

This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Transplantation				
Graft rejection	IL-1 α ; IL-1 receptor 1 (IL1R1); IL-1R1); IL-17	<p>Studies in mice suggest that blocking IL-1α or IL-17 activity may be useful for preventing T cell-mediated rejection of artery grafts. In human artery allografts implanted in mice, IL-1R1 antagonist (IL1RN; IL1RA) produced lower levels of T cell-derived IL-17 and lowered IL-17-triggered inflammation compared with what was seen in buffer-treated controls. In human skin grafts transplanted onto immunodeficient mice, neutralization of IL-17 lowered neutrophil infiltration and proinflammatory cytokine expression and resulted in less rejection than that seen in controls. Next steps include evaluating marketed IL-1R1 antagonists in a clinical trial as adjunct therapies to prevent vascular graft rejection. Kineret anakinra, an IL-1R1 antagonist from Amgen Inc., Biovitrum AB and NPS Pharmaceuticals Inc., is marketed to treat rheumatoid arthritis (RA). Arcalyst rilonacept, a recombinant protein with the heterodimeric IL-1R1 linked to the Fc portion of human IgG from Regeneron Pharmaceuticals Inc., is marketed to treat cryopyrin-associated periodic syndromes (CAPS) and Muckle-Wells syndrome. Diacerein, an anthraquinone derivative that inhibits IL-1α from TRB Chemedica International S.A., is marketed to treat osteoarthritis.</p> <p>At least eight other companies have compounds targeting IL-1α in clinical development to treat various autoimmune or inflammatory diseases.</p> <p>SciBX 2(1); doi:10.1038/scibx.2009.29 Published online Jan. 8, 2009</p>	<p>Provisional patent filed; available for licensing from the Yale University Office of Cooperative Research Contact: Tracy C. Huang, Yale University, New Haven, Conn. phone: 203-436-4933 e-mail: tracy.huang@yale.edu</p>	<p>Rao, D.A. <i>et al. J. Exp. Med.</i>; published online Dec. 15, 2008; doi:10.1084/jem.20081661 Contact: Jordan S. Pober, Yale School of Medicine, New Haven, Conn. e-mail: jordan.pober@yale.edu</p>