This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug delivery			
Drug-loaded, neutrophil-targeting nanoparticles to prevent inflammation-induced tissue damage	<p>Neutrophil-targeting nanoparticles could help prevent tissue damage involving vascular inflammation. In mice with vascular inflammation, bovine serum albumin nanoparticles were preferentially internalized by neutrophils adhering to the inflammation site. In these mice, albumin nanoparticles loaded with the spleen tyrosine kinase (SYK) inhibitor piceatannol decreased Syk pathway-induced vascular adhesion of neutrophils compared with unloaded nanoparticles. In mouse models of acute lung injury, piceatannol-loaded nanoparticles decreased neutrophil infiltration and lung inflammation compared with free piceatannol. Next steps include testing nanoparticles loaded with SYK inhibitors or other classes of neutrophil adhesion inhibitors in models of acute lung injury, sepsis and/or ischemia/reperfusion injury.</p> <p>Gilead Sciences Inc. has GS-9973, an oral SYK inhibitor, in Phase II trials to treat hematological malignancies.</p> <p>Rigel Pharmaceuticals Inc. has fostamatinib disodium (FosD), an oral SYK inhibitor, in Phase II testing to treat idiopathic thrombocytopenic purpura (ITP).</p> <p>ZaBeCor Pharmaceutical Co. has Excellair, an siRNA targeting SYK, in Phase II testing to treat asthma.</p> <p>SciBX 7(10); doi:10.1038/scibx.2014.298 Published online March 13, 2014</p>	<p>Patented by the University of Illinois; available for licensing</p>	<p>Wang, Z. <i>et al. Nat. Nanotechnol.</i>; published online Feb. 23, 2014; doi:10.1038/nnano.2014.17 Contact: Asrar B. Malik, University of Illinois at Chicago College of Medicine, Chicago, Ill. e-mail: abmalik@uic.edu</p>