

Influenza

Molecular Virology

Edited by: Qinghua Wang¹ and Yizhi Jane Tao²

¹Dept Biochemistry and Molecular Biology, Baylor College of Medicine, Texas, USA; ²Dept Biochemistry and Cell Biology, Rice University, Houston, USA

c. 200 pp, Feb. 2010

978-1-904455-57-8

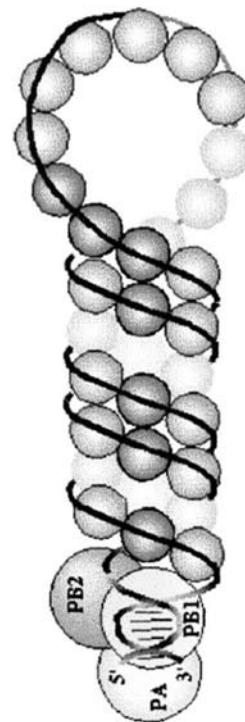
\$310/£159

The alarming emergence in 1997 of a new, highly pathogenic influenza subtype, H5N1, with a 50% mortality rate, provided a major impetus for research into these important viruses. Sustaining this research effort has become even more urgent with the recent emergence of another subtype, H1N1, especially given the ease of human to human transmission of this new subtype. This summer the World Health Organization acknowledged that Influenza H1N1 is now pandemic. That H1N1 could acquire the lethal capabilities of H5N1 is now of major concern: if this were to happen, then ensuing pandemic would be devastating.

In this timely book, internationally renowned scientists critically review the current research and the most important discoveries in this highly topical field. Highly informative and well referenced, this book is essential reading for all influenza specialists and is recommended reading for all virologists, immunologists, molecular biologists, public health scientists and research scientists in pharmaceutical companies.

Table of Contents

• **Chapter 1:** The NS1 Protein of Influenza A Virus. *Chen Zhao, Rei-Lin Kuo and Robert M. Krug* • **Chapter 2:** Structural Insights into the Function of Influenza NS1. *Zachary A. Bornholdt, Berenice Carrillo, and B.V. Venkataram Prasad* • **Chapter 3:** Influenza Type B Virus Hemagglutinin: Antigenicity, Receptor binding and Membrane Fusion. *Qinghua Wang* • **Chapter 4:** Influenza A Virus Nucleoprotein. *Yizhi Jane Tao and Qiaozhen Ye* • **Chapter 5:** Influenza A Virus Hemagglutinin Glycoproteins. *David A. Steinhauer* • **Chapter 6:** Structure and Mechanism of the M2 Channel. *James J. Chou and Jason R. Schnell* • **Chapter 7:** Virulence Genes of the 1918 Pandemic Influenza Virus. *Natalie Pica, Terrence M. Tumpey, Adolfo Garcia-Sastre, and Peter Palese* • **Chapter 8:** Polymerase Structure and Function. *Mark Bartlam, Zhiyong Lou, Yingfang Liu and Zihe Rao* • **Chapter 9:** MChip: A Single Gene Diagnostic Microarray for Influenza A. *Erica D. Dawson, and Kathy L. Rowlen* • **Chapter 10:** Computer-assisted Vaccine Design. *Hao Zhou, Ramdas S. Pophale, and Michael W. Deem*



Further Details on this and all our books at

WWW.CAISTER.COM

Order from:

• ISBS, Inc., 920 NE 58th Avenue, Suite 300, Portland, OR 97213-3786, **USA** Tel: 503 287-3093; Fax: 503 280-8832 <http://usa.caister.com>
 • Book Systems Plus, BSP Hse, Station Road, Linton, Cambs, CB21 4NW, **UK** Tel: 01223 894870; Fax: 01223 894871 <http://uk.caister.com>

Quantity	Title	ISBN	Cost
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Name _____

Address _____

E-mail _____

Tel. _____ Fax. _____

Add carriage per copy:
 UK £5; USA \$5.50; Rest of World please call _____

Total _____

Visa Mastercard Bill me

Exp. date Security number

Cardholder _____

Signature _____ Date _____

Frontiers in Dengue Virus Research

Edited by: **Kathryn A. Hanley and Scott C. Weaver**
viii + 304 pp., January 2010
ISBN 978-1-904455-50-9, \$310/£150

This book brings together a panel of expert dengue virologists to produce a timely review of the rapidly expanding dengue research literature. In addition authors identify the most pressing questions that remain to be answered, thus providing a stimulus for future research.

