever and Rift Valley fever to zoonotic hepatitis E and human bunyavirus. Important topics covered include: Epidemiology, molecular pathogenesis, and evolutionary mechanisms Host-pathogen interactions in an array of viral infections The impact of climate change on historical viral outbreaks The roles of socioeconomics, human behavior, and animal and human migrations

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The growing prevalence of drug and pesticide resistance The introduction of microbes and vectors through increasedtransboundary travel Spillover transmissions and the emergence of viraloutbreaks Detecting and responding to threats from bioterrorism andemerging viral infections Predictive modeling for emerging viral infections Viral Infections and Global Change is an indispensable resource for research scientists, epidemiologists, and medical and veterinary students working in ecology, environmental management, climatology, neurovirology, virology, and infectious disease.

The definitive clinical virology resource for physicians and clinical laboratory virologists The clinical virology field is rapidly evolving and, as a result, physicians and clinical laboratory virologists must have a reliable reference tool to aid in their ability to identify and diagnose viral infections to prevent future outbreaks. In this completely revised edition of the Clinical Virology Manual, Editor in Chief, Michael Loeffelholz, along with Section Editors, Richard Hodinka, Benjamin Pinsky, and Stephen Young, have compiled expert perspectives of a renowned team of clinical virology experts and

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divided these contributions into three sections to provide the latest information on the diagnosis of viral infections, including ebola, HIV and Human papillomavirus state of the art diagnostic technologies, including next-generation sequencing and nucleic acid amplification methods taxonomy of clinically important viruses such as polyomaviruses and zoonotic viruses This comprehensive reference also includes three appendices with vital information on reference virology laboratories at the Centers for Disease Control and Prevention, state and local public health laboratories, and international reference laboratories and laboratory systems. Additionally, a new section "Diagnostic Best Practices," which summarizes recommendations for diagnostic testing, and cites evidence-based guidelines, is included in each viral pathogens chapter. Clinical Virology Manual, Fifth Edition serves as a reference source to healthcare professionals and laboratorians in providing clinical and technical information regarding viral diseases and the diagnosis of viral infections.

Ebola's Curse: 2013-2016 Outbreak in West Africa is about hemorrhagic fever viruses, especially Ebola, its initial origin

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in central Africa 1976, its unprecedented appearance in West Africa in 2013. The book records in sequence and detective style how the initial outbreak of Ebola from the index case in rural Guinea traveled to Sierra Leone, the work and fate of those working in the Kenema Government Hospital (KGH) isolation ward in Sierra Leone. The book provides vignettes of the three main players involved with Ebola at KGH, Sheik Khan, Pardis Sabeti, and Robert Garry. Khan was the head of the unit, declared a national hero by his Sierra Leone government. He died fighting Ebola and was/is recognized in the USA by American societies by awards created for his historic work and death. Pardis Sabeti, a geneticist from Harvard and Broad MIT Institute, who was honored as a "Scientist of the Year" by Time Magazine and the Smithsonian Institute. Robert Garry, head of the operation to fight hemorrhagic fevers and Ebola, shuttled between Tulane University, KGH, and The White House to make aware through the press and others the dilemma and tragedy that was unfolding, and the need to obtain additional medical and health care support and supplies. Sabeti and Garry currently work with Oldstone on Ebola at KGH and thus personal communication and knowledge

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was/is available to the author for the book. Includes perspectives from the 2013–2016 outbreak in West Africa Provides a detailed overview of the origins of Ebola virus through present day discoveries Written with an integrative approach, incorporating scientific research with insights from the field on Public Health and Medical History

Viral hemorrhagic fevers have captured the imagination of the public and made their way into popular books and movies by virtue of their extreme virulence and mysterious origins. Since 2001, concerns have grown about the potential use of many hemorrhagic fever viruses as biological weapons. This has led to a resurgence in research to develop improv

Manual of Security Sensitive Microbes and Toxins

Ebola's Evolution

Volume 2: Neurotropic Retroviruses, DNA Viruses, Immunity and Transmission

Epidemiology and Control

Wildlife and Emerging Zoonotic Diseases: The Biology, Circumstances and Consequences of Cross-Species Transmission

Ebola's Curse

This second volume of a two-volume set focuses on specific pathogens and their mechanisms of pathogenesis as well as diagnostics, therapeutics and various strategies in the event of biological attacks. This multidisciplinary book appeals to readers from various fields, including biodefense, biosafety & biosecurity, virology, neurology, molecular biology and genetic engineering, as well as infectious disease specialists. Further, the work is of interest to basic science and applied science research scholars and experts working in the area of high-consequence or select agent virology.

