This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Neurology				
Epilepsy	High mobility group box 1 (HMGB1); toll-like receptor 4 (TLR4)	<p>Studies in human tissue and in mice suggest that antagonizing HMGB1 or its receptor TLR4 could help treat epilepsy. In hippocampal samples from human epilepsy patients and in mouse models of acute and chronic seizures, expression of HMGB1 and its receptor TLR4 was higher than in tissue from non-epileptic controls. In mouse models of acute and chronic seizures, intracranial delivery of antagonists against HMGB1 and TLR4 led to shorter and less frequent seizures than no treatment. Next steps, which are being carried out by HMGBiotech s.r.l., include developing brain-penetrant inhibitors of HMGB1 signaling to treat epilepsy.</p> <p>Eisai Co. Ltd.'s TLR4 antagonist, eritoran (E5564), is in Phase III testing to treat severe sepsis.</p> <p>Bio3 Research s.r.l.'s CT301/R, a small molecule that indirectly inhibits HMGB1, and the company's CT406, an HMGB1-inhibiting DNA mimetic, are in preclinical testing to treat cardiovascular indications.</p> <p>SciBX 3(14); doi:10.1038/scibx.2010.444 Published online April 8, 2010</p>	Findings unpatented; unavailable for licensing	<p>Maroso, M. <i>et al. Nat. Med.</i>; published online March 28, 2010; doi:10.1038/nm.2127</p> <p>Contact: Annamaria Vezzani, Mario Negri Institute for Pharmacological Research, Milan, Italy e-mail: vezzani@marionegri.it</p>