This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Cancer				
Chronic lymphocytic leukemia (CLL)	CXC chemokine receptor 4 (CXCR4; NPY3R); phosphoinositide 3-kinase (PIK3); PIK3 catalytic subunit- α polypeptide (PIK3CA); PIK3 catalytic subunit- γ polypeptide (PIK3CG)	<p>A study in patient samples suggests that inhibiting PIK3CA and PIK3CG could help reverse stromal cell-mediated drug resistance in cancer. In a coculture of B cells and marrow stromal cells from CLL patients, the PIK3CA and PIK3CG inhibitors PIK-90 and PI-103 increased fludarabine-induced B cell apoptosis. Both inhibitors also partially reversed the antiapoptotic effects of stromal cells. Cell-culture studies showed that the PI3K subunits regulate interactions between CLL cells and marrow stromal cells via CXCR4. Next steps include screening for PI3K inhibitors. PIK-90 and PI-103 are research tools.</p> <p>Fludara fludarabine, a purine nucleotide analog inhibiting DNA synthesis from Bayer AG, is approved for multiple hematological malignancies. Mozobil plerixafor, a synthetic CXCR4 receptor antagonist from Genzyme Corp., is approved to treat non-Hodgkin's lymphoma (NHL) and multiple myeloma (MM).</p> <p>At least 10 companies have PI3K or CXCR4 inhibitors in Phase I/II or earlier for cancer.</p> <p>SciBX 2(17); doi:10.1038/scibx.2009.700 Published online April 30, 2009</p>	Work unpatented; licensing status not applicable	<p>Niedermeier, M. <i>et al. Blood</i>; published online March 24, 2009; doi:10.1182/blood-2008-06-165068</p> <p>Contact: Jan A. Burger, The University of Texas M.D. Anderson Cancer Center, Houston, Texas e-mail: jaburger@mdanderson.org</p>