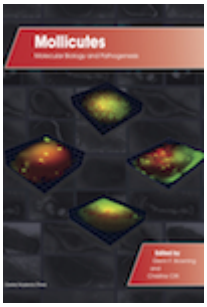
Mollicutes

Molecular Biology and Pathogenesis



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Mollicutes are a class of simple bacteria characterized by the lack of a bacterial cell wall and their very small genomes (580 kb to 2200 kb). This phylogenetically coherent group contains a broad range of different plant and animal pathogens making it an ideal model for understanding gene function, gene regulation and the evolution of virulence factors in other bacterial pathogens. The recent development of improved tools for manipulating mollicute genomes has transformed research in this area permitting new insights into mollicute molecular and cellular biology. An interesting fact to emerge is that, far from being a simple model of cellular life, these are complex organisms that have adapted to life in a hostile environment through a surprisingly sophisticated variety of ways.

In this book acknowledged experts critically review the most recent advances in the evolution, genetics and molecular pathogenesis of these important pathogens. Topics covered include: taxonomy; genomic mosaics; molecular genetic tools for mollicutes; identification and characterisation of virulence genes in mycoplasmas; post-translational modification of proteins; multifunctional cytoadherence factors; the glycocalyx; glycosidase activity; phase and antigenic variation in mycoplasmas; spiroplasma transmission from insect to plants; cytoskeletons organization; gliding mechanism of the *Mycoplasma pneumoniae* subgroup; biofilm formation by mycoplasmas; host immune responses to mycoplasmas; and emerging antimicrobial resistance in mycoplasmas of humans and animals.

An essential book for researchers working with mollicutes and recommended reading for everyone interested in bacterial genomics, bacterial pathogenesis and the evolution of bacterial virulence.

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