This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Neurology				
Nerve damage; pain	Purinergic receptor P2X ligand-gated ion channel 4 (P2RX4); mitogen-activated protein kinase 14 (MAPK14; p38); brain-derived neurotrophic factor (BDNF)	<p><i>In vitro</i> studies suggest that inhibiting the P2RX4-p38-MAPK pathway in spinal cord microglia could help treat neuropathic pain. Abnormal activation of the pathway can lead to the release of BDNF from microglia, which contributes to pain hypersensitivity. In cultured microglia, antagonists of either p38 or proteins responsible for the exocytosis of BDNF decreased release of the growth factor, suggesting that, <i>in vivo</i>, the strategy might lower pain sensitivity. Next steps include compounds that inhibit targets in the P2RX4-p38-MAPK pathway in the spinal cord dorsal horn. Array BioPharma Inc.'s ARRY-797, a MAPK14 inhibitor, is in Phase II testing to treat pain. GlaxoSmithKline plc's 681323, a p38 kinase inhibitor, is in Phase II testing for neuropathic pain.</p> <p>SciBX 2(12); doi:10.1038/scibx.2009.502 Published online March 26, 2009</p>	Findings unpatented; unavailable for licensing	<p>Trang, T. <i>et al.</i> <i>J. Neurosci.</i>; published online March 18, 2009; doi:10.1523/JNEUROSCI.5714-08.2009</p> <p>Contact: Michael W. Salter, Hospital for Sick Children, Toronto, Ontario, Canada e-mail: mike.salter@utoronto.ca</p>