

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Clustered, regularly interspaced short palindromic repeats (CRISPR) RNA editing system to modify genomic DNA	<p>Four independent teams developed CRISPR-derived genome editing systems that could be used to modify genomic DNA in diverse biological systems. CRISPR is a bacterial adaptive immunity system that uses host-expressed nucleases and RNA repeats to cleave foreign DNA. To adapt this system to cleave and edit genomic DNA, the four teams designed a DNA vector that expressed a bacteria-derived CRISPR-associated nuclease together with guide RNAs that contained CRISPR features and homology to host genes. Two teams used the system to induce site-specific insertions and deletions in multiple genomic loci in cultured mouse and human cells, whereas a third team developed a system to cleave and edit specific sites within the zebrafish genome. The fourth team engineered a system to modify endogenous genomes in two distinct bacterial species. Next steps include characterizing and optimizing the specificity of the approach.</p> <p>SciBX 6(5); doi:10.1038/scibx.2013.125 Published online Feb. 7, 2013</p>	<p>Patent application filed for findings in first study; licensing status undisclosed</p> <p>Findings in second study unpatented; licensing status not applicable</p> <p>Patent application filed for findings in third study; licensing status undisclosed</p> <p>Patent application filed for findings in fourth study; licensing status undisclosed</p>	<p>Jinek, M. <i>et al. eLife</i>; published online Jan. 29, 2013; doi:10.7554/eLife.00471 Contact: Jennifer Doudna, University of California, Berkeley, Calif. e-mail: doudna@berkeley.edu</p> <p>Hwang, W.Y. <i>et al. Nat. Biotechnol.</i>; published online Jan. 29, 2013; doi:10.1038/nbt.2501 Contact: J. Keith Joung, Massachusetts General Hospital, Charlestown, Mass. e-mail: jjoung@partners.org Contact: J.-R. Joanna Yeh, same affiliation as above e-mail: jyeh1@partners.org</p> <p>Cho, S.W. <i>et al. Nat. Biotechnol.</i>; published online Jan. 29, 2013; doi:10.1038/nbt.2507 Contact: Jin-Soo Kim, Seoul National University, Seoul, South Korea e-mail: jskim01@snu.ac.kr</p> <p>Jiang, W. <i>et al. Nat. Biotechnol.</i>; published online Jan. 29, 2013; doi:10.1038/nbt.2508 Contact: Luciano A. Marraffini, The Rockefeller University, New York, N.Y. e-mail: marraffini@rockefeller.edu Contact: David Bikard, same affiliation as above e-mail: dbikard@rockefeller.edu</p>