

Comparative Virology

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Virus Structure Robert W. Horne 2014-06-28 Virus Structure describes the physical characteristics of isolated viruses that represent typical structural groups, with particular reference to those features analyzed with the aid of the electron microscope. For descriptive purposes, the book has been divided into sections starting with the small icosahedral viruses and leading to the larger and more sophisticated structures, regardless of whether they are animal, plant, or bacterial viruses. These include double-stranded DNA icosahedral viruses, herpesvirus, viruses with helical symmetry, and viruses with complex or a combination of symmetries. Many common architectural features will be found in those viruses selected for discussion in each of the sections, and for these reasons the introduction places some emphasis on the symmetry elements rather than the shapes of viruses. The mechanism by which viruses enter host cells and the events that follow once the cell has been infected are only mentioned briefly as the virus-host interaction is a relatively complex one.

Comprehensive Virology 11 Heinz Fraenkel-Conrat 2012-12-06 The time seems ripe for a critical compendium of that segment of the biological universe we call viruses. Virology, as a science, having passed only recently through its descriptive phase of naming and numbering, has probably reached that stage at which relatively few new truly new-viruses will be discovered. Triggered by the intellectual probes and techniques of molecular biology, genetics, biochemical cytology, and high resolution microscopy and spectroscopy, the field has experienced a genuine information explosion. Few serious attempts have been made to chronicle these events. This comprehensive series, which will comprise some 6000 pages in a total of about 22 volumes, represents a commitment by a large group of active investigators to analyze, digest, and expostulate on the great mass of data relating to viruses, much of which is now amorphous and disjointed, and scattered throughout a wide literature. In this way, we hope to place the entire field in perspective, and to develop an invaluable reference and sourcebook for researchers and students at all levels. This series is designed as a continuum that can be entered anywhere, but which also provides a logical progression of developing facts and integrated concepts.

Handbook of Pediatric Retinal Disease Kenneth W. Wright 2008-11-01 Based on Dr. Wright's classic major reference, Handbook of Pediatric Retinal Disease outlines the latest findings in diagnosing retinal disorders in children's and the best available treatment options. Distilling the essentials of these somewhat uncommon disorders and diseases into a portable, complete and authoritative pocket reference, this handbook offers a complete picture of how to best treat pediatric patients. Specifically, the introductory chapters on the specifics of pediatric ophthalmology (embryology, post-natal development and the pediatric exam) will help newcomers to pediatric practice fully grasp the subtle differences in pediatric care. The chapters are written by leading experts in the field and are presented in a user-friendly format, relying on heavily illustrated in color plates, clinically helpful tables, charts, and decision-making guidelines. This approach will enable the practitioner (whether specialist or generalist) to make the most accurate diagnosis and choose the most effective treatment option.

Electron Microscopy in Diagnostic Virology Frances W. Doane 1987-01-30

Unconventional Agents and Unclassified Viruses O.-R. Kaaden 2012-12-06 Among unconventional agents and unclassified viruses the contributions to this volume focused on prion-related diseases, with special emphasis on bovine spongiform encephalopathy and human spongiform encephalopathies, and Borna disease virus, an agent known since long time to be pathogenic for horses and sheep, which is now discussed as a potential pathogen for humans. Additionally, the volume contains articles about newly discovered viruses like porcine respiratory and reproductive syndrome virus and viruses that are classified only provisionally like African swine fever virus, hepatitis C and E viruses, or the arteriviruses.

