This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Neurology				
Addiction	Metabotropic glutamate receptor subtype 5 (GRM5; mGluR5); homer homolog 2 (HOMER2); phosphoinositide 3-kinase (PI3K)	<p>Studies in mice suggest that inhibiting the mGluR5-HOMER2-PI3K signaling pathway in the brain could treat alcohol dependence. In mice bred to have a binge-drinking phenotype, alcohol intake upregulated expression of the mGluR5 ligand Homer2 and activated PI3K in a region of the forebrain that plays a role in reward and addiction. In those mice, <i>Homer2</i> knockdown, PI3K inhibitors, mGluR5 antagonists, or point mutations in <i>mGluR5</i> all reduced alcohol consumption compared with that in controls. Future studies could include clinical testing of mGluR5 antagonists to treat alcohol dependence. Addex Pharmaceuticals Ltd's ADX10059, a negative allosteric modulator of mGluR5, is in Phase II testing to treat migraine. AstraZeneca plc's AZD2066, an mGluR5 antagonist, is in Phase I testing to treat chronic pain and diabetic neuropathy. STX107, an mGluR5 antagonist from Seaside Therapeutics and Merck & Co. Inc., has completed preclinical testing to treat fragile X syndrome.</p> <p>SciBX 2(28); doi:10.1038/scibx.2009.1110 Published online July 23, 2009</p>	Patent and licensing status unavailable	<p>Cozzoli, D. <i>et al. J. Neurosci.</i>; published online July 8, 2009; doi:10.1523/JNEUROSCI.5900-08.2009</p> <p>Contact: Karen K. Szumlinski, University of California, Santa Barbara, Calif. e-mail: szumlinski@psych.ucsb.edu</p>