This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Endocrine/metabolic disease				
Diabetes	Adenosine A _{2A} receptor (ADORA _{2A})	<p>Zebrafish and mouse studies suggest adenosine receptor agonists could regenerate β cells and help treat type 1 diabetes. A screen of 7,000 compounds in a transgenic zebrafish model of β cell regeneration identified 5 molecules that increased β cell regeneration. The most potent compound, 5'-N-ethylcarboxamidoadenosine (NECA), activated ADORA_{2A} and significantly increased β cell proliferation in zebrafish compared with vehicle ($p=0.001$). In a mouse model of chemically induced diabetes, NECA increased β cell proliferation and decreased blood glucose levels compared with vehicle. Next steps include identifying and testing adenosine receptor agonists with better specificity than NECA.</p> <p>Lexiscan, a short-acting ADORA_{2A} agonist from Gilead Sciences Inc. and Astellas Pharma Inc., is marketed as a cardiovascular imaging agent.</p> <p>CorVue binodenoson for injection, a selective ADORA_{2A} agonist from Pfizer Inc., is under review as a cardiovascular imaging agent.</p> <p>At least seven other companies have ADORA_{2A} agonists in Phase III testing or earlier to treat various indications.</p> <p>SciBX 5(24); doi:10.1038/scibx.2012.630 Published online June 14, 2012</p>	Unpatented; licensing status not applicable	<p>Andersson, O. <i>et al. Cell Metab.</i>; published online May 17, 2012; doi:10.1016/j.cmet.2012.04.018 Contact: Olov Andersson, University of California, San Francisco, Calif. e-mail: olov.andersson@ki.se Contact: Didier Y.R. Stainier, same affiliation as above e-mail: didier.stainier@ucsf.edu</p>