This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug delivery			
Vaginal delivery of antiviral-loaded mucus-penetrating particles (MPPs)	<p>Vaginal delivery of antiviral-loaded MPPs could be used to prevent viral infections. In mice receiving intravaginal delivery of particles, MPPs showed uniform distribution over the vaginal epithelium and 60% were retained in the vaginal tract after 6 hours without causing inflammation, whereas conventional nanoparticles aggregated in the vaginal mucosa surface, had 10% retention and caused subsequent inflammation. In mice pretreated with acyclovir monophosphate (ACVp)-loaded MPPs 1 hour before herpes simplex virus (HSV) challenge, 50% became infected compared with 88% of mice pretreated with soluble ACVp. Next steps include testing tenofovir-loaded MPPs in mice to prevent HIV infection. Acyclovir is a generic used to treat HSV infection. Gilead Sciences Inc. markets the reverse transcriptase inhibitor Viread tenofovir disoproxil fumarate to treat HIV infection. Kala Pharmaceuticals Inc. is developing MPPs to improve the delivery of drugs to mucosal organs.</p> <p>SciBX 5(25); doi:10.1038/scibx.2012.667 Published online June 21, 2012</p>	Patented in Europe and patent pending in U.S.; licensed to Kala Pharmaceuticals	<p>Ensign, L.M. <i>et al. Sci. Transl. Med.</i>; published online June 13, 2012; doi:10.1126/scitranslmed.3003453 Contact: Justin Hanes, The Johns Hopkins University School of Medicine, Baltimore, Md. e-mail: hanes@jhu.edu</p>