This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Reprogramming <i>in vivo</i> to generate totipotent induced pluripotent stem (iPS) cells	<p><i>In vivo</i> reprogramming in mice could be used to generate highly plastic iPS cells that can efficiently contribute to extraembryonic tissue such as placenta. Mice were engineered to express four doxycycline-inducible reprogramming factors: <i>Oct4</i>, <i>Sox2</i>, <i>Klf4</i> and <i>c-Myc</i> (<i>Myc</i>). In these mice, doxycycline led to the formation of iPS cells in multiple organs that originated from multiple cell types. The <i>in vivo</i>-generated iPS cells were more efficient at forming embryonic and extraembryonic tissues than embryonic stem cells or <i>in vitro</i>-generated iPS cells. Next steps include understanding the mechanism of <i>in vivo</i> reprogramming and why the resulting iPS cells show greater totipotency than other stem cell lines.</p> <p>SciBX 6(42); doi:10.1038/scibx.2013.1206 Published online Oct. 31, 2013</p>	<p>Patent application filed; available for licensing through the Botín Foundation</p> <p>Contact: Miriam Zeini, Botín Foundation, Madrid, Spain e-mail: mzeini@fundacionbotin.org</p>	<p>Abad, M. <i>et al. Nature</i>; published online Sept. 11, 2013; doi:10.1038/nature12586</p> <p>Contact: Manuel Serrano, Spanish National Cancer Research Centre (CNIO), Madrid, Spain e-mail: mserrano@cnio.es</p>