This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Neurology				
Addiction	α-Amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid glutamate receptor (GRIA; AMPAR); glutamate receptor, ionotropic, AMPA 1 (GRIA1; GLUR1); *N*-methyl-D-aspartic acid receptor (NMDAR)	A study in mice suggests that increasing AMPAR and GLUR1 signaling and lowering NMDAR signaling in the mesocorticolimbic dopamine system (DA) may be useful for treating cocaine addiction. Transgenic mice lacking AMPAR and GLUR1 in DA neurons had significantly impaired extinction of cocaine-seeking behaviors compared with control mice ($p<0.01$). Conversely, mice that did not have NMDARs in DA neurons did not resume cocaine-seeking behaviors. Next steps include evaluating AMPAR agonists in mouse models of cocaine and alcohol addiction. TorreyPines Therapeutics Inc. and Cortex Pharmaceuticals Inc. are developing AMPAR modulators for various neurological indications. Topomax topiramate, an AMPAR antagonist marketed by Johnson & Johnson to treat migraine, is in multiple trials for alcohol dependence.	Not patented; unavailable for licensing	Engblom, D. *et al. Neuron*; published online Aug. 13, 2008; doi:10.1016/j.neuron.2008.07.010 **Contact:** Rainer Spanagel, Central Institute of Mental Health, Mannheim, Germany e-mail: rainer.spanagel@zi-mannheim.de **Contact:** Christian Luscher, University of Geneva, Geneva, Switzerland e-mail: christian.luscher@unige.ch

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