This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Cancer	Pyruvate kinase M2 isozyme (PKM2)	<p><i>In vitro</i> and cell culture studies identified a serine-binding, allosteric activation site on PKM2 that could be targeted to help inhibit tumor growth. Activating PKM2 has previously been shown to reduce tumor growth in mice, and serine deprivation has been linked to glycolysis, which is a hallmark metabolic pathway in cancer cells. In serine-starved colon cancer cells, adding serine increased PKM2 activity and increased glycolysis. <i>In vitro</i>, serine bound a previously undescribed pocket on PKM2 and enhanced the enzyme's activity. Next steps could include designing drug-like small molecule activators that bind the allosteric site. Astex Pharmaceuticals Inc. has a discovery-stage program targeting PKM2.</p> <p>Agios Pharmaceuticals Inc. has a discovery-stage program targeting PKM2 in cancer.</p> <p>Dynamix Pharmaceuticals Ltd's PKM2 activator, DNX-3000, is in preclinical development to treat cancer.</p> <p>SciBX 5(43); doi:10.1038/scibx.2012.1134 Published online Nov. 1, 2012</p>	Unpatented; licensing status not applicable	<p>Chaneton, B. <i>et al. Nature</i>; published online Oct. 14, 2012; doi:10.1038/nature11540 Contact: Eyal Gottlieb, Cancer Research UK and The Beatson Institute for Cancer Research, Glasgow, U.K. e-mail: e.gottlieb@beatson.gla.ac.uk Contact: Marc O'Reilly, Astex Pharmaceuticals Inc., Cambridge, U.K. e-mail: marc.oreilly@astx.com</p>