

This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Infectious Disease				
West Nile virus encephalitis	CXC chemokine receptor 4 (CXCR4)	<p>A mouse study suggests that antagonizing CXCR4 in the CNS could be useful for treating West Nile virus (WNV) encephalitis. In a mouse model of WNV infection, the CXCR4 antagonist AMD3100 promoted migration of WNV-specific CD8⁺ T cells across the blood-brain barrier, which enhanced viral clearance and reduced immunopathology compared with PBS-treated controls. AMD3100 treatment significantly improved survival of WNV infection compared with PBS-treated controls ($p=0.02$). Next steps include testing whether penetration of virus-targeting immune cells into the brain parenchyma causes autoimmune side effects in preclinical models of WNV.</p> <p>Mozobil plerixafor (AMD3100), a CXCR4 antagonist from Genzyme Corp., is under FDA and EMEA review as an enhancer of hematopoietic stem cell mobilization for collection and subsequent autologous transplantation in patients with lymphoma or multiple myeloma (MM). There are no fewer than eight other CXCR4 antagonists/inhibitors in development stages ranging from preclinical to Phase III for various cancer and hematological indications.</p>	Patented by Genzyme Corp.; licensing status undisclosed	<p>Rooij, E. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online Aug. 4, 2008; doi:10.1073/pnas.0800898105</p> <p>Contact: Robyn Klein, Washington University School of Medicine, St. Louis, Mo. e-mail: rklein@id.wustl.edu</p>