This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Hematology				
Sickle cell disease	Sphingosine kinase 1 (SPHK1); sphingosine 1-phosphate receptor	Human and mouse studies suggest inhibiting SPHK1 could help treat sickle cell disease. In red blood cells (RBCs) and plasma from patients and a mouse model of sickle cell disease, sphingosine 1-phosphate (S1P) levels and activity of the S1P-producing enzyme SPHK1 were higher than what was seen in samples from healthy individuals and normal mice. In RBCs from patients and mice, an SPHK1 inhibitor decreased the hallmark hypoxia-induced sickling behavior compared with vehicle or an S1P receptor antagonist. In the mouse model, the SPHK1 inhibitor decreased S1P levels in RBCs and the severity of multiple disease symptoms compared with vehicle. Next steps could include elucidating the mechanism by which S1P signaling leads to sickling behavior in RBCs.	Patent and licensing status unavailable	Zhang, Y. <i>et al. J. Clin. Invest.</i> ; published online May 16, 2014; doi:10.1172/JCI74604 Contact: Yang Xia, The University of Texas Medical School at Houston, Houston, Texas e-mail: yang.xia@uth.tmc.edu
SciBX 7(24); doi:10.1038/scibx.2014.713 Published online June 19, 2014				