This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Acute myelogenous leukemia (AML)	Aurora kinase A (AURKA; Aurora-A)	<p>A study in cell culture and in mice suggests AURKA inhibitors could help treat acute megakaryoblastic leukemia (AMKL), a rare form of AML. A cell-based screen for inducers of AMKL cell differentiation identified the broad kinase inhibitor dimethylfasudil. In a mouse model of AMKL, dimethylfasudil induced tumor cell differentiation and led to longer survival than vehicle. Next, AURKA was identified as the relevant target of dimethylfasudil. In the same mouse model, alisertib, a selective inhibitor of AURKA, decreased tumor burden compared with vehicle. Next steps include testing the effects of dimethylfasudil and alisertib in mouse models of myeloproliferative diseases that are driven by hyperproliferation of megakaryocytes. Takeda Pharmaceutical Co. Ltd.'s alisertib (MLN8237) is in Phase III testing in T cell lymphoma, Phase II testing in AML and Phase II or earlier testing in various other cancer indications. At least four other companies have AURKA inhibitors in clinical testing in various cancers.</p> <p>SciBX 5(34); doi:10.1038/scibx.2012.892 Published online Aug. 30, 2012</p>	Patent application filed; available for licensing	<p>Wen, Q. <i>et al. Cell</i>; published online Aug. 3, 2012; doi:10.1016/j.cell.2012.06.032 Contact: John D. Crispino, Northwestern University Feinberg School of Medicine, Chicago, Ill. e-mail: j-crispino@northwestern.edu Contact: Andrew M. Stern, Broad Institute of MIT and Harvard, Cambridge, Mass. e-mail: astern@broadinstitute.org</p>