This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Assays & screens			
RNA sequencing of multiple drug-resistant cells to identify therapeutic targets and mechanisms of action	<p><i>In vitro</i> studies suggest RNA sequencing of drug-resistant cells could help identify a compound's therapeutic target. As proof of concept, RNA sequencing of human colon cancer cell lines resistant to BI2536 confirmed polo-like kinase 1 (PLK1; STPK13) as the compound's molecular target. For validation, the method also was used to show that the $\beta 5$ subunit of the proteasome (PSMB5; LMPX) is the molecular target of Velcade bortezomib, which is a known proteasome inhibitor. The method was less effective at identifying molecular targets for compounds with multiple targets. Next steps include applying the technology to a larger panel of compounds.</p> <p>Takeda Pharmaceutical Co. Ltd. markets Velcade to treat mantle cell lymphoma (MCL) and multiple myeloma (MM).</p> <p>At least three companies have PLK1 inhibitors in clinical and preclinical testing to treat cancers.</p> <p>SciBX 5(9); doi:10.1038/scibx.2012.235 Published online March 1, 2012</p>	Patent application filed covering the method; available for licensing	<p>Wacker, S.A. <i>et al. Nat. Chem. Biol.</i>; published online Feb. 12, 2012; doi:10.1038/nchembio.779</p> <p>Contact: Tarun M. Kapoor, The Rockefeller University, New York, N.Y. e-mail: kapoor@rockefeller.edu</p> <p>Contact: Olivier Elemento, Weill Cornell Medical College, New York, N.Y. e-mail: ole2001@med.cornell.edu</p>