Comparative Virology Karl Maramorosch 2014-06-28 Comparative Virology provides an integrated comparison of viruses, based on their chemical and morphological characteristics. These descriptions will not only give the reader a background but also a detailed analysis of the various groups. In some instances the groups are still host related, as in the case of bacteriophages and polyhedral insect viruses. In others, for instance in pox viruses, the group comprises viruses of vertebrates and invertebrates. The hosts of the bacilliform Rhabdovirales range from man and other warm-blooded vertebrates through invertebrate animals to plants. A special chapter is devoted to viruses devoid of protein—a group that is of great interest and that has only recently been recognized. Since there is historical and practical interest in ecologic groupings, such as arboviruses and oncogenic viruses, chapters on such groups have also been included. The book opens with a discussion on the classification of viruses. Chapters dealing with DNA viruses and RNA viruses follow, and the ecologically and disease-oriented groups complete the volume. It is hoped that "Comparative Virology" will help bring unity to the science of virology through the comparative approach that is not dependent on virus-host interactions. The combined efforts of eminent contributors to discuss and evaluate new information will hopefully benefit all who are interested in virology

Aquaculture Virology Frederick S. B. Kibenge 2016-07-11 To date textbooks on viruses infecting fish, crustaceans and molluscs, the three main aquatic animal farmed groups, have been on the whole "diseases-centric and individual viral diseases selected based on "epizoo-centric approaches with little to no coverage of the basic biology of the viruses, in contrast to textbooks on viruses infecting terrestrial - farmed, pet, and free-range (wild) - animals and humans. Despite considerable advances in animal virology in recent years coupled with an economically important global aquaculture industry, knowledge of viruses of animal aquaculture is still sparse and in some cases outdated although these viruses are closely related to well-known virus families. The last book in fish virology (Fish viruses and fish viral diseases 1988, Wolf, K.) was published in the 1980s. A lot of work has been done on fish viruses and many new aquatic animal viruses continue to be discovered. Aquaculture Virology provides the current state of knowledge of aquatic animal viruses within the current virus classification and taxonomic context thereby allowing the reader to draw on the principles of general virology. This book is a systematic and concise resource useful to anyone involved with or looking to move into aquaculture and fisheries. Clinical veterinarians,

aquaculture disease practitioners, biologists, farmers, and all those in industry, government or academia who are interested in aquatic animal virology will find this book extremely useful. Provides unique comprehensive information on animal viruses for aquaculture and fisheries Presents high quality illustrations of viral structure, diagrams of viral disease processes, gross pathology and histopathology lesions, and summary tables to aid in understanding Describes aquatic animal viruses of the three major aquatic animals, fish, crustaceans, and molluscs, within the current virus classification and taxonomic context thereby allowing the reader to draw on the principles of general virology

Index of NLM Serial Titles National Library of Medicine (U.S.) 1979 A keyword listing of serial titles currently received by the National Library of Medicine.

Virology Robin Nicholas 1983

Proceedings of the 3rd [Third] Munich Symposium on Microbiology on Natural History of Newly Emerging and Re-emerging Viral Zoonoses 1978

Advances in Virus Research 1969 *Advances in Virus Research* covers a diverse range of in-depth reviews providing a valuable overview of the current field of virology. The series of eclectic volumes are valuable resources to virologists, microbiologists, immunologists, molecular biologists, pathologists and plant researchers.

Arctic and Tropical Arboviruses Edouard Kurstak 2012-12-02 *Arctic and Tropical Arboviruses* contains the proceedings of the Second International Symposium on Arctic Arboviruses held at Mont Gabriel, Canada on May 26-28, 1977. This book contains a total of 20 chapters; a few of these chapters describe the diseases with arbovirus as a possible etiological agent, such as in the case of nephropatia epidemica, rapid diagnostic techniques for the detection of arboviruses, and in vitro culture methods for arboviruses using arthropod cells. Several other chapters are devoted to the investigations on arboviruses in the northern regions and on their vectors, mosquitoes, and ticks, as well as to the detection in the north of arboviruses originally isolated in the south. Such bipolar distribution of arboviruses could be the result of the transport of arbovirus-infected ticks by migratory birds. This volume will provide a useful tool for all concerned with viral diseases, including virologists, epidemiologists, and ecologists.

