

Chimeric LuxR Transcription Factors Rewire Natural Product Regulation.

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Abstract

LuxR-type transcriptional activator proteins frequently regulate the expression of biosynthetic gene clusters (BGCs). With only a fraction of bacterial BGCs being expressed under standard culturing conditions, modulation of LuxRs would provide a powerful approach to activate silent clusters. We show that by exploiting the modular nature of LuxR proteins, it is possible to construct functional chimeric LuxRs, which enables both the rewiring of quorum sensing systems and the activation of silent BGCs. Importantly, our strategy allowed us to identify the novel natural product pseudomonol from a bacterium of the genus *Pseudomonas*.

Identifier

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