Special Issue

Alternative Drug Therapy-Cyanobacterial Metabolites

Message from the Guest Editors

The understanding of how intercellular microbial communication is involved in bacterial pathogenesis has revealed the potential for alternative strategies to treat bacteria-mediated diseases. Quorum sensing (QS) regulates coordinated responses across a bacterial population, and in many cases, the responses elicited by QS signals contribute directly to pathogenesis through the synchronized production of virulence determinants, such as toxins and proteases. QSI compounds inactivate QS via different quenching mechanisms, including enzymatic inactivation of the signal molecule, inhibition of signal biosynthesis, and inhibition of signal detection. Cyanobacteria being one of the prolific sources of chemical diverse bioactive natural products and toxins suggests it to be a potential reservoir for isolation and structural elucidation of novel antimicrobials that are based on the QSI mechanism of action. Further, the role of QS molecules towards the development of co-habitation in non-axenic cyanobacterial cultures is appreciated.

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