

### This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
<b>Infectious disease</b>				
Infectious disease	Transforming growth factor- $\beta$ (TGFB; TGF- $\beta$ ); integrin $\alpha_v\beta_8$	<p>Mouse studies suggest inhibiting TGF-<math>\beta</math> or integrin <math>\alpha_v\beta_8</math> could help prevent chronic helminth infection. In <i>Trichuris muris</i> egg-infected mouse models of helminth infection, Tgf-<math>\beta</math> signaling on Cd4<sup>+</sup> T cells was higher than that in uninfected controls. In these models, an anti-TGF-<math>\beta</math> antibody decreased worm burden—a marker of chronic infection—compared with an inactive control antibody. Also in these models, an integrin <math>\alpha_v\beta_8</math> deficiency on dendritic cells decreased Tgf-<math>\beta</math> signaling in Cd4<sup>+</sup> T cells compared with normal expression of integrin <math>\alpha_v\beta_8</math> and led to a consequent reduction in worm burden. Ongoing work includes investigating whether the integrin <math>\alpha_v\beta_8</math>-TGF-<math>\beta</math> pathway is involved in other infectious diseases.</p> <p>Acceleron Pharma Inc. and Celgene Corp. have ACE-536, a modified activin receptor type 2A (ACVR2A) fusion protein that inhibits several ligands in the TGF-<math>\beta</math> superfamily, in Phase II testing to treat anemia and thalassemia.</p> <p>BTG plc has Pleneva (BGC20-0134), an oral TGFB1 immunomodulator, in Phase II testing to treat multiple sclerosis (MS).</p> <p>Eli Lilly and Co.'s LY2382770, a neutralizing mAb against TGFB1, is in Phase II testing to treat diabetic nephropathy and renal disease.</p> <p><b>SciBX 6(43); doi:10.1038/scibx.2013.1226</b>  <b>Published online Nov. 7, 2013</b></p>	Unpatented; unlicensed	<p>Worthington, J.J. <i>et al. PLoS Pathog.</i>; published online Oct. 3, 2013; doi:10.1371/journal.ppat.1003675</p> <p><b>Contact:</b> Mark A. Travis,  The University of Manchester,  Manchester, U.K.  e-mail:  <a href="mailto:mark.travis-2@manchester.ac.uk">mark.travis-2@manchester.ac.uk</a></p>