This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Autoimmune disease				
Rheumatoid arthritis (RA)	Cytotoxic T lymphocyte- associated protein 4 (CTLA4; CTLA-4; CD152)	<p><i>In vitro</i> studies suggest that increasing CTLA4 expression on T_{regs} could help boost the efficacy of existing anti-inflammatory RA therapies. T_{regs} isolated from RA patients showed lower surface expression of CTLA4 and CTLA4-mediated intracellular signaling pathway activity, resulting in less immunosuppressive activity than that seen in T_{regs} from healthy controls. Treatment of the T_{regs} with the tumor promoter phorbol 12-myristate 13-acetate increased surface expression of CTLA4 and improved immunosuppressive activity compared with what was seen in untreated control cells. Next steps include the development of small interfering RNA-based or lentivirus-based strategies for upregulating CTLA4 expression in T_{regs} isolated from RA patients.</p> <p>Orencia abatacept, a CTLA4-Ig fusion protein from Bristol-Myers Squibb Co., is marketed in the U.S. to treat moderate to severe RA in adults who showed an inadequate response to one or more disease-modifying, anti-rheumatic drugs (DMARDs).</p> <p>SciBX 2(2); doi:10.1038/scibx.2009.41 Published online Jan. 15, 2009</p>	Unpatented; licensing status not applicable	<p>Flores-Borja, F. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online Nov. 26, 2008; doi:10.1073/pnas.0806855105</p> <p>Contact: Michael R. Ehrenstein, University College London, London, U.K. e-mail: m.ehrenstein@ucl.ac.uk</p> <p>Contact: Claudia Mauri, same affiliation as above e-mail: c.mauri@ucl.ac.uk</p>