

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Adoptive cell therapy using mutation-specific, CD4 ⁺ T cells in epithelial cancer	<p>A single-patient study suggests adoptive cell therapy using tumor mutation-specific, CD4⁺ T cells could help treat epithelial cancer.</p> <p><i>Ex vivo</i>, patient dendritic cells were transfected with RNAs representing 26 different patient-specific cancer mutations identified via whole-exome sequencing and then cocultured with patient tumor-infiltrating lymphocytes (TILs). Patient CD4⁺ T cells specifically recognized dendritic cells presenting an ErbB2 interacting protein (ERBB2IP) antigen with an E805G mutation. In the patient, adoptive transfer of about 10 billion ERBB2IP^{E805G} mutation-specific, CD4⁺ T cells led to tumor regression that peaked at 7 months and disease stabilization for about 13 months. Next steps include evaluating mutations in additional cancers that would be recognized by T cells and amenable for use in mutation-specific, CD4⁺ T cell therapy.</p> <p>SciBX 7(22); doi:10.1038/scibx.2014.658 Published online June 5, 2014</p>	Patent application filed; licensing status unavailable	Tran, E. <i>et al. Science</i> ; published online May 9, 2014; doi:10.1126/science.1251102 Contact: Steven A. Rosenberg, National Cancer Institute, Bethesda, Md. e-mail: sar@nih.gov