Special Issue

Bacterial Proteins in Stress Management

Message from the Guest Editor

Bacteria, like all other organisms, respond to biotic and abiotic stresses by reprogramming the transcriptional landscape that leads to induction or repression of a subset of genes, whose products are required to maintain cellular homeostasis under adverse growth conditions. Bacteria do so by recruiting specific alternative sigma factors like RpoH, RpoE, RpoS and RpoN and a specific set of transcriptional factors that leads to synthesis of proteins that can combat stress.

Some components of stress response amelioration involve universally conserved protein folding factors, protein folding catalysts and proteases. Specific transcriptional factors that change RNA polymerase properties to alter transcriptional process at different stages and maintain genome integrity are highly conserved in bacteria. Some other stress-related proteins are important for ribosome assembly, RNA processing and modification and ensuring translational fidelity. Together such stress combating proteins are essential for adaptation to diverse environmental niches and balanced synthesis of essential cellular components.

Guest Editor

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