This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Cancer				
Bladder cancer	Bone morphogenetic protein 4 (BMP4); BMP5; smoothened (SMO)	<p>Mouse studies suggest activating BMP4 and BMP5 signaling could help treat bladder cancer. In a mouse model of chemical-induced bladder carcinogenesis, knockout of the hedgehog pathway component Smo led to accelerated tumor formation compared with no knockout. In normal mice exposed to the chemical carcinogen, levels of Bmp4 and Bmp5 in bladder carcinomas were lower than those in normal bladder tissue from unexposed mice. Also in mice exposed to the carcinogen, the BMP pathway activator tacrolimus completely prevented formation of invasive bladder carcinomas. Next steps could include screening for selective dual agonists of BMP4 and BMP5 and evaluating them in animal models of bladder cancer. Tacrolimus is a generic oral macrolide immunosuppressant marketed to prevent transplant rejection and treat various autoimmune diseases.</p> <p>SciBX 7(44); doi:10.1038/scibx.2014.1285 Published online Nov. 13, 2014</p>	Patent and licensing status unavailable	<p>Shin, K. <i>et al. Cancer Cell</i>; published online Oct. 13, 2014; doi:10.1016/j.ccell.2014.09.001 Contact: Kunyoo Shin, Stanford University School of Medicine, Stanford, Calif. e-mail: shink@ohsu.edu</p>