This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Neurology				
Neurology	Ras/RAF/MEK/ERK pathway; Src homology protein tyrosine phosphatase 2 (SHP-2; SHPTP2; PTPN11)	<p>Mouse studies suggest inhibiting ERK activity could help treat cognitive deficits in Noonan syndrome, a disease caused by mutations in <i>PTPN11</i> and other Ras/RAF/MEK/ERK pathway genes. In mice, knock-in or hippocampal delivery of <i>Ptpn11</i> gain-of-function mutations led to memory and learning deficits similar to those seen in patients with Noonan syndrome and increased hippocampal ERK activity and excitatory synaptic function compared with expression of wild-type <i>Ptpn11</i>. In the <i>Ptpn11</i>-mutant mice, decreasing Erk activity with a MEK inhibitor or Altocor lovastatin, which inhibits Ras activity, decreased memory and learning deficits compared with vehicle. Next steps include clinical testing of ERK inhibition in patients with Noonan syndrome. Merck & Co. Inc. markets Altocor to treat hypercholesterolemia.</p> <p>SciBX 7(46); doi:10.1038/scibx.2014.1356 Published online Dec. 4, 2014</p>	Patent pending; available for licensing	<p>Lee, Y.-S. <i>et al. Nat. Neurosci.</i>; published online Nov. 10, 2014; doi:10.1038/nn.3863 Contact: Alcino J. Silva, University of California, Los Angeles, Calif. e-mail: silvaa@mednet.ucla.edu Contact: Yong-Seok Lee, same affiliation as above e-mail: yongseok@cau.ac.kr</p>