This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Engineered <i>Nicotiana benthamiana</i> to produce glycosylated IgMs	<p>Engineered <i>N. benthamiana</i> could generate glycosylated IgMs to treat human diseases. In engineered <i>N. benthamiana</i> plants lacking plant-specific glycosylation, transfection with vectors encoding IgM components resulted in the production of a therapeutic IgM, PAT-SM6, in high picomolar yields per gram of plant material. The glycosylation pattern of the plant-generated PAT-SM6 was comparable to that of PAT-SM6 produced in a human cell line. In a human lung cancer cell line, the plant- and human cell line-generated forms of PAT-SM6 showed comparable inhibitory action against their target, heat shock 70 kDa protein 5 (glucose-regulated protein, 78 kDa; HSPA5; GRP78). Next steps include using the engineered plants to generate IgMs against antibiotic-refractory bacterial infections. Patrys Ltd. has PAT-SM6, a human mAb that binds HSPA5 and imports low-density lipoprotein into cancer cells, in Phase I/II testing to treat multiple myeloma (MM) and Phase I trials to treat melanoma. Patrys, AstraZeneca plc and Debiopharm Group have PAT-SC1, a human IgM mAb that binds to gastric cancer cells expressing CD55SC-1, in Phase I/II testing to treat gastric cancer and in preclinical development for solid tumors.</p> <p>SciBX 7(17); doi:10.1038/scibx.2014.503 Published online May 1, 2014</p>	Patented; licensing status undisclosed	<p>Loos, A. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online March 31, 2014; doi:10.1073/pnas.1320544111</p> <p>Contact: Herta Steinkellner, University of Natural Resources and Applied Life Sciences, Vienna, Austria e-mail: herta.steinkellner@boku.ac.at</p>