This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Cancer				
Cancer	Breast cancer 1 early onset (BRCA1)	<p><i>In vitro</i> studies have identified cell-penetrant phospho-dipeptide inhibitors of the BRCT domain of BRCA1 that could be useful for treating cancer. A microarray-based <i>in vitro</i> screen for compounds that could inhibit protein-protein interactions involving the phosphoserine-binding BRCT domain of BRCA1 identified a competitive phospho-dipeptide inhibitor with an IC_{50} value of 0.31 μM that could also penetrate cells. In a human cancer cell line, the phospho-dipeptide and nonhydrolyzable or prodrug variants increased apoptosis compared with vehicle and caused synergistic increases in cell killing when combined with the poly(ADP-ribose) polymerase (PARP) inhibitor olaparib. Ongoing work includes improving the compound's <i>in vivo</i> activity and solving the crystal structure of the lead dipeptide inhibitor in complex with BRCA1.</p> <p>AstraZeneca plc has olaparib under FDA and EMA review to treat ovarian cancer.</p> <p>SciBX 7(29); doi:10.1038/scibx.2014.857 Published online July 31, 2014</p>	Unpatented; licensing status not applicable	<p>Na, Z. <i>et al. Angew. Chem. Int. Ed.</i>; published online June 24, 2014; doi:10.1002/anie.201405169</p> <p>Contact: Shao Q. Yao, National University of Singapore, Singapore e-mail: chmyaosq@nus.edu.sg</p>