This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Cancer				
Acute myeloid leukemia (AML)	Spleen tyrosine kinase (SYK); FMS-like tyrosine kinase 3 (FLT3; CD135)	<p>Cell-based and mouse studies suggest combined inhibition of SYK and FLT3 could help treat AML. Internal tandem duplication (ITD) mutations in <i>FLT3</i> have been associated with AML. In <i>FLT3-ITD</i> AML cell lines and patient-derived primary cells, pharmacological and shRNA inhibition of SYK decreased cell growth compared with no inhibition. In a mouse model of <i>FLT3-ITD</i>-dependent myeloproliferative disease, shRNA against Syk prolonged survival and decreased granulocyte proliferation and lymphocyte maturation compared with control shRNA. In mice, combined SYK and FLT3 inhibitors increased survival and decreased leukocytosis compared with either agent alone. Next steps could include testing combinations of FLT3 and SYK inhibitors in additional animal models of AML. The FLT3 inhibitor used in the study, quizartinib, is from Ambit Biosciences Corp. and is in Phase II testing for AML.</p> <p>The SYK inhibitor, PRT062607, is from Portola Pharmaceuticals Inc. and Biogen Idec Inc. and is in preclinical studies for asthma and other inflammatory disorders.</p> <p>At least eight additional companies have FLT3 inhibitors in clinical and preclinical testing to treat cancers, and at least five additional companies have SYK inhibitors in clinical and preclinical testing for various indications including cancer.</p> <p>SciBX 7(11); doi:10.1038/scibx.2014.308 Published online March 20, 2014</p>	Patent and licensing status unavailable	<p>Puissant, A. <i>et al. Cancer Cell</i>; published online Feb. 10, 2014; doi:10.1016/j.ccr.2014.01.022 Contact: Kimberly Stegmaier, Harvard Medical School, Boston, Mass. e-mail: kimberly_stegmaier@dfci.harvard.edu</p>