This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Cancer				
Cancer	BRAF; MAP kinase kinase 1 (MAP2K1; MEK1); MEK; K-Ras (KRAS)	Cell culture studies suggest assessing BRAF and K-Ras mutation status could help improve cancer therapy with MEK inhibitors. Cancer cell lines with activating mutations in *K-Ras* showed greater sensitivity to the MEK inhibitors GDC-0623 and G-573 than cell lines with activating mutations in *BRAF*. In culture, *BRAF* mutant cancer cell lines showed greater sensitivity to the MEK inhibitor cobimetinib than *K-Ras* mutant cell lines. Structural studies showed that the different inhibitors had distinct target engagement mechanisms involving the MEK1 activation loop. Next steps include testing efficacy of the different inhibitors in patients with K-Ras and *BRAF* mutant cancers. Exelixis Inc. and the Genentech Inc. unit of Roche have cobimetinib in Phase III testing for melanoma and Phase I testing for solid tumors. The two companies also have GDC-0623 in Phase I testing to treat solid tumors. GlaxoSmithKline plc markets Mekinist trametinib, a small molecule inhibitor of MEK1 and MEK2 (MAP2K2), to treat melanoma. The pharma in-licensed the compound from Japan Tobacco Inc. At least 14 other companies have MEK inhibitors in Phase II testing or earlier to treat various cancers. G-573 is a research reagent. *SciBX* 6(35); doi:10.1038/scibx.2013.953 Published online Sept. 12, 2013	Patent and licensing status undisclosed	Hatzivassiliou, G. *et al. Nature*; published online Aug. 11, 2013; doi:10.1038/nature12441 **Contact:** Marcia Belvin, Genentech Inc., San Francisco, Calif. e-mail: belvin.marcia@gene.com **Contact:** Georgia Hatzivassiliou, same affiliation as above e-mail: hatzivassiliou.georgia@gene.com