This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Musculoskeletal disease				
Osteoporosis	Tryptophan hydroxylase 1 (TPH1; TPH)	<p><i>In vitro</i> and mouse studies suggest that inhibiting TPH1 could help treat osteoporosis. In <i>Tph1</i>-expressing rat cells, a small molecule Tph1 inhibitor blocked production of gut-derived serotonin (GDS), a known repressor of bone formation. In a mouse model of osteoporosis, the Tph1 inhibitor lowered GDS levels in a dose-dependent manner, resulting in greater bone mass, density and formation rates than no treatment. Inhibitor-treated mice showed no changes in brain serotonin levels, indicating that the inhibitor did not cross the blood brain barrier (BBB). Ongoing work includes additional studies in animal models of osteoporosis.</p> <p>Lexicon Pharmaceuticals Inc. and Symphony Icon Inc.'s TPH1 inhibitors LX1031 and LX1032 are in Phase II testing to treat irritable bowel syndrome (IBS) and gastrointestinal (GI) dysfunction, respectively.</p> <p>SciBX 3(7); doi:10.1038/scibx.2010.219 Published online Feb. 18, 2010</p>	Patented by Columbia University; licensing status undisclosed	<p>Yadav, V. <i>et al. Nat. Med.</i>; published online Feb. 7, 2010; doi:10.1038/nm.2098</p> <p>Contact: Gerard Karsenty, Columbia University Medical Center, New York, N.Y. e-mail: gk2172@columbia.edu</p>