This volume offers an overview of the processes of zoonotic viral emergence, the intricacies of host/virus interactions, and the role of biological transitions and modifying factors. The themes introduced here are amplified and explored in detail by the contributing authors, who explore the mechanisms and unique circumstances by which evolution, biology, history, and current context have contrived to drive the emergence of different zoonotic agents by a series of related events. *Molecular Virology of Human Pathogenic Viruses* presents robust coverage of the key principles of molecular virology while emphasizing virus family structure and providing key context points for topical advances in the field. The book is organized in a logical manner to aid in student discoverability and comprehension and is based on the author's more than 20 years of teaching experience. Each chapter will describe the

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viral life cycle covering the order of classification, virion and genome structure, viral proteins, life cycle, and the effect on host and an emphasis on virus-host interaction is conveyed throughout the text. Molecular Virology of Human Pathogenic Viruses provides essential information for students and professionals in virology, molecular biology, microbiology, infectious disease, and immunology and contains outstanding features such as study questions and recommended journal articles with perspectives at the end of each chapter to assist students with scientific inquiries and in reading primary literature. Presents viruses within their family structure Contains recommended journal articles with perspectives to put primary literature in context Includes integrated recommended reading references within each chapter Provides access to online ancillary package inclusive of annotated PowerPoint images, instructor's manual, study guide, and test bank

Advances in DNA sequencing and phylogenetic inference have created powerful methods to investigate many dangerous human viruses. The Molecular Epidemiology Of Viruses provides a comprehensive introduction to the use of genetic methods in molecular epidemiology and in-depth examples of analyses from many viruses. This book is of interest to researchers in the fields of infectious disease, virology, microbiology, evolutionary biology, epidemiology and molecular biology as well as anyone interested in tracking the spread of disease.

Encyclopedia of Virology
Proceedings of a Workshop
Molecular Detection of Animal Viral Pathogens
Oxford Textbook of Medicine
Neurotropic Viral Infections
Molecular Detection of Human Viral Pathogens

Fenner and White's Medical Virology, Fifth Edition provides an integrated view of related sciences, from cell biology, to medical epidemiology and human social behavior. The perspective represented by this book, that of medical virology as an infectious disease science, is meant to provide a starting point, an anchor, for those who must relate the subject to clinical practice, public health practice, scholarly research, and other endeavors. The book presents detailed exposition on the properties of viruses, how viruses replicate, and how viruses cause disease. These chapters are then followed by an overview of the principles of diagnosis, epidemiology, and how virus infections can be controlled. The first section concludes with a discussion on emergence and attempts to predict the next major public health challenges. These form a guide for delving into the specific diseases of interest to the reader as described in Part II. This lucid and concise, yet comprehensive, text is admirably suited to the needs of not only advanced students of science and medicine, but also postgraduate students, teachers, and research workers in all areas of virology. Features updated and expanded coverage of pathogenesis and immunity. Contains the latest laboratory diagnostic methods. Provides insights into clinical features of human viral disease, vaccines, chemotherapy, epidemiology, and control.

Viruses are studied either because they cause significant human, animal or plant disease or because they are useful materials for probing basic phenomena in biology, chemistry, genetics and/or molecular

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biology. Arenaviruses are unusually interesting in that they occupy both categories. Arenaviruses cause several human diseases known primarily as the hemorrhagic fevers occurring in South and Latin America (Bolivia: Machupo, Argentine, Junin virus, and Brazil: Sabia virus) and in Africa (Lassa fever virus). Because such viruses produce profound disabilities and often kill the persons they infect, they are a source of health concern and economic hardship in the countries where they are prevalent. Further, they provide new problems for healthcare persons owing to the narrowing of the world as visitors from many countries travel increasingly to and from endemic areas and may incubate the infectious agent taking it from an endemic area into an area where the virus is not expected. Such cases are now being recorded with increasing frequency. In addition to these hemorrhagic fever viruses, the arenavirus lymphocytic choriomeningitis virus (LCMV) can infect humans worldwide, although the illness is most often less disabling and severe than those elicited by the other arenaviruses. Yet, LCMV is of greater concern to non-arenavirologists and experimentalists using tissue culture or animals, etc., because normal-appearing cultured cells or tissues from animals used for research may be persistently infected with LCMV without manifesting clinical disease or cytopathology and may transmit that infection to laboratory workers.

Since the subject of arenaviruses was visited by Current Topics in Microbiology and Immunology 14 years ago, enormous advances have been made in this area. The receptor for several arenaviruses, alpha-dystroglycan, was identified, the replication strategy of these viruses was decoded, and application of a reverse genetics system for studying viral gene function and viral biology is well underway. In addition to reviewing these advances, Volume I includes discussion of arenaviral molecular phylogeny, reservoirs in rodents and clinical diseases caused by both new world and old world arenaviruses.

Informs scientists and health care professionals about all the medically relevant aspects of this rapidly

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evolving field. • Covers novel viruses, pathogenesis, epidemiology, diagnosis, treatment, and prevention. • Addresses infections and syndromes related to particular organ systems, as well as the fundamentals of modern medical virology. • Includes crucial information on immune responses and vaccinology, diagnostics, antivirals, and the nascent field of gene therapy. • Provides agent-specific chapters that detail the virology, epidemiology, pathogenesis, clinical manifestations, and prevention and treatment of important viral pathogens.

Biology and Immunotherapy

Viral Infections of Humans

Human Virology in Latin America