This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Biosynthesis pathway of morphine in the opium poppy	<p>A functional genomics study of the opium poppy identified two demethylase enzymes in the morphine biosynthetic pathway that could improve manufacturing yields of morphine, codeine or oxycodone. In the opium poppy plant, virus-induced gene silencing of codeine O-demethylase increased codeine levels compared with those seen in plants treated with an empty vector. Gene silencing of <i>thebaine 6-O-demethylase (T6ODM)</i> led to increased accumulation of thebaine, a precursor in oxycodone synthesis. Next steps include generating transgenic plants that produce high volumes of morphine alkaloids. Codeine and oxycodone are generic painkillers.</p> <p>SciBX 3(12); doi:10.1038/scibx.2010.391 Published online March 25, 2010</p>	<p>Patent applications filed describing applications for O-demethylases; available for licensing from University Technologies International</p> <p>Contact: Vesna Malkanovic, University Technologies International, Calgary, Alberta, Canada phone: 403-270-2425 e-mail: malkanovic@uti.ca</p>	<p>Hagel, J.M. & Facchini, P.J. <i>Nat. Chem. Biol.</i>; published online March 14, 2010; doi:10.1038/nchembio.317</p> <p>Contact: Peter J. Facchini, University of Calgary, Calgary, Alberta, Canada e-mail: pfacchin@ucalgary.ca</p>