

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Imaging			
Monitoring drug delivery from micelles to cells by fluorescence resonance energy transfer (FRET) imaging	<p>A cell culture study suggests that FRET imaging could be used to optimize micelle-based drug delivery methods. In FRET, two fluorescent labels on separate molecules interact to emit light only when the molecules are near one another. Polyethylene glycol (PEG) micelles containing a FRET dye pair and the hydrophobic chemotherapeutic paclitaxel were administered to cultured tumor cells, resulting in a FRET signal on the cell surface. After two hours, the micelles were internalized, changing the location and decreasing the intensity of the FRET signal. Next steps include using the imaging method to develop more stable micelles that can remain intact in the blood and improving the tumor-specific targeting of micelles.</p> <p>Several companies are developing hydrophobic drug delivery technologies for paclitaxel to treat cancer.</p>	Not patented; not licensed	<p>Chen, H. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online April 28, 2008; doi:10.1073/pnas.0707046105 Contact: Ji-Xin Cheng, Weldon School of Biomedical Engineering, Department of Chemistry, Purdue University, West Lafayette, Ind. e-mail: jcheng@purdue.edu</p>