

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Assays & screens			
Identifying natural-product antibiotics through induced expression of biosynthetic gene clusters	Induced expression of biosynthetic gene clusters isolated from environmental DNA could help generate new antibiotic leads. Many biosynthetic gene clusters that have been identified by sequencing environmental DNA samples are not well expressed in <i>Escherichia coli</i> systems. To improve expression, transcriptional regulators within sequenced biosynthetic gene clusters were identified, cloned into a plasmid and then coexpressed in <i>Streptomyces albus</i> along with the corresponding gene cluster they were predicted to control. Screening and fractionation of these <i>S. albus</i> cultures identified a tetracyclic antibiotic, tetarimycin A, with an MIC of 0.78 µg/ml against methicillin-resistant <i>Staphylococcus aureus</i> (MRSA). Next steps include scaling this approach to look at a larger number of environmental DNA-derived gene clusters arising from a more diverse set of environments. SciBX 5(49); doi:10.1038/scibx.2012.1293 Published online Dec. 20, 2012	Patent and licensing status undisclosed	Kallifidas, D. <i>et al.</i> <i>J. Am. Chem. Soc.</i> ; published online Nov. 16, 2012; doi:10.1021/ja3093828 Contact: Sean F. Brady, The Rockefeller University, New York, N.Y. e-mail: sbrady@rockefeller.edu