Special Issue

The Function of Regulatory RNAs in Bacterial Pathogens

Message from the Guest Editor

Bacterial pathogens pose a significant threat to human health due to their ability to rapidly adapt to environmental changes and host defenses. A key aspect of this adaptability is gene regulation, occurring post-transcriptionally through small RNAs (sRNAs). These sRNAs fine-tune gene expression by interacting with target mRNAs, other sRNAs, and protein factors. Their function is often mediated by ribonucleases (RNases) and RNA-binding proteins, influencing RNA stability and translation. These networks help pathogens respond to stress, immune defenses, and antibiotics. Techniques like transcriptomics, proteomics, and biochemical assays are used to identify and characterize sRNAs and their partners. Understanding these molecules is key to bacterial virulence, antibiotic resistance, and adaptation. This knowledge could guide the development of new antimicrobial strategies. This Special Issue will present recent research on sRNAs in bacterial pathogens, advancing our understanding of sRNA biology and its applications in antimicrobial development.

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