This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Inhibition of methyl-CpG binding domain protein 3 (MBD3) for deterministic and synchronized reprogramming to pluripotency	<i>In vitro</i> studies suggest depletion of Mbd3 can improve the efficiency of reprogramming somatic cells to a pluripotent state over short time periods. Expression of <i>Oct4</i> , <i>Sox2</i> , <i>Klf4</i> and <i>c-Myc</i> (<i>Myc</i>) reprograms somatic cells into induced pluripotent stem (iPS) cells. In murine epiblast stem cells, small interfering RNA against Mbd3 improved the reprogramming efficiency of the 4 transcription factors to 80% at 5 days, whereas control siRNA caused a 10% improvement. In <i>Mbd3</i> -depleted mouse embryonic fibroblasts and human fibroblasts, expression of the transcription factors resulted in about 100% reprogramming efficiency by day 8, whereas wild-type cells had only 20% efficiency. Next steps could include incorporating MBD3 depletion into reprogramming protocols that companies use to generate isogenic and disease-relevant iPS cell lines.	Patent pending; available for nonexclusive licensing	Rais, Y. <i>et al. Nature</i> ; published online Sept. 18, 2013; doi:10.1038/nature12587 Contact: Jacob H. Hanna, Weizmann Institute of Science, Rehovot, Israel e-mail: jacob.hanna@weizmann.ac.il
SciBX 6(40); doi:10.1038/scibx.2013.1144 Published online Oct. 17, 2013			