

RNA REGULATORY NETWORKS IN STAPHYLOCOCCUS AUREUS

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Staphylococcus aureus is a remarkable pathogen which is able to cause a wide spectrum of community and hospital-acquired infections. The contribution of regulatory RNAs in the establishment of virulence is increasingly appreciated in *S. aureus*. Our previous data emphasize the multitude regulatory steps affected by the quorum-sensing dependent RNAIII in establishing a network of *S. aureus* virulence factors. In addition RNAIII coordinately represses the synthesis of several enzymes involved in peptidoglycan metabolism. The repressor activity involves the formation of RNAIII-mRNA duplexes that results in the inhibition of translation initiation and concomitantly triggers endoribonuclease III attack. Besides RNAIII, we demonstrated that the *S. aureus* genome likely encodes a high diversity of RNAs including *cis*-acting regulatory regions of mRNAs, *cis*-acting antisense RNAs, and small non-coding RNAs. We will illustrate how some of these novel non-coding RNAs have direct consequences on metabolism, biofilm formation and stress responses.