This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Hematology				
Thalassemia	Heat shock protein 70 (Hsp70); GATA binding protein 1 (GATA1)	<p>Patient sample and <i>in vitro</i> studies suggest inhibiting the interaction between Hsp70 and α-globin hemoglobin chains could help treat β-thalassemia. In erythroblast nuclei, Hsp70 prevents caspase-mediated cleavage of the erythropoietic transcription factor GATA1 and consequent apoptosis. In erythroblasts from patients with β-thalassemia, disease-associated α-globin chains sequestered Hsp70 in the cytoplasm, thereby slowing cell maturation and decreasing nuclear levels of Hsp70 and GATA1 compared with what was seen in erythroblasts from healthy controls. Also in the β-thalassemia erythroblasts, lentiviral-mediated nuclear expression of Hsp70 increased GATA1 levels and the number of mature cells compared with empty vector. Next steps include screening for compounds that block the Hsp70-α-globin interaction.</p> <p>At least four companies have Hsp70 inhibitors in Phase I or earlier testing to treat cancers.</p> <p>SciBX 7(39); doi:10.1038/scibx.2014.1156 Published online Oct. 9, 2014</p>	Findings patented; available for licensing	<p>Arlet, J.-B. <i>et al. Nature</i>; published online Aug. 24, 2014; doi:10.1038/nature13614</p> <p>Contact: Geneviève Courtois, Centre National de la Recherche Scientifique (CNRS), Paris, France e-mail: genevieve_courtois@yahoo.fr</p> <p>Contact: Olivier Hermine, same affiliation as above e-mail: ohermine@gmail.com</p>