This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug delivery			
Activation of sphingosine 1-phosphate receptor to improve drug delivery across the blood brain barrier (BBB)	<p>Sphingosine 1-phosphate receptor agonists could help improve drug delivery across the BBB. In rat brains, sphingosine 1-phosphate receptor agonists increased BBB penetration of the opioid receptor agonist loperamide and the chemotherapeutic paclitaxel compared with delivering the two compounds without a sphingosine 1-phosphate receptor agonist. In the rat model, the sphingosine 1-phosphate receptor agonists decreased P glycoprotein (Mdr1; Abcb1; P-gp; Cd243)-mediated drug efflux compared with no agonist. Next steps include studies to elucidate the mechanism by which sphingosine 1-phosphate receptor agonists modulate P-gp-mediated drug efflux.</p> <p>Mitsubishi Tanabe Pharma Corp. and Novartis AG market the sphingosine 1-phosphate receptor agonist Gilenya fingolimod to treat relapsing forms of multiple sclerosis (MS).</p> <p>At least eight other companies have sphingosine 1-phosphate receptor-targeting compounds in Phase II testing or earlier to treat various diseases.</p> <p>Loperamide is a generic drug for diarrhea.</p> <p>SciBX 5(38); doi:10.1038/scibx.2012.1016 Published online Sept. 27, 2012</p>	Unpatented; licensing status not applicable	<p>Cannon, R.E. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online Sept. 4, 2012; doi:10.1073/pnas.1203534109</p> <p>Contact: Ronald E. Cannon, National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, N.C.</p> <p>e-mail: cannon1@niehs.nih.gov</p>