# Legionella Molecular Microbiology

Edited by: Klaus Heuner and Michele Swanson University of Würzburg, Germany and University of Michigan, USA

Published: March 2008. Pages: x + 249 + colour plate Hardback: ISBN 978-1-904455-26-4 £159, \$319 Published by: Caister Academic Press www.caister.com



www.caister.com

Legionellosis is a disease of significant medical and public interest. *Legionella* is commonly found in aquatic habitats where its ability to survive and to multiply within different protozoa equips the bacterium to be transmissible and pathogenic to humans. In addition *Legionella* has become a favored model system to analyse the mechanisms of bacterial survival, acquisition of nutrients and intracellular replication. Following the recent publication of the genome sequences of four *L. pneumophila* strains it is now feasible to investigate the whole genome *in silico*, the transcriptome via micro arrays and the proteome by two-dimensional gel electrophoresis. Research in the fields of clinical features, diagnosis, treatment and epidemiology continues to generate new data. The topics covered by this volume range from the history of the identification of *Legionella* and clinical disease treatment, to the microbe's gene expression and secretion systems as well as its strategies for intracellular multiplication and nutrient acquisition. The main focus of the book is the current state of many of the most critical features of *Legionella*. Internationally renowned authors have contributed chapters describing and discussing the latest research findings with an emphasis on molecular aspects. The editors and authors have produced an excellent book that will be an extremely useful reference source. This comprehensive publication is aimed at readers with teaching or research interests in microbiology, genetics, genomics, infectious diseases or clinical research. A recommended book for all microbiology and clinical research laboratories.

Chapter 1. Legionnaires' Disease: History and Clinical Findings. Paul H. Edelstein

Chapter 2. Diagnostics and Clinical Disease Treatment. Paul C. Lück

Chapter 3. The Epidemiology of Legionnaires' Disease. Carol Joseph and Katherine Ricketts

**Chapter 4.** Developmental Cycle: Differentiation of Legionella pneumophila. Rafael A. Garduño, Audrey Chong and Gary Faulkner

**Chapter 5.** The Genetics and Immunology of Host Resistance to *Legionella* Infection. *Russell Vance and Thomas R. Hawn* 

**Chapter 6.** The Flagellar Regulon of *Legionella pneumophila* and the Expression of Virulence Traits. *Klaus Heuner and Christiane Albert-Weissenberger* 

Chapter 7. Genomics and Transcriptomics of Legionella pneumophila: Insights into the Life Style of an Intracellular Pathogen. Christel Cazalet, Matthieu Jules and Carmen Buchrieser

Chapter 8. Secretion and Export in Legionella. Nicholas P. Cianciotto

Chapter 9. The Dot/Icm Type IVB Secretion System of Legionella. Carr D. Vincent and Joseph P. Vogel

Chapter 10. Mechanisms of Intracellular Survival and Replication of Legionella pneumophila. Tamara O'Conner, Matthew Heidtman and Ralph R. Isberg

**Chapter 11.** Nutrient Acquisition and Assimilation Strategies of Legionella pneumophila. Maris V. Fonseca, John-Demian Sauer and Michele S. Swanson

Chapter 12. Dictyostelium, a Tractable Model Host Organism for Legionella. Heike Bruhn and Michael Steinert

#### Order from:

Caister Academic Press, c/o Book Systems Plus http://www.caister.com/order

### **CURRENT BOOKS OF INTEREST**

www.caister.com

MALDI-TOF Mass Spectrometry in Microbiology Edited by: Markus Kostrzewa and Sören Schubert (Published: 2016)

### Aspergillus and Penicillium in the Post-genomic Era Edited by: Panald P. do Vrigo, Isabella Panait College and Mikael Pardam Anderson (

Edited by: Ronald P. de Vries, Isabelle Benoit Gelber and Mikael Rørdam Andersen (Published: 2016)

The Bacteriocins: Current Knowledge and Future Prospects Edited by: Robert L. Dorit, Sandra M. Roy and Margaret A. Riley (Published: 2016)

#### Omics in Plant Disease Resistance

Edited by: Vijai Bhadauria (Published: 2016)

Acidophiles: Life in Extremely Acidic Environments Edited by: Raquel Quatrini and D. Barrie Johnson (Published: 2016)

Climate Change and Microbial Ecology: Current Research and Future Trends Edited by: Jürgen Marxsen (Published: 2016)

Biofilms in Bioremediation: Current Research and Emerging Technologies Edited by: Gavin Lear (Published: 2016)

Microalgae: Current Research and Applications

Edited by: Maria-Nefeli Tsaloglou (Published: 2016)

Gas Plasma Sterilization in Microbiology: Theory, Applications, Pitfalls and New Perspectives Edited by: Hideharu Shintani and Akikazu Sakudo (Published: 2016)

#### Virus Evolution: Current Research and Future Directions

Edited by: Scott C. Weaver, Mark Denison, Marilyn Roossinck and Marco Vignuzzi (Published: 2016)

Arboviruses: Molecular Biology, Evolution and Control

Edited by: Nikos Vasilakis and Duane J. Gubler (Published: 2016)

Shigella: Molecular and Cellular Biology

Edited by: William D. Picking and Wendy L. Picking (Published: 2016)

Aquatic Biofilms: Ecology, Water Quality and Wastewater Treatment Edited by: Anna M. Romaní, Helena Guasch and M. Dolors Balaguer (Published: 2016)

#### Alphaviruses: Current Biology

Edited by: Suresh Mahalingam, Lara Herrero and Belinda Herring (Published: 2016)

#### Thermophilic Microorganisms

Edited by: Fu-Li Li (Published: 2015)

Flow Cytometry in Microbiology: Technology and Applications Edited by: Martin G. Wilkinson (Published: 2015)

"an impressive group of experts" (ProtoView)

#### Probiotics and Prebiotics: Current Research and Future Trends

Edited by: Koen Venema and Ana Paula do Carmo (Published: 2015)

#### Epigenetics: Current Research and Emerging Trends Edited by: Brian P. Chadwick (Published: 2015)

"this is one text you don't want to miss" (Epigenie); "up-to-date information" (ChemMedChem)

## Corynebacterium glutamicum: From Systems Biology to Biotechnological Applications Edited by: Andreas Burkovski (Published: 2015)

"Without question a valuable book" (BIOSpektrum)

#### Advanced Vaccine Research Methods for the Decade of Vaccines Edited by: Fabio Bagnoli and Rino Rappuoli (Published: 2015)

Full details at www.caister.com