This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Cancer				
Cancer	7,8-Dihydro-8-oxoguanine triphosphatase (NUDT1; MTH1)	<p><i>In vitro</i>, cell culture and mouse studies have identified inhibitors of MTH1 that could help treat cancer. MTH1 cleaves and neutralizes oxidized nucleotides, which can accumulate and cause DNA damage. In cancer cell lines, shRNA against <i>MTH1</i> induced cell death, whereas control shRNA did not. In cell lines, a series of small molecule MTH1 inhibitors, including the (S) stereoisomer of Xalkori crizotinib, inhibited MTH1 with nanomolar potency, induced DNA damage and killed cancer cells at micromolar concentrations without also killing untransformed cells. In multiple mouse models of cancer, including Ras-mutant cancers, the inhibitors decreased tumor growth compared with vehicle. Next steps include optimizing compounds for additional preclinical testing.</p> <p>Pfizer Inc. markets the c-Met receptor tyrosine kinase and anaplastic lymphoma kinase (ALK) inhibitor Xalkori, the (R) stereoisomer of crizotinib, to treat ALK fusion-positive non-small cell lung cancer (NSCLC).</p> <p>SciBX 7(16); doi:10.1038/scibx.2014.453 Published online April 24, 2014</p>	Patent applications filed for both studies; available for licensing	<p>Huber, K.V.M. <i>et al. Nature</i>; published online April 2, 2014; doi:10.1038/nature13194 Contact: Giulio Superti-Furga, Research Center for Molecular Medicine of the Austrian Academy of Sciences, Vienna, Austria e-mail: gsuperti@cemm.oeaw.ac.at</p> <p>Gad, H. <i>et al. Nature</i>; published online April 2, 2014; doi:10.1038/nature13181 Contact: Thomas Helleday, Karolinska Institute, Stockholm, Sweden e-mail: thomas.helleday@scilifelab.se</p>