## This week in therapeutics

| Indication | Target/marker/ pathway | Summary | Licensing status | Publication and contact information |
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| **Autoimmune disease** | | | | |
| Autoimmune disease | Adenosine $A_{2A}$ receptor ($ADORA_{2A}$) | *In vitro* and mouse studies suggest conjugating an $ADORA_{2A}$ agonist to IgG Fc could improve stability in treating autoimmune diseases. In cultured splenocytes, a small molecule $ADORA_{2A}$ agonist–IgG Fc conjugate activated the receptor with potency comparable to that of the unconjugated agonist. In mouse blood, the conjugate was stable for at least 72 hours. In a mouse model of autoimmune pneumonitis, i.p. injection of the conjugate 1 and 3 days after induction of autoimmunity increased survival and decreased lung lymphocyte infiltration compared with injection of vehicle, free Fc or unconjugated agonist. Next steps include developing an $ADORA_{2A}$ agonist–humanized Fc conjugate.<br>Gilead Sciences Inc. and Astellas Pharma Inc. market the $ADORA_{2A}$ agonist Lexiscan regadenoson as a cardiovascular imaging agent.<br>Adenosine Therapeutics LLC's $ADORA_{2A}$ agonist Stedivaze apadenoson is in Phase III testing for cardiovascular disease.<br>At least five other companies have $ADORA_{2A}$ agonists in Phase II or earlier testing to treat pain or cancer.<br><br>*SciBX* 7(12); doi:10.1038/scibx.2014.335<br>Published online March 27, 2014 | Unpatented; available for licensing discussions | Chiang, M.-J. *et al. J. Am. Chem. Soc.*; published online Feb. 17, 2014; doi:10.1021/ja5006674<br>**Contact:** Philip A. Cole, The Johns Hopkins University School of Medicine, Baltimore, Md.<br>e-mail: pcole@jhmi.edu<br>**Contact:** Jonathan D. Powell, same affiliation as above<br>e-mail: powelljo@jhmi.edu |