This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Acute lymphoblastic leukemia (ALL)	MEK; notch 1 (NOTCH1); phosphoinositide 3-kinase (PI3K)	<p>Mouse and cell culture studies suggest combined inhibition of PI3K and MEK could help treat T cell ALL, although it can also drive notch pathway-related resistance. In mouse models of T cell ALL, combined treatment with the PI3K inhibitor pictilisib and the MEK inhibitor PD0325901 increased survival compared with either agent alone but also led to the emergence of drug-resistant clones. Drug-resistant clones showed upregulated Pi3k signaling, downregulated Notch1 expression and lacked the activating Notch1 mutations found in parental T cell ALL cells. Next steps could include developing screening assays for compounds that prevent T cell ALL resistance.</p> <p>Roche's Genentech Inc. unit has pictilisib (GDC-0941; RG7321) in Phase II trials for breast cancer, non-small cell lung cancer (NSCLC) and other solid tumors.</p> <p>Pfizer Inc. has PD0325901 in Phase I testing to treat cancer.</p> <p>SciBX 7(33); doi:10.1038/scibx.2014.975 Published online Aug. 28, 2014</p>	Patent and licensing status unavailable	<p>Dail, M. <i>et al. Nature</i>; published online July 20, 2014; doi:10.1038/nature13495</p> <p>Contact: Kevin Shannon, University of California, San Francisco, Calif. e-mail: shannonk@peds.ucsf.edu</p>