Applied Virology Edouard Kurstak 1984

Methods in Virology Karl Maramorosch 2014-06-28 *Methods in Virology, Volume VIII* focuses on the methods used in virology, including microscopy, hybridization, viruses, and fingerprint analysis. The selection first offers information on the hybridization of viral nucleic acids; applications of oligonucleotide fingerprinting to the identification of viruses; and immunosorbent electron microscopy in plant virus studies. Discussions focus on the detection of double-stranded RNA, principles and mechanisms of fingerprint analysis, preparation of labeled nucleic acid probes, and basic methods of nucleic acid hybridization. The text then elaborates on quantitative transmission electron microscopy for the determination of mass-molecular weight of viruses and use of thin sectioning for visualization and identification of plant viruses. Topics include technical procedures for processing plant tissues, cytological modifications of diagnostic value, procedure and treatment of data to obtain the average mass of virus particles, and applications in virology. The book takes a look at the detection of genome-linked proteins of plant and animal viruses; methods for assay, purification, and characterization of prions; and the use of mosquitoes to detect and propagate viruses. The selection is a valuable source of information for researchers interested in the methods employed in virology.

Advances in Virus Research 1991-05-01 *Advances in Virus Research*

Proceedings of the 4. [Fourth] Munich Symposium on Mechanisms of Viral Pathogenesis and Virulence Peter A. Bachmann 1979

Advances in Insect Physiology 1994-10-26 Insect physiology is currently undergoing a revolution with the increased application of molecular biological techniques to investigate the molecular mechanisms underlying the physiological responses to insect cells. *Advances in Insect Physiology* has instituted a commitment to the publication of high quality reviews on molecular biology and molecular genetics in areas where they provide an increased understanding of physiological processes in insects. Volume 25 contains increased coverage on the molecular biology of insect physiology.

The Molecular Basis of Viral Infection P. J Klasse 2015-01-08 *Virology* is in a sense both one of the most important precursors and one of the most significant beneficiaries of structural and cellular molecular biology. Numerous breakthroughs in our understanding of the molecular interactions of viruses with host cells are ready for translation into medically important applications such as the prevention and treatment of viral infections. This book collects a wide variety of examples of frontline research into molecular aspects of viral infections from virological, immunological, cell- and molecular-biological, structural, and theoretical perspectives. Contributors are world leaders in their fields of study and represent prestigious academic and research institutions Review articles vary vastly in scope: some focus on a narrowly defined scientific problem of one particular virus with careful introduction for the non-specialist; others are essays in general and comparative virology with forays into specific viral species or molecules The different perspectives complement each other and collectively the contributions provide an impression of the fast-moving frontlines of virology while showing how the problems have evolved Structural data are presented through high-quality illustrations

Comprehensive Virology H. Fraenkel-Conrat 2012-12-06 The time seems ripe for a critical compendium of that segment of the biological universe we call viruses. Virology, as a science, having only recently passed through its descriptive phase of naming and numbering, has probably reached that stage at which relatively few new truly new-viruses will be discovered. Triggered by the intellectual probes and techniques of molecular biology, genetics, biochemical cytology, and high-resolution microscopy and spectroscopy, the field has experienced a genuine information explosion. Few serious attempts have so far been made to chronicle these events. This comprehensive series, which will comprise some 6000 pages in a total of about 22 volumes, represents a commitment by a large group of active investigators to analyze, digest, and expostulate on the great mass of data relating to viruses, much of which is now amorphous and disjointed and scattered throughout a wide literature. In this way, we hope to place the entire field in perspective as well as to develop an invaluable reference and sourcebook for researchers and students at all levels. This series is designed as a continuum that can be entered anywhere but which also provides a logical progression of developing facts and integrated concepts.

