

A glimpse on Staphylococcus aureus translation machinery and its control

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Abstract

© 2016, Pleiades Publishing, Inc. Staphylococcus aureus is a major opportunistic and versatile pathogen. Because the bacteria rapidly evolve multi-resistances towards antibiotics, there is an urgent need to find novel targets and alternative strategies to cure bacterial infections. Here, we provide a brief overview on the knowledge acquired on S. aureus ribosomes, which is one of the major antibiotic targets. We will show that subtle differences exist between the translation at the initiation step of Gram-negative and Gram-positive bacteria although their ribosomes display a remarkable degree of resemblance. In addition, we will illustrate using specific examples the diversity of mechanisms controlling translation initiation in S. aureus that contribute to shape the expression of the virulence factors in a temporal and dynamic manner.

<http://dx.doi.org/10.1134/S002689331604004X>

Keywords

post-transcriptional regulation, quorum sensing, regulatory RNAs, Staphylococcus aureus