

### This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
<b>Musculoskeletal disease</b>				
Osteoporosis	Peroxisome proliferation-activated receptor- $\gamma$ , coactivator 1 $\beta$ (PPARGC1B; PGC-1 $\beta$ ); transferrin receptor (TFRC; TFR1)	<p>Studies in cell culture and in mice suggest two separate strategies for treating osteoporosis: antagonizing PGC-1<math>\beta</math> and iron-chelating therapy. In bone marrow macrophages, knockdown of PGC-1<math>\beta</math> inhibited osteoclast differentiation compared with that seen in untreated control cells. In mice, PGC-1<math>\beta</math> knockdown led to greater bone mass than that seen in wild-type mice. In ovariectomized estrogen-deficient mice, treatment with the iron chelator desferrioxamine inhibited Tfrc-mediated bone resorption by mature osteoclasts and prevented bone loss compared with what was seen in vehicle-treated control mice. Next steps include screening for compounds that inhibit PGC-1<math>\beta</math> production or activity in osteoclasts.</p> <p>Exjade deferasirox (ICL670), an oral iron chelator from Novartis AG, is approved in the U.S. and EU to treat chronic iron overload due to blood transfusions.</p> <p><b>SciBX 2(9); doi:10.1038/scibx.2009.370</b>  <b>Published online March 5, 2009</b></p>	Patent application filed in Japan; available for licensing	<p>Ishii, K. <i>et al. Nat. Med.</i>; published online March 1, 2009; doi:10.1038/nm.1910</p> <p><b>Contact:</b> Kyoji Ikeda, National Center for Geriatrics and Gerontology, Aichi, Japan            e-mail: <a href="mailto:kiked@nils.go.jp">kiked@nils.go.jp</a></p>