This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Assays & screens			
Stromal and cancer cell coculture system to uncover drug resistance mechanisms and guide combination therapy	<p>A stromal and cancer cell coculture system could help uncover drug resistance mechanisms and guide combination therapy. In cocultures of <i>BRAF</i> mutant melanoma cell lines and human stromal cell lines, stromal cell secretion of hepatocyte growth factor/scatter factor (HGF/SF) led to c-Met proto-oncogene (MET; HGFR) activation and resistance to BRAF inhibition. In the cocultures, HGF/SF-neutralizing antibodies or the MET inhibitor Xalkori crizotinib could block this resistance. In patients with <i>BRAF</i> mutant melanoma, HGF/SF secretion from stromal cells was associated with poorer response to BRAF inhibitors ($p < 0.05$) than if there was no secretion. Next steps could include using the coculture system to uncover mechanisms of drug resistance in additional cancers.</p> <p>Roche, Daiichi Sankyo Co. Ltd. and Chugai Pharmaceutical Co. Ltd. market the BRAF inhibitor Zelboraf vemurafenib for <i>BRAF</i> mutant melanoma. The inhibitor is also in Phase I testing for colorectal cancer and Phase II testing for thyroid cancer.</p> <p>Pfizer Inc. markets Xalkori, which also inhibits anaplastic lymphoma kinase (ALK), for non-small cell lung cancer (NSCLC). It is also in Phase I testing to treat solid tumors.</p> <p>At least three companies have mAb antagonists of HGF/SF in clinical testing in cancer.</p> <p>SciBX 5(31); doi:10.1038/scibx.2012.826 Published online Aug. 9, 2012</p>	Patent application filed covering combination BRAF and HGF/SF inhibition; licensing status undisclosed	<p>Straussman, R. <i>et al. Nature</i>; published online July 4, 2012; doi:10.1038/nature11183</p> <p>Contact: Todd R. Golub, Broad Institute of MIT and Harvard, Cambridge, Mass. e-mail: golub@broadinstitute.org</p>