Advances in Virus Research 1986-08-12 *Advances in Virus Research*

Guide to Clinical and Diagnostic Virology Reeti Khare 2019-12-10 The explosion in clinical testing has been especially rapid in virology, where emerging viruses and growing numbers of viral infections are driving advances. The *Guide to Clinical and Diagnostic Virology* offers a digestible view of the breadth and depth of information related to clinical virology, providing a practical, working knowledge of the wide array of viruses that cause human disease. Introductory chapters cover the basics of clinical virology and laboratory diagnosis of infections, including virus structure, life cycle, transmission, taxonomy, specimen types and handling, and a comparison of assays used for detection. Detailed sections on important topics include Viral pathogens and their clinical presentations Diagnostic assays and techniques,

including culture-based, immunological, and molecular Prevention and management of viral infections, with guidance on biosafety, vaccines, and antiviral therapies The regulatory environment for laboratory testing, including regulatory requirements and assay performance and interpretation Critical concepts are carefully curated and concisely summarized and presented with detailed illustrations that aid comprehension, along with important highlights and helpful hints. These features, plus question sections that reinforce significant ideas and key concepts, make this an invaluable text for anyone looking for an accessible route through clinical and diagnostic virology. Laboratory technologists, medical students, infectious disease and microbiology fellows, pathology residents, researchers, and everyone involved with viruses in the clinical setting will find the Guide to Clinical and Diagnostic Virology an excellent text as well as companion to clinical virology references.

Applied Virology Gerard Meurant 2012-12-02 Applied Virology covers the practical applications of the developments in basic virology, not only to virology but to other disciplines as well, and demonstrates the impact of virus diseases on the environment, economy, and the health of man, animals, and plants. The book discusses topics on new virus vaccine technology and chemotherapy; the status of vaccination against viral diseases; and the epidemiology and diagnosis of viral diseases. The text provides information on the strategy used to produce virus vaccines; on antiviral chemical compounds; on simple, rapid, and specific diagnostic techniques; and on epidemiology in relation to the prevention and control of virus diseases. Noninfectious, synthesized peptides used as safe virus vaccines are reviewed with special attention to their immunogenicity, multispecificity, and usefulness in case of epidemics. Virologists will find the book useful.

National Library of Medicine Current Catalog National Library of Medicine (U.S.) 1971

Viruses, Immunity, and Mental Disorders Edouard Kurstak 1987-01-01

New Developments in Diagnostic Virology P.A. Bachmann 2012-12-06 The contributions to this book derived from the Seventh Munich Symposium on Microbiology on June 3 and 4, 1981, which was organized by the WHO Centre for Collection and Evaluation of Data on Comparative Virology at the Institute of Medical Microbiology, Infectious and Epidemic Diseases, University of Munich, Federal Republic of Germany. One of our principal purposes was to establish a forum at which the comparative aspects of questions of current interest in the field of medical virology could be discussed. In addition to the presentation of recent findings in microbiology, our overall aim was to crystallize trends and indicate new directions for future research activities. This book is a topical review of "New Horizons in Diagnostic Virology." Every one interested in virology is aware of the tremendous progress made in viral diagnostic techniques during recent years and the growing importance of viral diagnosis in human and veterinary medicine. There is yet another step that diagnostic virology has to take: the introduction on a routine basis of methods of molecular biology into the viral diagnostic laboratory. The application of monoclonal antibodies and techniques for the chemical and biological identification of proteins, carbohydrates, and enzymes are discussed, as is the introduction of techniques for the characterization of nucleic acids in viral diagnosis.

Scientific Directory and Annual Bibliography National Institutes of Health (U.S.) 1976 Presents the broad outline of NIH organizational structure, the professional staff, and their scientific and technical publications covering work done at NIH.

