This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Integrated approach to accelerate biomimetic material engineering	<p>An integrated platform that combines RNA-seq with standard proteomics and materials science approaches could accelerate the development of new biomimetic materials. The platform involves generating a transcriptome database for a tissue of interest using RNA-seq and then using proteomics tools to identify the sequence and structure of relevant proteins that have a desired function or property. The approach was used to identify a shock-absorbing elastomer protein from the egg capsule of a marine snail, an underwater adhesive protein from the byssal complex of a mussel and a silk-like protein from squid sucker ring teeth. Recombinant forms of the silk-like protein were generated and used to build surfaces and films with elastic moduli and stiffness superior to those of many other engineered polymers. Next steps include testing the engineered biomaterials as scaffolds in cell and tissue cultures and evaluating their <i>in vivo</i> biocompatibility and degradation rates.</p> <p>SciBX 6(39); doi:10.1038/scibx.2013.1111 Published online Oct. 10, 2013</p>	Patent and licensing status undisclosed	<p>Guerette, P.A. <i>et al. Nat. Biotechnol.</i>; published online Sept. 8, 2013; doi:10.1038/nbt.2671 Contact: Ali Miserez, Nanyang Technological University, Singapore e-mail: ali.miserez@ntu.edu.sg</p>