This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Colorectal cancer	Epidermal growth factor receptor (EGFR); MEK; <i>K-Ras</i>	<p>Cell culture and patient sample studies suggest deep sequencing of circulating tumor DNA can detect early resistance to anti-EGFR drugs and help guide rational combination therapies. In a cellular model of Erbitux cetuximab resistance, deep sequencing identified small subpopulations of Erbitux-resistant <i>K-Ras</i> mutants before treatment and secondary <i>K-Ras</i> mutants post-treatment that responded to MEK inhibitors plus Erbitux. In biopsies from 10 patients with colorectal cancer that became refractory to the anti-EGFR mAbs Erbitux or Vectibix panitumumab, deep sequencing of circulating tumor DNA identified <i>K-Ras</i> mutations in patient plasma as early as 10 months before radiology showed tumor progression. Next steps include determining other mechanisms of acquired resistance and using patient-derived tumor xenografts to validate the cell-based findings.</p> <p>Eli Lilly and Co., Bristol-Myers Squibb Co. and Merck KGaA market Erbitux to treat colorectal cancer and head and neck cancer.</p> <p>Amgen Inc. and Takeda Pharmaceutical Co. Ltd. market Vectibix to treat metastatic colorectal cancer.</p> <p>SciBX 5(27); doi:10.1038/scibx.2012.701 Published online July 12, 2012</p>	Patent application filed; available for licensing	<p>Misale, S. <i>et al. Nature</i>; published online June 13, 2012; doi:10.1038/nature11156 Contact: Alberto Bardelli, Institute for Cancer Research and Treatment, Candiolo, Italy e-mail: alberto.bardelli@ircc.it</p>