This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Disease models			
Mouse models of myeloid cancers created with clustered, regularly interspaced short palindromic repeats (CRISPR)-mediated genome editing	CRISPR-mediated genome editing could help produce mouse models of myeloid cancers with multiple disease-associated mutations. <i>FMS-like tyrosine kinase 3 (FLT3; CD135) internal tandem duplication (FLT3-ITD)</i> mutations frequently occur in acute myelogenous leukemia (AML), but <i>Flt3-Itid</i> knock-in does not cause AML in mice. Primary hematopoietic stem and progenitor cells (HSPCs) were isolated from wild-type or <i>Flt3-Itid</i> knock-in mice. The HSPCs were transduced with a pool of lentiviruses carrying a fluorescent marker plus Cas9 and small guide RNAs targeting six genes previously shown to be mutated in human myeloid cancers. In mice, transplantation of HSPCs expressing a combination of four or five different vector-induced mutations led to induction of AML. Next steps could include using the models to identify therapeutics.	Patent and licensing status unavailable	Heckl, D. <i>et al. Nat. Biotechnol.</i> ; published online June 22, 2014; doi:10.1038/nbt.2951 Contact: Benjamin L. Ebert, Harvard Medical School, Boston, Mass. e-mail: bebert@partners.org
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