This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Transplantation				
Tissue replacement	GATA binding protein 4 (GATA4); T-box 5 (TBX5); NK2 transcription factor related, locus 5 (NKX2-5); SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3 (SMARCD3; BAF60C)	<p>Studies in mouse embryos suggest that a combination of transcription factors can reprogram noncardiac cells to regenerate heart tissue. In cultured mouse embryos, chromatin remodeling factor BAF60C and three transcription factors (GATA4, TBX5 and NKX2-5) known to activate cardiac genes induced the expression of embryonic heart markers in noncardiac mesodermal tissue. The combination was also sufficient to reprogram the noncardiac mesodermal cells into new, contracting cardiomyocytes. Ongoing work includes investigating the effect of the three transcription factors in stem and other cell types and investigating the design of transgenic studies to identify the gene networks these factors initiate.</p> <p>Prochymal, an adult human stem cell therapy from partners Osiris Therapeutics Inc. and Genzyme Corp., is in Phase II testing to repair heart tissue following myocardial infarction (MI). CorMatrix Cardiovascular Inc.'s CorMatrix extracellular matrix technology has 510(k) clearance in the U.S. for use in cardiac tissue repair during cardiac surgery.</p> <p>SciBX 2(17); doi:10.1038/scibx.2009.724 Published online April 30, 2009</p>	Patented; exclusively out-licensed to an undisclosed party	<p>Takeuchi, J. & Bruneau, B. <i>Nature</i>; published online April 26, 2009; doi:10.1038/nature08039</p> <p>Contact: Benoit Bruneau, Gladstone Institute of Cardiovascular Disease, San Francisco, Calif. e-mail: bbruneau@gladstone.ucsf.edu</p>