

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Imaging			
Membrane-bound <i>Gaussia princeps</i> luciferase (extGLuc) for <i>in vivo</i> imaging of primary T cells	Membrane-bound luciferase enzyme may be useful for imaging T cell trafficking in animal disease models. The <i>G. princeps</i> luciferase enzyme was modified with a CD8 transmembrane domain that allowed the enzyme to remain at the T cell surface, resulting in a greater bioluminescent signal than that of the native secreted enzyme. In mice with lymphoblastic leukemia, injection of extGLuc human T cells that also expressed a tumor-homing receptor resulted in a strong bioluminescent signal at the tumor site. T cells expressing the modified luciferase produced a 6–17-fold stronger signal than cells expressing the native luciferase or another luciferase from <i>Renilla reniformis</i> . Next steps include applying the imaging method to additional T cell trafficking studies in animal models.	Technology unpatented; available for licensing through the Memorial Sloan-Kettering Cancer Center Office of Industrial Affairs	Santos, E.B. <i>et al. Nat. Med.</i> ; published online Feb. 15, 2009; doi:10.1038/nm.1930 Contact: Renier J. Brentjens, Memorial Sloan-Kettering Cancer Center, New York, N.Y. e-mail: brentjer@mskcc.org
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