

Genomics-driven discovery of PKS-NRPS hybrid metabolites from *Aspergillus nidulans*.

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Abstract

In the postgenomic era it has become increasingly apparent that the vast number of predicted biosynthesis genes of microorganisms is not reflected by the metabolic profile observed under standard fermentation conditions. In the absence of a particular (in most cases unknown) trigger these gene loci remain silent. Because these cryptic gene clusters may code for the biosynthesis of important virulence factors, toxins, or even drug candidates, new strategies for their activation are urgently needed to make use of this largely untapped reservoir of potentially bioactive compounds. The discovery of new microbial metabolites through genome mining has proven to be a very promising approach. Even so, the investigation of silent gene clusters is still a substantial challenge, particularly in fungi. Here we report a new strategy for the successful induction of a silent metabolic pathway in the important model organism *Aspergillus nidulans*, which led to the discovery of novel PKS-NRPS hybrid metabolites.

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