This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Markers			
Injectable, synthetic markers for paper-based detection of disease in urine sample	<p>Mouse studies suggest nanoparticles coated with protease-sensitive peptides that release biomarkers into urine can be used with paper-based assays to diagnose colorectal cancer and thrombosis. In mouse models of thrombosis or colorectal cancer, i.v. infused thrombin- or matrix metalloprotease-sensitive nanoparticles coated with reporter peptides underwent cleavage in blood clots or tumors, respectively, to release the reporter molecules, which were concentrated in urine. The reporters were detectable in urine samples with ELISA and a paper-based lateral flow assay. In mice, the paper-based assay distinguished between thrombotic and control animals with 92% accuracy and between animals with and without subcutaneous colorectal tumors with 90% accuracy. Next steps include developing similar systems for detection of prostate cancer and for early detection of liver cancer metastasis.</p> <p>SciBX 7(10); doi:10.1038/scibx.2014.301 Published online March 13, 2014</p>	<p>Patent applications filed covering material formulation of synthetic biomarkers, urinary analysis and companion paper tests; unavailable for licensing</p>	<p>Warren, A.D. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online Feb. 24, 2014; doi:10.1073/pnas.1314651111 Contact: Sangeeta N. Bhatia, Massachusetts Institute of Technology, Cambridge, Mass. e-mail: sbhatia@mit.edu</p>