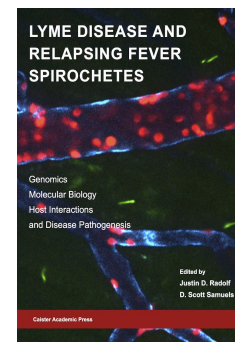


Lyme Disease and Relapsing Fever Spirochetes

Genomics, Molecular Biology, Host Interactions and Disease Pathogenesis



Edited by: Justin D. Radolf and D. Scott Samuels

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Lyme disease (Lyme borreliosis) is the most prevalent vector-borne illness in the United States and Europe and a growing threat to global health. In addition Lyme disease is considered a model system of emerging infectious diseases. The book *Borrelia: Molecular Biology, Host Interaction and Pathogenesis* published in 2010 was the first state-of-the-art reference work covering the myriad, interlaced facets of the enzootic disorders caused by pathogenic *Borrelia*. This current volume, by the same editors, builds on the previous work and contains a vast amount of new information, a wider scope, and increased coverage of genomics, genetics, evolutionary biology, vector biology, physiology, pathogenicity, immune response, and immune evasion.

Written by renowned scientists who have made seminal contributions to the field, this book contains an expansive treatment of the options to track live spirochetes and evaluate gene expression in ticks and mice, provides insights into the workings of the flagellar motor, presents up-to-date research on the modulation of gene expression, and reviews recent studies on the Lyme disease spirochete's networks of regulatory pathways. The volume highlights and describes in detail the tremendous advances in understanding of the *Borrelia* genus at the molecular and cellular levels as well as the pathogenesis of Lyme disease and relapsing fever.

This comprehensive volume is indispensable for anyone involved in *Borrelia* and Lyme disease research and is highly recommended for microbiologists, immunologists, and physicians with an interest in spirochetes, vector-borne illness, or emerging infectious diseases. The book is a recommended reference volume for all microbiology libraries.

Chapter 1. The World-Wide Saga of Lyme Borreliosis (*Jorge L. Benach and Juan Carlos García-Moncó*)

Chapter 2. Multipartite Genome of Lyme Disease *Borrelia*: Structure, Variation and Prophages (*Ira Schwartz, Gabriele Margos, Sherwood R. Casjens, Wei-Gang Qiu and Christian H. Eggers*)

Chapter 3. Genomics of Relapsing Fever Spirochetes (*Luke C. Kingry*)

Chapter 4. Replication of the *Borrelia burgdorferi* Genome (*Kerri Kobryn*)

Chapter 5. Gene Regulation and Transcriptomics (*D. Scott Samuels, Meghan C. Lybecker, X. Frank Yang, Zhiming Ouyang, Travis J. Bourret, William K. Boyle, Brian Stevenson, Dan Drecktrah and Melissa J. Caimano*)

Chapter 6. Metabolism and Physiology of *Borrelia* (*Frank C. Gherardini, Daniel P. Dulebohn, Travis J. Bourret and Crystal L. Richards*)

Chapter 7. Structure, Function, Biogenesis and Maintenance of the *Borrelia* Cell Envelope (*Wolfram R. Zückert, Brandon L. Jutras, Alvaro M. Toledo and Sven Bergström*)

Chapter 8. Dancing with the Star: *Borrelia burgdorferi*, a Solo Dancer with All the Right Moves (*Ching Woon Sze, Hui Xu, Md A. Motaleb, Charles W. Wolgemuth, Jun Liu, Nyles W. Charon and Chunhao Li*)

Chapter 9. Evolutionary Genetics of *Borrelia* (*Zachary J. Oppler, Kayleigh R. O'Keeffe, Karen D. McCoy and Dustin Brisson*)

Chapter 10. Perpetuation of *Borreliae* (*Sam R. Telford III and Heidi K. Goethert*)

Chapter 11. Interactions Between Ticks and Lyme Disease Spirochetes (*Utpal Pal, Chrysoula Kitsou, Dan Drecktrah, Özlem Büyüktanir Yas and Erol Fikrig*)

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Chapter 14. Pathogenesis of Relapsing Fever (*Job Lopez, Joppe W. Hovius and Sven Bergström*)

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Chapter 16. Genetic Manipulation of *Borrelia* (*Patricia A. Rosa and Mollie W. Jewett*)

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