This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Chimeric antigen receptors (CARs) that require dual-antigen binding for activation	<p>T cells engineered to express a CAR and a chimeric co-stimulatory receptor could enhance the tumor specificity of targeted T cell therapies. T cells expressing CARs can trigger a tumor antigen-specific immune response but also can cause toxicity if the targeted antigen is not exclusively expressed by tumor cells. To increase specificity, T cells were engineered to carry a CAR that induces T cell activation only when a second co-stimulatory receptor engages with another tumor-specific antigen. In a mouse model of prostate cancer, T cells engineered to bind both prostate stem cell antigen (PSCA) and prostate-specific membrane antigen (PSMA; FOLH1; GCP11) decreased the growth of PSCA⁺/PSMA⁺ tumors but not the growth of tumors expressing only one of the two antigens. Next steps include developing additional strategies to increase the safety of the T cell therapy.</p> <p>SciBX 6(2); doi:10.1038/scibx.2013.46 Published online Jan. 17, 2013</p>	Patent application filed; available for licensing	<p>Kloss, C.C. <i>et al. Nat. Biotechnol.</i>; published online Dec. 16, 2012; doi:10.1038/nbt.2459</p> <p>Contact: Michel Sadelain, Memorial Sloan-Kettering Cancer Center, New York, N.Y. e-mail: m-sadelain@ski.mskcc.org</p>