This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Autoimmune disease				
Osteoarthritis (OA)	Transforming growth factor β 1 (TGF β 1; TGF β 1); TGF β receptor II (TGF β -R2; TGFBR2)	<p>Patient sample and rodent studies suggest inhibiting TGFβ1 signaling in bone could help treat OA. Subchondral bone samples from patients with OA showed elevated TGFβ1 levels compared with samples from healthy controls. In a mouse model for OA, deletion of <i>Tgfb2</i> decreased severity of OA symptoms compared with no deletion. In a rat model for OA, an antibody that blocks Tgfb signaling improved bone architecture compared with vehicle. Next steps include clinical trials to evaluate inhibitors of TGFβ1 signaling.</p> <p>InterMune Inc., Ildong Pharmaceutical Co. Ltd. and Shionogi & Co. Ltd. market Esbriet pirfenidone, a small molecule inhibitor of proinflammatory cytokines such as tumor necrosis factor-α (TNF-α) and IL-1β, as well as profibrotic cytokines including platelet derived growth factor (PDGF) and TGFβ</p> <p>At least 11 other companies have compounds that inhibit TGFβ1 in Phase II or earlier testing to treat various diseases.</p> <p>SciBX 6(23); doi:10.1038/scibx.2013.570 Published online June 13, 2013</p>	Patent application filed; available for licensing	<p>Zhen, G. <i>et al. Nat. Med.</i>; published online May 19, 2013; doi:10.1038/nm.3143</p> <p>Contact: Xu Cao, Johns Hopkins University, Baltimore, Md. e-mail: xcao11@jhmi.edu</p>