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0521832489 - Molecular Pathogenesis of Virus Infections

Edited by P. Digard, A. A. Nash and R. E. Randall

Frontmatter

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Molecular pathogenesis of virus infections

Virus and prion diseases remain a major public health threat, in both developed and developing countries. The worldwide HIV pandemic is but one example of a newly emerged virus disease; other potential threats come from exotic viruses such as SARS, Ebola and Hantaan viruses. Older human viruses such as influenza, papilloma, herpes and the hepatitis viruses still cause major health problems. Furthermore, as well as causing acute infections, some viruses may also establish persistent infections which can lead to the development of chronic diseases, including cancer. This symposium book covers central factors that influence the pathogenicity of virus and prion infections. Topics range from innate and adaptive immune responses and virus evasion of host defences to details of selected virus–host interactions, including those involving dengue virus, HIV, influenza viruses, coronaviruses, hepatitis C virus, herpesviruses, papillomaviruses, African swine fever virus and poxviruses.

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Front cover illustration: Coloured scanning electron micrograph of a cluster of
coronavirus particles. Eye of Science / Science Photo Library.

CONTENTS

Contributors	vii
J. L. Whitton Adaptive immune responses	1
G. Screaton and J. Mongkolsapaya T-cell responses and dengue haemorrhagic fever	15
E. Turnbull and P. Borrow The immune response to human immunodeficiency virus type 1 (HIV-1)	23
C. M. Dixon, L. Breakwell, G. Barry and J. K. Fazakerley Persistent RNA virus infections	91
A. L. Hartman, J. S. Towner and S. Nichol Pathogenesis of Ebola and Marburg viruses	109
C. Dye and S. Siddell Molecular approaches to the pathogenesis of feline coronaviruses	125
J. C. Manson and R. M. Barron The transmissible spongiform encephalopathies	137
R. G. Webster, A. S. Lipatov and E. Hoffmann Influenza virus pathogenicity	159
R. P. van Rij and R. Andino RNAi as an antiviral mechanism and therapeutic approach	179
M. L. Freeman, V. Decman and R. L. Hendricks Neurons and host immunity conspire to maintain herpes simplex virus in a latent state	203
S. M. Lemon and K. Li Hepatitis C virus disruption of interferon signalling pathways and evasion of innate intracellular antiviral defences	215
L. Gray, C. Jolly and C. S. Herrington Human papillomaviruses and their effects on cell cycle control and apoptosis	235
O. Haller, F. Weber and G. Kochs Intracellular antiviral defence mechanisms: the power of interferon-regulated restriction factors	253
M. B. Ruiz-Argüello, A. Alejo and A. Alcami Secreted tumour necrosis factor inhibitors encoded by poxviruses	269

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Frontmatter

[More information](#)

vi Contents

L. K. Dixon

Evasion of host defence systems by African swine fever virus 291

J. P. Stewart, D. Hughes, L. Roaden and B. Ebrahimi

Murid herpesvirus 4 as a model for gammaherpesvirus pathogenesis 319

Index 341

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Virus and prion diseases remain a major public health threat, in both developed and developing countries. The worldwide HIV pandemic is but one example of a newly emerged virus disease; other potential threats come from exotic viruses such as SARS, Ebola and Hantaan viruses. This symposium book covers central factors that influence the pathogenicity of virus and prion infections. Topics range from innate and adaptive immune responses and virus evasion of host defences to details of selected virus-host interactions, including those involving dengue virus, HIV, influenza viruses, coronaviruses, hepatitis C virus, herpesviruses, papillomaviruses, African swine fever virus and poxviruses. Viral pathogenesis is the study of the process and mechanisms by which viruses cause diseases in their target hosts, often at the cellular or molecular level. It is a specialized field of study in virology. Pathogenesis is a qualitative description of the process by which an initial infection causes disease. Viral disease is the sum of the effects of viral replication on the host and the host's subsequent immune response against the virus. Viruses are able to initiate infection, disperse throughout