This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Acute myelogenous leukemia (AML)	Toll-like receptor 9 (TLR9); signal transducer and activator of transcription 3 (STAT3)	<p>Mouse studies suggest simultaneously activating TLR9 and inhibiting STAT3 could help treat AML. In a mouse model of AML, a CpG-siRNA conjugate containing a Tlr9-stimulating CpG oligonucleotide and a <i>Stat3</i>-specific siRNA decreased tumor cell burden in blood, bone marrow, spleen and lymph nodes by 70%–80%, whereas a CpG-<i>luciferase</i> siRNA control reduced tumor cell burden by 30%. In the same model, the CpG-siRNA conjugate promoted antitumor immunity by increasing AML-induced CD8⁺ T cell infiltration and activation compared with CpG-<i>luciferase</i> siRNA. Next steps include testing more stable serum nuclease-resistant oligonucleotides in mouse models.</p> <p>SciBX 6(48); doi:10.1038/scibx.2013.1375 Published online Dec. 19, 2013</p>	Patent covering CpG-siRNA conjugates and their application to cancer and other immune-related diseases held by City of Hope; available for licensing	<p>Hossain, D.M.S. <i>et al. Blood</i>; published online Oct. 29, 2013; doi:10.1182/blood-2013-07-517987 Contact: Marcin Kortylewski, Beckman Research Institute at City of Hope, Duarte, Calif. e-mail: mkortylewski@coh.org Contact: Ya-Huei Kuo, same affiliation as above e-mail: ykuo@coh.org</p>