This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Neurology				
Neurology	Phosphodiesterase-4 (PDE-4)	Studies in murine hippocampal samples and in mice suggest that inhibiting PDE-4 could help reduce cognitive deficits associated with sleep deprivation. Compared with hippocampal slices from controls, those from sleep-deprived mice showed higher expression of the A5 isoform of Pde4, which degraded the cyclic adenosine monophosphate (cAMP) required for normal hippocampal function. Sleep-deprived mice treated with a PDE-4 inhibitor performed better in a memory test than untreated, sleep-deprived controls. Ongoing studies are examining the mechanisms that upregulate the PDE-4 isoform in response to sleep deprivation. Daxas roflumilast (APTA-2217), a nonsteroidal PDE-4 inhibitor from Nycomed Group A/S, Forest Laboratories Inc. and Mitsubishi Tanabe Pharma Corp., is in Phase III testing to treat chronic obstructive pulmonary disease (COPD). At least five other companies have PDE-4 inhibitors in Phase I or Phase II testing to treat pulmonary and inflammatory disorders. SciBX 2(42); doi:10.1038/scibx.2009.1576 Published online Oct. 29, 2009	Unpatented; unlicensed	Vecsey, C. <i>et al. Nature</i>; published online Oct. 21, 2009; doi:10.1038/nature08488 Contact: Ted Abel, University of Pennsylvania, Philadelphia, Pa. e-mail: abele@sas.upenn.edu