This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Computational models			
A computational model to reconstruct network effects of microRNAs and identify targets	<p>A computational model that reconstructs dynamic network effects of miRNAs could help identify miRNA targets for drug discovery. MIRna Dynamic Regulator Events Miner (mirDREM) analyzes miRNA and mRNA expression data at multiple time points to predict the targets of miRNAs. In a mouse model of lung development, mirDREM identified miRNAs already known to be important for lung development and predicted six new miRNAs and their targets, which were validated in a mouse lung epithelial cell line. Using publically available data from patients with idiopathic pulmonary fibrosis, mirDREM predicted five miRNAs that were expressed at lower levels and one miRNA that was expressed at higher levels than those in healthy individuals. Next steps could include the application of mirDREM to discover potential miRNA targets in other diseases.</p> <p>SciBX 6(37); doi:10.1038/scibx.2013.1040 Published online Sept. 26, 2013</p>	<p>Patent and licensing status not applicable; mirDREM available at http://www.cs.cmu.edu/~maschulz/mirdrem/</p>	<p>Schulz, M.H. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online Aug. 28, 2013; doi:10.1073/pnas.1303236110 Contact: Ziv Bar-Joseph, Carnegie Mellon University, Pittsburgh, Pa. e-mail: zivbj@cs.cmu.edu</p>