This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Assays & screens			
Genome-scale modulation of transcription with clustered, regularly interspaced short palindromic repeats (CRISPR)-Cas9 genome editing	Genome-scale modulation of transcription with CRISPR-Cas9 genome editing could help identify gene and gene transcript functions. In a human cell-based assay of responsiveness to ricin toxin, high throughput screening of single guide RNAs (sgRNAs) targeted to genes associated with ricin sensitivity or resistance helped define rules for optimal targeting of gene transcription sites. These rules guided the design of libraries containing 10-member sgRNA sets that each targeted 1 of nearly 16,000 human genes. In a cell-based assay of sensitivity to a cholera-diphtheria toxin, library screening identified known and previously unknown pathways regulating toxin responses. Next steps could include using genome-scale CRISPR-Cas9 editing to identify genes that modulate sensitivity to marketed therapies.	Patent and licensing status unavailable	Gilbert, L.A. <i>et al. Cell</i> ; published online Oct. 8, 2014; doi:10.1016/j.cell.2014.09.029 Contact: Jonathan S. Weissman, University of California, San Francisco, Calif. e-mail: jonathan.weissman@ucsf.edu Contact: Martin Kampmann, same affiliation as above e-mail: martin.kampmann@ucsf.edu
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