

This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Cancer	Pyruvate kinase M2 isozyme (PKM2)	<p>Two separate studies in cell lines and mice suggest that targeting PKM2 could help treat multiple forms of cancer. PKM2, an isoform of the glycolytic enzyme pyruvate kinase, is expressed in fetal cells and in some tumors but not in healthy adult cells. <i>In vitro</i>, binding of PKM2 to phosphotyrosine (pTyr) peptides inhibited enzymatic activity. In cell culture and a mouse tumor model, replacement of PKM2 with an isoform that could not bind pTyr peptides lowered glycolysis, increased oxidative phosphorylation and slowed tumor growth compared with untreated controls. Next steps include identifying pTyr-containing proteins that regulate PKM2 and developing and testing selective inhibitors of PKM2 to treat cancer.</p> <p>CAP-232, a peptide inhibitor of PKM2 from Thallion Pharmaceuticals Inc., is in Phase II trials for renal cell carcinoma and metastatic melanoma.</p>	Patent application filed; licensed to Cancer Metabolism Therapeutics (soon to be renamed Agios Pharmaceuticals)	<p>Christofk, H. <i>et al. Nature</i>; published online March 12, 2008; doi:10.1038/nature06667</p> <p>Christofk, H. <i>et al. Nature</i>; published online March 12, 2008; doi:10.1038/nature06734</p> <p>Contact: Lewis C. Cantley, Beth Israel Deaconess Medical Center, Boston, Mass. e-mail: lcantley@hms.harvard.edu</p>