Annales de virologie 1982

Genetic Interaction and Gene Transfer 1978

Foundations of Comparative Genomics Arcady R. Mushegian 2010-07-20 This book provides an overview of computational analysis of genes and genomes, and of some most notable findings that come out of this work. Foundations of Comparative Genomics presents a historical perspective, beginning with early analysis of individual gene sequences, to present day comparison of gene repertoires encoded by completely sequenced genomes. The author discusses the underlying scientific principles of comparative genomics, argues that completion of many genome sequences started a new era in biology, and provides a personal view on several state-of-the-art issues, such as systems biology and whole-genome phylogenetic reconstructions. This book is an essential reference for researchers and students in computational biology, evolutionary biology, and genetics. Presents an historic overview of genome biology and its achievements Includes topics not covered in other books such as minimal and ancestral genomes Discusses the evolutionary resilience of protein-coding genes and frequent functional convergence at the molecular level Critically reviews horizontal gene transfer and other contentious issues Covers comparative virology as a somewhat overlooked foundation of modern genome science

The Arboviruses: Thomas P Monath 2021-03 First Published in 1988, this five volume set documents the transmission and growth of Arthropod born viruses. Carefully compiled and filled with a vast repertoire of notes, diagrams, and references this book serves as a useful reference for Students of Epidemiology, and other practitioners in their respective fields.

New Developments in Diagnostic Virology Peter A. Bachmann 1983 The contributions to this book derived from the Seventh Munich Symposium on Microbiology on June 3 and 4, 1981, which was organized by the WHO Centre for Collection and Evaluation of Data on Comparative Virology at the Institute of Medical Microbiology, Infectious and Epidemic Diseases, University of Munich, Federal Republic of Germany. One of our principal purposes was to establish a forum at which the comparative aspects of questions of current interest in the field of medical virology could be discussed. In addition to the presentation of recent findings in microbiology, our overall aim was to crystallize trends and indicate new directions for future research activities. This book is a topical review of "New Horizons in Diagnostic Virology." Every one interested in virology is aware of the tremendous progress made in viral diagnostic techniques during recent years and the growing importance of viral diagnosis in human and veterinary medicine. There is yet another step that diagnostic virology has to take: the introduction on a routine basis of methods of molecular biology into the viral diagnostic laboratory. The application of monoclonal antibodies and techniques for the chemical and biological identification of proteins, carbohydrates, and enzymes are discussed, as is the introduction of techniques for the characterization of nucleic acids in viral diagnosis.

Introduction to Virology K. Smith 2012-12-06 The study of viruses, or virology as it is now called, had its origin in 1892 when a Russian botanist, Iwanowsky, showed that sap from a tobacco plant with an infectious disease was still highly infectious after passage through a filter capable of retaining bacterial cells. From such humble beginnings the study of these 'filter-passing agents', or viruses, has developed into a separate science which rivals, if it does not excel, in importance the whole of bacteriology. The importance of viruses lies not only in the diseases they cause in every type of living organism, but also because of their intimate relationship with the living cell, in which alone they can reproduce. Their study has influenced the whole of biology by greatly increasing our knowledge of the gene, genetics, and molecular structure; there is also the possible connexion of viruses with human cancer, in view of the occurrence of many viral cancers in other animals. The book attempts to give a comprehensive but necessarily superficial survey of the subject as a whole and should help senior undergraduates and postgraduate students who wish to gain some knowledge of virology. Further information is available from the extensive bibliography.

Report of the NIAID Task Force on Virology NIAID Task Force on Virology 1979

Viruses, Evolution and Cancer Basic Considerations Edouard Kurstak 2012-12-02 Viruses, Evolution and Cancer: Basic Considerations

focuses on comparative biology and evolutionary aspects of DNA and RNA oncogenic viruses. Organized into seven parts, this book begins with a discussion on the host-cell-virus relationships. Some chapters follow that discuss the comparative aspects of DNA and RNA oncogenic viruses. This work also elucidates the effects of oncogenic viruses on cell surface metabolism. Other chapters explore the comparative viral oncology, comparative immunology of oncogenic viruses, and evolution of viruses. This book will be an invaluable material both to those concerned in the scientific and medical problems of cancer and will benefit all who are interested in virology and oncology.

