

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Imaging			
Ultra-pH-sensitive (UPS), fluorescent nanoprobe-based nanoparticles for tumor imaging	<p>UPS, fluorescent nanoparticles could be used to specifically label tumors <i>in vivo</i>. UPS, fluorescent nanoprobe-based nanoparticles were designed that self-assembled to form micelle-like nanoparticles lacking fluorescence because of fluorophore quenching. In mice with glycolytic lung cancer tumors, i.v. injection of the nanoparticles led to uptake and dissociation of the nanoparticle in the tumor and activated a strong fluorescent signal that could be used for tumor imaging. In mice with angiogenic lung tumors, i.v. injection of RGD peptide-modified nanoparticles led to uptake and dissociation by integrin $\alpha_v\beta_3$ (CD51/CD61)-mediated endocytosis, activating a strong fluorescent signal that could be used for tumor imaging. Similar imaging results for the nanoparticle method were obtained in 10 different mouse models of cancer with diverse phenotypes and organ sites. Next steps include obtaining safety data and translating the technology for fluorescence-guided surgical resection of solid tumors.</p> <p>SciBX 7(1); doi:10.1038/scibx.2014.37 Published online Jan. 9, 2014</p>	Patent application filed; available for licensing	<p>Wang, Y. <i>et al. Nat. Mater.</i>; published online Dec. 8, 2013; doi:10.1038/nmat3819</p> <p>Contact: Jinming Gao, The University of Texas Southwestern Medical Center, Dallas, Texas</p> <p>e-mail: jinming.gao@utsouthwestern.edu</p>