This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Disease models			
<i>In vitro</i> model of long QT syndrome (LQTS) based on patient-derived induced pluripotent stem (iPS) cells	<p>Patient-derived iPS cells could be useful for screening compounds to treat Timothy syndrome, an LQTS subtype caused by a mutation in the <i>calcium channel voltage-dependent L type-α1C subunit (CACNA1C; Cav1.2)</i> gene. Fibroblasts from Timothy syndrome patients were reprogrammed into iPS cells and then differentiated into cardiomyocytes. In cell culture, the patient-derived cardiomyocytes had prolonged action potential duration and irregular contractions and electrical activity—hallmarks of LQTS—compared with cardiomyocytes from healthy controls. In the LQTS cell culture model, small molecule inactivation of voltage-dependent calcium channels decreased action potential duration and arrhythmogenicity compared with no treatment. Next steps include optimizing the cell culture model to include other cardiac defects.</p> <p>SciBX 4(6); doi:10.1038/scibx.2011.176 Published online Feb. 10, 2011</p>	Covered by multiple patents; available for licensing	<p>Yazawa, M. <i>et al. Nature</i>; published online Feb. 9, 2011; doi:10.1038/nature09855 Contact: Ricardo E. Dolmetsch, Stanford University School of Medicine, Stanford, Calif. e-mail: ricardo.dolmetsch@stanford.edu</p>