This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Bladder cancer	Mammalian target of rapamycin (mTOR; FRAP; RAFT1); phosphatase and tensin homolog deleted on chromosome ten (PTEN; MMAC1; TEP1); tumor protein p53 (TP53; p53)	<p>A study in mice suggests that rapamycin may be useful for treating invasive bladder cancer. In murine p53 and PTEN dual knockout models of invasive bladder cancer, daily rapamycin prevented the formation of bladder tumors and significantly lowered cell proliferation by 16-fold compared with what was seen using vehicle ($p < 0.0001$). In mice with grafted bladder tumors, daily rapamycin significantly decreased tumor size and cell proliferation compared with what was seen using vehicle ($p < 0.0001$). Next steps could include studies to evaluate rapamycin in additional preclinical models of bladder cancer.</p> <p>Rapamune sirolimus (rapamycin), an mTOR pathway inhibitor from Wyeth, is marketed for renal cancer and various transplant indications.</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.</p> <p>At least seven other companies have mTOR inhibitors in Phase II or earlier to treat cancer.</p> <p>SciBX 2(12); doi:10.1038/scibx.2009.479 Published online March 26, 2009</p>	Patent and licensing status undisclosed	<p>Puzio-Kuter, A.M. <i>et al. Genes Dev.</i>; published online March 4, 2009; doi:10.1101/gad.1772909</p> <p>Contact: Cory Abate-Shen, Columbia University, New York, N.Y. e-mail: cabateshen@columbia.edu</p> <p>Contact: Carlos Cordon-Cardo, same affiliation as above e-mail: cordon-c@columbia.edu</p>