Chlamydia Biology
From Genome to Disease

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Chlamydia is an important bacterial pathogen and a major cause of human and animal disease. Each year, more cases of chlamydial infection are reported to the Centers for Disease Control and Prevention than all other infections combined, illustrating its enormous public health impact.

This book provides an up-to-date review of the clinical infections caused by the two main human pathogens \( \text{C. trachomatis} \) and \( \text{C. pneumoniae} \), as well as chapters on veterinary Chlamydia species and Chlamydia-related bacteria. Multiple chapters cover cutting-edge developments in Chlamydia research, from the basic biology of the intracellular chlamydial infection to the host immune response and work towards a Chlamydia vaccine. Also highlighted are recent advances in chlamydial genetics and genomics, which have transformed the field. For the first time in a Chlamydia book, there are chapters on Chlamydia cell division and differentiation and Chlamydia infections and the microbiota, which are two hot areas of research. Each of the nineteen chapters is written by experts, who have made major contributions through their work and come from different research groups to ensure a broad and fresh perspective.

This book will be of interest to Chlamydia researchers, microbiologists, cell biologists, infectious disease clinicians, public health professionals and government policy makers. It will be especially useful for newcomers to the Chlamydia field, who will find a current and comprehensive summary of Chlamydia research in one volume.

Chapter 1. Chlamydia trachomatis Infections (Stephen Jordan, David Nelson and William Geisler)
Chapter 2. Chlamydia pneumoniae Infections (Lee Ann Campbell and David Hahn)
Chapter 3. Chlamydia Adhesion and Invasion (Matthew D. Romero, Katja Mölleken, Johannes H. Hegemann and Rey A. Carabeo)
Chapter 4. The Chlamydial Inclusion (Kevin Hybiske and Dagmar Heuer)
Chapter 5. Interactions of the Chlamydial Inclusion with the Host Cell (Christine Sütterlin and Isabelle Derré)
Chapter 6. Chlamydia and Cell-autonomous Defence: Apoptosis and Autophagy (Georg Häcker and Thomas Rudel)
Chapter 7. Protein Secretion in Chlamydia (Agathe Subtil and Richard D. Hayward)
Chapter 8. The Chlamydial Protease CPAF (Julie A. Brothwell, Christine Sütterlin, Thomas Rudel and Ming Tan)
Chapter 9. Chlamydia Cell Division and Differentiation (George W. Liechti, Patrick H. Voilier, Gilbert Greub and Anthony T. Maurelli)
Chapter 10. Chlamydia Gene Regulation (Christopher J. Rosario, Katelyn Soules, P. Scott Hefty and Ming Tan)
Chapter 11. Chlamydia Genetics (Colette E. O’Neill, Ian N. Clarke and Derek J. Fisher)
Chapter 12. Chlamydia Genomics (Vitor Borges, Patrick Hyden, João Paulo Gomes and Thomas Rattei)
Chapter 13. Chlamydia and Innate Immunity ( Uma M. Nagarajan, Breanna J. Turman, Michael R. Knittler and Andreas Klos)
Chapter 14. Adaptive Immunity to Chlamydia trachomatis Infection (Taylor B. Poston, Toni Darville and Raymond M. Johnson)
Chapter 15. Chlamydia Vaccines (Luis M. de la Maza, Sukumar Pal, Anja W. Olsen and Frank Follmann)
Chapter 16. Chlamydia Infections and the Microbiota (Simon Graspeunter, Jan Rupp, Peter Timms and Bonnie Quigley)
Chapter 17. Recent Advances in Epidemiology, Pathology and Immunology of Veterinary Chlamydiae (Konrad Sachse and Nicole Borel)
Chapter 18. Thinking Outside the Chlamydia Box (Alyce Taylor-Brown, Tamara Halter, Adam Polkinghorne and Matthias Horn)
Chapter 19. Animal Models of Chlamydia trachomatis Infection (Guangming Zhong, Alison Quayle, Ashok Aiyar and Tianyuan Zhang)

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