This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Prostate cancer	Mammalian target of rapamycin (mTOR; FRAP; RAFT1); rapamycin-insensitive companion of mTOR (RICTOR)	<p>A study in mice suggests that inhibiting mTOR complex 2 (mTORC2), which contains mTOR and RICTOR, may be useful for treating prostate cancer. In mice with human prostate epithelial cells lacking PTEN, mTORC2 was required to form tumors. In those mice, prostate cancer cells expressing RICTOR small hairpin RNA had significantly lower average tumor volumes than cells expressing a control shRNA ($p=0.01$). In tumor-developing PTEN^{+/-} mice, those with Rictor^{+/-} had significantly higher one-year survival than Rictor^{+/+} mice ($p=0.037$). Next steps include studying the molecular structure of mTORC2 and evaluating the efficacy of its inactivation in more advanced cases of prostate cancer.</p> <p>Afinitor everolimus, an mTOR inhibitor from Novartis AG, is under FDA review to treat advanced renal cell carcinoma (RCC).</p> <p>Deforolimus, a small molecule mTOR inhibitor from Ariad Pharmaceuticals Inc. and Merck & Co. Inc., is in Phase III testing to treat sarcoma. At least seven other companies have mTOR inhibitors in Phase II or earlier development to treat cancer.</p> <p><i>SciBX</i> 2(5); doi:10.1038/scibx.2009.183 Published online Feb. 5, 2009</p>	Work unpatented; unavailable for licensing	<p>Guertin, D.A. <i>et al. Cancer Cell</i>; published online Feb. 2, 2009; doi:10.1016/j.ccr.2008.12.017</p> <p>Contact: David M. Sabatini, Massachusetts Institute of Technology, Cambridge, Mass. e-mail: sabatini@wi.mit.edu</p>