This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Cancer	DNA (cytosine-5-)-methyltransferase 1 (DNMT1)	<p>Cell culture studies have identified non-nucleoside selective inhibitors of DNMT1 that could help treat cancer. <i>In vitro</i>, the two most potent members of the series selectively inhibited DNMT1 activity with IC₅₀ values of 2.5 and 1.7 µM. In human colon and pancreatic cancer cell lines, each compound increased apoptosis compared with no treatment. Next steps include optimizing the lead DNMT1 inhibitors to improve their potency.</p> <p>Otsuka Pharmaceutical Co. Ltd. and partners Eisai Co. Ltd. and Johnson & Johnson market Dacogen decitabine, a nonselective DNA methyltransferase inhibitor, to treat acute myelogenous leukemia (AML) and myelodysplastic syndrome (MDS). The drug is also in Phase II or earlier testing to treat multiple other cancers.</p> <p>Celgene Corp. and partners Nippon Shinyaku Co. Ltd. and Pfizer Inc. market Vidaza azacitidine, a nonselective DNA methyltransferase inhibitor, to treat MDS. The drug is also in Phase III or earlier testing to treat multiple other cancers.</p> <p>Rexahn Pharmaceuticals Inc. has RX-3117, a downregulator of DNA methyltransferase, in Phase I testing to treat pancreatic cancer.</p> <p>SciBX 7(45); doi:10.1038/scibx.2014.1312 Published online Nov. 20, 2014</p>	Unpatented; licensing status not applicable	<p>Chen, S. <i>et al. J. Med. Chem.</i>; published online Oct. 21, 2014; doi:10.1021/jm501134e</p> <p>Contact: Cheng Luo, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China e-mail: cluo@simm.ac.cn</p> <p>Contact: Mingyue Zheng, same affiliation as above e-mail: myzheng@simm.ac.cn</p> <p>Contact: Bo Liu, Guangdong Provincial Academy of Chinese Medical Sciences, Guangzhou, China e-mail: doctliu@263.net</p>