This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Head and neck cancer; cancer	Neuregulin 1 (NRG1); epidermal growth factor receptor 3 (EGFR3; HER3; ERBB3); HER2 (EGFR2; ERBB2; neu)	<i>In vitro</i>, mouse and patient studies suggest NRG1 levels and HER3 status could help predict tumor responsiveness to HER2-targeting therapies. In cancer cell lines without HER2 overexpression, Tykerb lapatinib and neratinib sensitivity was associated with increased NRG1 levels and activated HER3. In mice with head and neck tumors from one such cell line, Tykerb and/or pertuzumab decreased tumor growth compared with vehicle. In a panel of primary human head and neck tumors, 41% showed both increased NRG1 levels and activated HER3. Future studies could include developing an assay to determine NRG1 levels and HER3 status in clinical trials of HER2-targeting therapeutics. Tykerb/Tyverb lapatinib, a HER2 and HER1 (EGFR1; ERBB1) inhibitor from GlaxoSmithKline plc, is marketed to treat breast cancer, in Phase III testing to treat head and neck cancer and gastric cancer, and in Phase II testing to treat brain and liver cancers. Neratinib (HKI-272), an oral inhibitor of HER1, HER2 and HER4 (EGFR4; ERBB4) from Pfizer Inc., is in Phase III testing to treat breast cancer and Phase I testing to treat solid tumors. Pertuzumab (2C4; R1273; RG1273), a mAb that prevents HER2 from binding to HER1, HER3 and HER4 from Roche's Genentech Inc. unit and Chugai Pharmaceutical Co. Ltd., is in Phase III testing to treat breast cancer, Phase II trials to treat non-small cell lung cancer (NSCLC) and Phase I testing to treat ovarian cancer. SciBX 4(34); doi:10.1038/scibx.2011.959 Published online Sept. 1, 2011	Patent and licensing status undisclosed	Wilson, T.R. <i>et al. Cancer Cell</i>; published online Aug. 16, 2011; doi:10.1016/j.ccr.2011.07.011 Contact: Jeffrey Settleman, Genentech Inc., South San Francisco, Calif. e-mail: settleman.jeffrey@gene.com