This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug delivery			
Bisphosphonate conjugation of therapeutic proteins for improved bone delivery	<p>Chemical conjugation of therapeutic proteins to thiol-bisphosphonate by means of a disulfide linkage could be a useful approach for improved delivery of therapeutic proteins to diseased bone. In normal rats, bone uptake of an i.v. injection of osteoprotegerin (OPG) conjugated to thiol-bisphosphonate was significantly higher after 24 and 72 hours than uptake of control OPG ($p < 0.05$ for both). In a rat model of osteoarthritis, bone delivery of the conjugated protein was more than fourfold higher than delivery of control OPG after 24 hours. OPG is a soluble glycoprotein that can inhibit osteoclastogenesis. Next steps include evaluating the pharmacological effects of OPG conjugated to thiol-bisphosphonate.</p> <p>Targanta Therapeutics Corp.'s TT99000647, a rifabutin-bisphosphonate prodrug, is in preclinical testing to treat osteomyelitis.</p> <p>SciBX 2(4); doi:10.1038/scibx.2009.165 Published online Jan. 29, 2009</p>	Unpatented; unlicensed	<p>Doschak, M. <i>et al. Mol. Pharm.</i>; published online Jan. 8, 2009; doi:10.1021/mp8002368</p> <p>Contact: Hasan Uludağ, University of Alberta, Edmonton, Alberta, Canada e-mail: huludag@ualberta.ca</p> <p>Contact: Michael R. Doschak, same affiliation as above e-mail: mdoschak@ualberta.ca</p>