Topics

• Dengue Virus - Past, Present and Future • Translation and Processing of the Dengue Virus Polyprotein • The Dengue Virus Replication Complex • Role of the Dengue Virus 5' and 3' Untranslated Regions in Viral Replication • Host and Virus Determinants of Susceptibility and Dengue Disease Severity • Animal Models of Dengue Virus Infection and Disease: Applications, Insights, and Frontiers • Modulation of the Antiviral Response by Dengue Virus • Dengue Virus-mosquito Interactions • Evolutionary Dynamics of Dengue Virus • Temporal and Spatial Dynamics of Dengue Virus Transmission • Dengue Virus Emergence from its Sylvatic Cycle • Prospects and Challenges for Dengue Virus Vaccine Development • Novel Therapeutic Approaches for Dengue Disease • Progress in Passive Immunotherapy

Retroviruses

Molecular Biology, Genomics and Pathogenesis

Edited by: **Reinhard Kurth and Norbert Bannert**
c. 520 pp., January 2010
ISBN 978-1-904455-55-4, \$310/£159

Written by the top retroviral specialists, this book reviews the genomics, molecular biology, and pathogenesis of these important viruses, comprehensively covering all the recent advances.

Topics

• An Everlasting War Dance Between Retrotransposons and Their Metazoan Hosts • Endogenous Retroviruses • Retroviral Particles, Proteins and Genomes • Retroviral Entry and Uncoating • Reverse Transcription and Integration • Transcription, Splicing and Transport of Retroviral RNA • Assembly and Release • Transmission and Epidemiology • Pathogenesis of Oncoviral Infections • Pathogenesis of Immunodeficiency Virus Infections • Retroviral Restriction Factors • Molecular Vaccines and Correlates of Protection • Gammaretroviral and Lentiviral Vectors for Gene Delivery • Non-primate Mammalian and Fish Retroviruses • Simian Exogenous Retroviruses • HTLV and HIV

Coming Soon!

Epstein-Barr Virus

Latency and Transformation

Edited by: **Erle S. Robertson**

RNA Interference and Viruses

Current Innovations and Future Trends

Edited by: **Miguel Angel Martínez**
c. 280 pp., February 2010
ISBN 978-1-904455-56-1, \$310/£159

In this book, expert RNAi specialists from around the world have teamed up to produce a timely and thought-provoking review of the area. The two central themes are: 1) the latest findings on RNAi-virus interactions and 2) progress in the development of RNAi-based antiviral therapeutics.

Topics

• RNAi: An Antiviral Defense System in Insects • RNA Silencing in Plants and the Role of Viral Suppressors • The Properties and Roles of Virus-encoded MicroRNAs • Virus-encoded Suppressors of RNA Silencing and the Role of Cellular miRNAs in Mammalian Antiviral Immune Responses • HCV and the Interaction with miR-122 in the Liver • Viral Escape From RNAi in Mammalian Cells • RNAi Gene Therapy to Control HIV-1 Infection • Advances in the Use of RNAi to Treat Chronic Hepatitis B Virus Infection • Hepatitis C: New Insights and Therapeutics by RNAi • RNAi Applications to Defeat Respiratory Viral Infections • RNAi With Viral Vectors That Deliver Small Interference RNAs

Lentiviruses and Macrophages

Molecular and Cellular Interactions

Edited by: **Maira Desport**
c. 410 pp., March 2010
ISBN 978-1-904455-60-8, \$310/£159

In this timely book, top lentivirus and macrophage specialists comprehensively review cutting-edge topics in the molecular and cellular biology of the lentivirus-macrophage interaction.

Topics

• Lentivirus Tropism and Disease • A Bird's Eye View of Macrophage Biology • The Macrophage in HIV-1 Infection and Disease Progression • Post-entry Restrictions to Lentiviral Replication • HIV-2 Tropism and Disease • SHIV Model of Disease • SIV Pathogenic and Nonpathogenic Infections • The Felid Immunodeficiency Viruses: Viral Cell Tropism and the Pathogenesis of Feline AIDS • Equine Infectious Anemia Virus Pathogenesis and Replication • Small Ruminant Lentiviruses and Cross Species Transmission • The Bovine Lentiviruses: Pathogenesis and Cell Tropism • Lentivirus Coinfections and Superinfections

Other Books of Interest

- Microbial Population Genetics
- Environmental Molecular Microbiology
- Microbial Toxins: Current Research and Future Trends
- Metagenomics: Theory, Methods and Applications
- Epigenetics
- Lab-on-a-Chip Technology
- Pili and Flagella: Current Research and Future Trends
- Real-Time PCR: Current Technology and Applications
- RNA and the Regulation of Gene Expression