This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Uracil enrichment in the seed region of single guide RNAs (sgRNAs) decreases off-target binding by the clustered, regularly interspaced short palindromic repeats (CRISPR)-Cas9 platform	Cell culture studies suggest sgRNA sequence composition influences Cas9 binding specificity. In mouse embryonic stem cells stably expressing Cas9 and transfected with sgRNAs, ChIP-seq experiments revealed thousands of binding sites for the Cas9 protein. In the cells, genome editing was detected at 4 of 4 on-target sites and only 1 of 295 potential off-target sites for 4 sgRNAs. In the cells, sgRNAs with uracil-rich seed regions or downstream regions were expressed at lower levels and bound to fewer off-target sites than sgRNAs without uracil enrichment at the sites. Next steps could include establishing guidelines for engineering uracil-rich sgRNAs to improve editing-site selectivity. <i>SciBX</i> 7(20); doi:10.1038/scibx.2014.599 Published online May 22, 2014	Patent and licensing status unavailable	Wu, X. <i>et al. Nat. Biotechnol.</i> ; published online April 20, 2014; doi:10.1038/nbt.2889 Contact: Phillip A. Sharp, Massachusetts Institute of Technology, Cambridge, Mass. e-mail: sharpapa@mit.edu Contact: Feng Zhang, Broad Institute of MIT and Harvard, Cambridge, Mass. e-mail: zhang@broadinstitute.org