This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug delivery			
Magnetic nanoparticle (MNP)-assisted gene and cell replacement therapies	<p>MNPs may be useful for increasing the efficiency of lentiviral gene transfer and cell replacement in tissue and organ repair. In an endothelial cell culture, addition of MNP-coupled lentiviral vector resulted in strong lentiviral gene transfer in culture areas exposed to a magnetic field compared with what was seen using low-level gene transfer in areas without a magnetic field or in cultures treated with uncoupled lentiviral vectors. In mice with carotid artery injury that received endothelial cells transfected with the MNP-coupled lentiviral vector, application of a magnet to the artery injury site resulted in both endothelial cells positioned at the injury site and gene transfer compared with what was seen in mice that received transfected endothelial cells but no magnet. Next steps could include using this method in other animal injury models.</p> <p>SciBX 2(3); doi:10.1038/scibx.2009.119 Published online Jan. 22, 2009</p>	Patent and licensing status unavailable	<p>Hofmann, A. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online Dec. 22, 2008; doi:10.1073/pnas.0803746106 Contact: Alexander Pfeifer, University of Bonn, Bonn, Germany e-mail: alexander.pfeifer@uni-bonn.de</p>