

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug delivery			
Transferrin-coated, brain-penetrant gold nanoparticles	<p>Mouse studies suggest transferrin-coated gold nanoparticles could be useful for delivering therapeutics across the blood brain barrier (BBB). Gold nanoparticles of different diameters and transferrin content were synthesized. In mice, nanoparticles with diameters of 40 nm or 80 nm and moderate transferrin content bound to the transferrin receptor, penetrated the BBB and accumulated in the brain parenchyma. In contrast, gold nanoparticles with low transferrin content showed weak binding to the transferrin receptor and failed to penetrate the BBB, whereas those with high transferrin content bound to the receptor but were not released into the brain parenchyma. Next steps include adapting the transferrin-based strategy to polymeric nanoparticle technologies and exploring other nanoparticle parameters that could be modulated to optimize delivery across the BBB.</p> <p>SciBX 6(21); doi:10.1038/scibx.2013.531 Published online May 30, 2013</p>	Patent application filed covering methods to deliver nanoparticles to the brain; unavailable for licensing	Wiley, D.T. <i>et al. Proc. Natl. Acad. Sci. USA</i> ; published online May 6, 2013; doi:10.1073/pnas.1307152110 Contact: Mark E. Davis, California Institute of Technology, Pasadena, Calif. e-mail: mdavis@cheme.caltech.edu