This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Musculoskeletal disease				
Osteoporosis; bone repair	Integrin $\alpha_v\beta_1$ (CD49D/CD29)	<p>Mouse studies suggest LLP2A-Ale alone or in combination with mesenchymal stem cells (MSCs) could help treat osteoporosis and bone fractures. LLP2A-Ale is a peptidomimetic ligand targeting CD49D/CD29 (LLP2A) linked to the bone-targeting bisphosphonate alendronate (Ale). In immunodeficient mice, injection of human MSCs plus LLP2A-Ale increased numbers of MSCs embedded within the bone matrix compared with injection of MSCs alone. In mice with age-related or ovariectomy-related osteopenia, LLP2A-Ale prevented bone mass loss compared with LLP2A or Ale alone. Next steps include toxicology studies in rats.</p> <p>Merck & Co. Inc. markets Fosamax alendronate to treat osteoporosis.</p> <p>EffRx Pharmaceuticals S.A. has a formulation of alendronate approved to treat osteoporosis.</p> <p>Merrion Pharmaceuticals plc has a formulation of alendronate in Phase II trials to treat osteoporosis.</p> <p>SciBX 5(8); doi:10.1038/scibx.2012.207 Published online Feb. 23, 2012</p>	Patented; available for licensing	<p>Guan, M. <i>et al. Nat. Med.</i>: published online Feb. 5, 2012; doi:10.1038/nm.2665</p> <p>Contact: Wei Yao, University of California, Davis Medical Center, Sacramento, Calif. e-mail: wei.yao@ucdmc.ucdavis.edu</p>