This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Breast cancer	CRAF (RAF1); MAP kinase 3 (MAPK3; ERK-1); β -catenin (CTNNB1); enhancer of zeste homolog 2 (EZH2)	<p><i>In vitro</i> and mouse studies suggest that inhibiting the RAF1-ERK-1-CTNNB1 pathway could help treat breast cancer. In human breast cancer stem cells, retroviral vector expression of EZH2 activated the RAF1-ERK-1-CTNNB1 pathway and increased stem cell self-renewal, survival and proliferation compared with those seen using control vectors. In mice with EZH2-expressing human primary breast cancer stem cells, the RAF1-ERK-1 signaling inhibitor Nexavar sorafenib eliminated EZH2-expressing cancer cells compared with vehicle control. Next steps could include testing RAF1-ERK-1 inhibitors in additional animal models.</p> <p>Bayer AG and Onyx Pharmaceuticals Inc. market Nexavar to treat renal and liver cancer.</p> <p>At least four other companies have RAF1 inhibitors in clinical and preclinical testing to treat cancer.</p> <p>Aeterna Zentaris Inc.'s AEZS-132, an ERK-2 (MAPK1) inhibitor, is in preclinical testing to treat cancer.</p> <p>At least four companies have compounds targeting CTNNB1 in clinical and preclinical testing to treat cancer.</p> <p>SciBX 4(5); doi:10.1038/scibx.2011.127 Published online Feb. 3, 2011</p>	Patent and licensing status unavailable	<p>Chang, C.-J. <i>et al. Cancer Cell</i>; published online Jan. 6, 2011; doi:10.1016/j.ccr.2010.10.035</p> <p>Contact: Mien-Chie Hung, The University of Texas M.D. Anderson Cancer Center, Houston, Texas</p> <p>e-mail: mhung@mdanderson.org</p>