This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Neurology				
Pain	Toll-like receptor 4 (TLR4)	<p>Rat studies suggest antagonizing TLR4 in the ventrolateral periaqueductal gray (vlPAG) region of the brain could help prevent morphine tolerance. TLR4 has previously been shown to mediate a neuroinflammatory response that can counteract the antinociceptive effects of opioids. In rats, injection of a TLR4 antagonist into the vlPAG region prevented morphine tolerance, whereas injection of TLR4 agonists caused morphine tolerance. In a rat model of persistent inflammatory pain, systemic TLR4 antagonism increased the effect of morphine compared with vehicle control. Next steps could include combination studies in additional models of pain. At least four companies have TLR4 antagonists in Phase II or earlier testing.</p> <p>SciBX 6(43); doi:10.1038/scibx.2013.1234 Published online Nov. 7, 2013</p>	Unpatented; licensing status unavailable	<p>Eidson, L.N. & Murphy, A.Z. <i>J. Neurosci.</i>; published online Oct. 2, 2013; doi:10.1523/JNEUROSCI.1609-13.2013 Contact: Anne Z. Murphy, Georgia State University, Atlanta, Ga. e-mail: amurphy@gsu.edu</p>