This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Disease models			
Mouse models for neurological disease controlled with cellular-scale optogenetic brain implants	<p>Mice with cellular-scale optogenetic devices implanted in the brain could be useful for developing new models of neurological diseases. The cellular-scale device consisted of wireless, microscale, inorganic light-emitting diodes and control circuits. The device was implanted into mouse brain tissue via microneedle injection and connected to lightweight, head-mounted power and wireless systems that did not inhibit the animal's normal activities. In mice implanted with the device and expressing channelrhodopsin-2 (ChR2) in midbrain dopaminergic neurons, wireless tonic stimulation of those neurons decreased anxiety-like behaviors with an effect similar to that of nicotine. Ongoing work includes using the devices to test neural stress circuits related to depression, anxiety and addiction.</p> <p>SciBX 6(16); doi:10.1038/scibx.2013.397 Published online April 25, 2013</p>	Patent status undisclosed; available for licensing or partnering	<p>Kim, T.-i. <i>et al. Science</i>; published online April 12, 2013; doi:10.1126/science.1232437 Contact: Michael R. Bruchas, Washington University in St. Louis School of Medicine, St. Louis, Mo. e-mail: bruchasm@wustl.edu Contact: John A. Rogers, University of Illinois at Urbana-Champaign, Urbana, Ill. e-mail: jrogers@uiuc.edu</p>