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One of the keys to the development of novel anti-infective strategies

Bacterial Sensing and Signaling

Editors

Mattias Collin
Raymond Schuch



Over the last fifteen years it has become increasingly obvious that bacteria are not as simple and solitary as once believed. Rather, an accumulating body of work shows that bacteria are highly complicated and social organisms, constantly sensing their surroundings and altering both their environments and behaviors to ensure survival. Direct communication between bacteria turns out to be quite common, as are coordinated intra- and interspecies responses that include the formation of highly sophisticated microbial communities. In fact, threats to bacterial survival from assaults ranging from nutrient deprivation and oxygen depletion to the defenses of eukaryotic hosts are all managed through the integration of a dizzying array of complex sensory and communication systems with the appropriate bacterial behaviors. This volume provides an update of the current knowledge in the expanding field of bacterial sensing and signaling, highlighting its most important and interesting aspects. In twelve state-of-the-art articles, respected international experts address topics such as quorum sensing and secondary messengers, chemotaxis and magnetoaerotaxis, two-component phosphotransferase systems, bacterial virulence mechanisms, thermoregulation, and more. The final chapter represents a unique description of the tools available to manipulate many of the sensing and signaling systems described in this volume.

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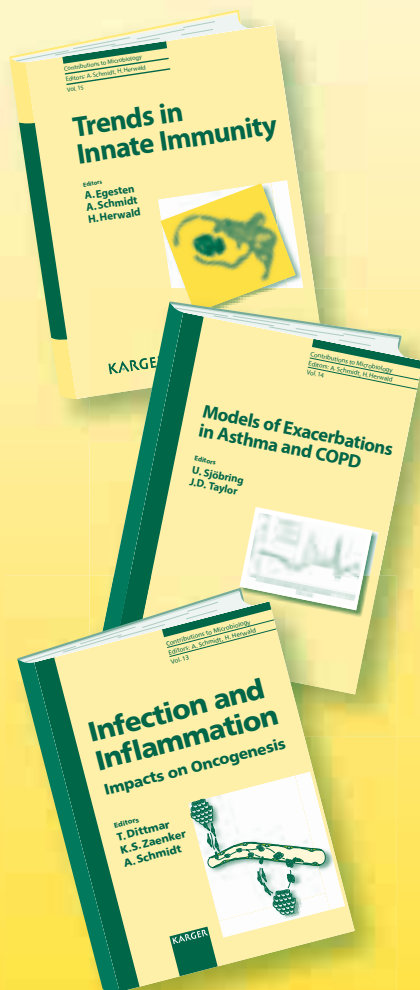
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