This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Labeled spherical nucleic acid (SNA) nanoparticle conjugates to study cellular uptake mechanisms and intracellular trafficking	<p>Cell culture studies with labeled SNA nanoparticle conjugates could provide insights into cellular trafficking and improve the design of these agents as drug delivery vehicles. SNA nanoparticle conjugates consisting of a quantum dot core and a fluorescent oligonucleotide shell were synthesized to track intracellular events following uptake. In cultured mouse endothelial cells, the nanoparticles trafficked from early endosomes to late endosomes without entering lysosomes or Golgi bodies, while a small unquantifiable fraction reached the cytosol. In the late endosome, nucleic acid was degraded and cleared from the cell, but the core was retained. Next steps could include designing SNA nanoparticle conjugates with biodegradable cores to minimize cellular toxicity.</p> <p>SciBX 7(24); doi:10.1038/scibx.2014.721 Published online June 19, 2014</p>	Patent and licensing status unavailable	<p>Wu, X.A. <i>et al. J. Am. Chem. Soc.</i>; published online May 19, 2014; doi:10.1021/ja503010a Contact: Chad A. Mirkin, Northwestern University, Evanston, Ill. e-mail: chadnano@northwestern.edu</p>