Viral and Rickettsial Infections of Animals A. O. Betts 2013-10-22 *Viral and Rickettsial Infections of Animals, Volume I*, deals comprehensively with the viruses and rickettsiae that infect domestic animals. The book also aims demonstrate the basic unity of virology irrespective of whether the natural host is man or one of the lower animals. This book deals with general virology from the viewpoint of comparative medicine. It begins with accounts of the fundamental properties of viruses; proceeds to consider how these agents affect cells and how the animal body responds; and concludes by discussing the methods by which the natural cycle of infection can be interrupted or modified to the benefit of the host. Included are chapters on the physical, chemical, and biological properties of viruses, viral multiplication, the cultivation of viruses, the pathogenesis of viral infections and their pathology, serology, immunity, and, finally, epidemiology and control. It is hoped that this book will be valuable to those interested in a variety of other biological sciences.

Control of Virus Diseases International Comparative Virology Organization 1984

The Arboviruses Thomas P. Monath 2019-08-27 First Published in 1988, this five volume set documents the transmission and growth of Arthropod born viruses. Carefully compiled and filled with a vast repertoire of notes, diagrams, and references this book serves as a useful reference for Students of Epidemiology, and other practitioners in their respective fields.

Viruses and Environment Edouard Kurstak 2012-12-02 *Viruses and Environment* contains the proceedings of the Third International Conference on Comparative Virology, held at Mont Gabriel, Quebec, Canada on May 1977. The primary focus of the conference is the ecology of viruses, that is, the interrelationships between organisms and their environment. Organized into seven parts with a total of 33 chapters, this book centers on the impact of viruses on the environment; the persistent virus infections of man, vertebrate and invertebrate animals, and plants; and the smallest disease agents, the viroids. In particular, this book describes the reservoirs of viruses, such as arthropod vectors, water, cultivated plants, and wild animals; safety considerations concerning the use of live virus vaccines; and the viral insecticides. The use of bacterial viruses in genetic engineering is also addressed. This treatise will be valuable to research workers in medical and biomedical fields; biological control; and animal and plant quarantine. It will also benefit the university teachers and graduate students.

Insect Viruses Karl Maramorosch 2013-04-09 This volume contains seven chapters, based on papers presented at a Symposium on Insect Viruses, held in conjunction with the 67th Annual Meeting of the American Society for Microbiology in New York, N. Y. , on 30 April-4 May, 1967. The Symposium was organized to bring together outstanding workers interested in various areas of insect virology, and allow an opportunity for a discussion of problems, approaches, and methods that would lead to further progress in basic and applied research. One of the principal reasons for holding the Symposium at this time was the feeling that the divergent areas of research, up to now studied separately by entomologists, medical and public health workers, geneticists, and plant pathologists, would be brought together, crossing the artificial borders and finding new, exciting and inspiring vistas. Insect viruses provide a rare opportunity to get acquainted with the work and methods of investigators in such related and yet distant fields. Following the symposium, a decision was made to publish the papers in a single volume, extending the contents to provide a complete and scholarly review of each subject. Since viruses affecting insects have received little attention until recent years, it was felt that a fully documented presentation of diverse areas of insect virology merited publication. The invited authors, all recognized authorities in their respective fields, prepared their contributions in such a way that each is a concise unit.

Comparative Plant Virology Roger Hull 2009-02-06 *Comparative Plant Virology* provides a complete overview of our current knowledge of plant viruses, including background information on plant viruses and up-to-date aspects of virus biology and control. It deals mainly with concepts rather than detail. The focus will be on plant viruses but due to the changing environment of how virology is taught, comparisons will be drawn with viruses of other kingdoms, animals, fungi and bacteria. It has been written for students of plant virology, plant pathology, virology and microbiology who have no previous knowledge of plant viruses or of virology in general. Boxes highlight important information such as virus definition and taxonomy Includes profiles of 32 plant viruses that feature extensively in the text Full color throughout