This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Non-small cell lung cancer (NSCLC)	Ret proto-oncogene (RET); KIF5B-RET oncogenic fusion protein	<p>Three separate studies in patient samples and in cell culture identified KIF5B-RET translocation proteins that could be targeted by approved NSCLC drugs. In cohorts of NSCLC samples representing more than 2,000 patients, transcriptome sequencing, fluorescent <i>in situ</i> hybridization, RT-PCR and immunohistochemistry identified a KIF5B-RET translocation protein expressed in 1%–2% of samples. In cell culture, expression of KIF5B-RET induced oncogenic cell growth. In cells expressing the <i>KIF5B-RET</i> gene, the RET kinase inhibitors Caprelsa vandetanib, Nexavar sorafenib or Sutent sunitinib inhibited growth compared with kinase inhibitors that do not block RET activity. Next steps include developing clinical diagnostics for KIF5B-RET and testing RET inhibitors in this patient population. Pfizer Inc. markets the receptor tyrosine kinase (RTK) inhibitor Sutent to treat renal and gastrointestinal cancers. Bayer AG and Onyx Pharmaceuticals Inc. market the RTK inhibitor Nexavar to treat renal and liver cancer. AstraZeneca plc markets the RTK inhibitor Caprelsa to treat thyroid cancer.</p> <p>SciBX 5(8); doi:10.1038/scibx.2012.201 Published online Feb. 23, 2012</p>	<p>Patent and licensing status undisclosed for findings in the first study</p> <p>Patent application filed for findings in the second study; available for licensing from the National Cancer Center Research Institute</p> <p>Patent application filed by Foundation Medicine Inc. for findings in the third study; licensing status undisclosed</p>	<p>Takeuchi, K. <i>et al. Nat. Med.</i>; published online Feb. 12, 2012; doi:10.1038/nm.2658 Contact: Kengo Takeuchi, Japanese Foundation for Cancer Research, Tokyo, Japan e-mail: kentakuchi-tyk@umin.net</p> <p>Kohno, T. <i>et al. Nat. Med.</i>; published online Feb. 12, 2012; doi:10.1038/nm.2644 Contact: Takashi Kohno, National Cancer Center Research Institute, Tokyo, Japan e-mail: tkkohno@ncc.go.jp</p> <p>Lipson, D. <i>et al. Nat. Med.</i>; published online Feb. 12, 2012; doi:10.1038/nm.2673 Contact: Philip J. Stephens, Foundation Medicine Inc., Cambridge, Mass. e-mail: pstephens@foundationmedicine.com Contact: Maureen T. Cronin, same affiliation as above e-mail: mcronin@foundationmedicine.com Contact: Pasi A. Jänne, Dana-Farber Cancer Institute, Lowe Center for Thoracic Oncology, Boston, Mass. e-mail: pjanne@partners.org</p>