This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Autoimmune disease				
Autoimmune disease	p38 Mitogen-activated protein kinase (p38 MAPK; MAPK14)	<p><i>In vitro</i> and rat studies identified a p38 MAPK inhibitor that could help treat autoimmune diseases. p38 MAPK inhibitors reduce inflammatory cytokine production but often have poor oral bioavailability and toxicity caused by off-target activity against the cytochrome P450 (p450) isoenzymes. In cellular assays, tetrahydropyrazolopyrimidine derivatives specifically inhibited p38 MAPK without affecting p450 activity and blocked lipopolysaccharide (LPS)-induced tumor necrosis factor-α (TNF-α) production. In rat models of acute inflammation and chronic, adjuvant-induced arthritis, a lead member of the series decreased TNF-α production and disease progression compared with vehicle control and showed favorable pharmacokinetics and oral bioavailability. Next steps include testing the inhibitors in additional disease models.</p> <p>At least nine companies have p38 MAPK inhibitors in clinical development for various indications.</p> <p>SciBX 5(36); doi:10.1038/scibx.2012.947 Published online Sept. 13, 2012</p>	Findings unpatented; unavailable for licensing	<p>Asano, T. <i>et al. J. Med. Chem.</i>; published online Aug. 20, 2012; doi:10.1021/jm3008008</p> <p>Contact: Toru Asano, Astellas Pharma Inc., Ibaraki, Japan e-mail: toru.asano@astellas.com</p>