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First mice from non-embryonic stem cells

Since researchers in Japan created the first induced pluripotent stem (iPS) cells in 2006, the biomedical research community has wondered whether scientists could use iPS cells to create whole animals. Now, two Chinese research groups have generated the first mice from iPS cells.

One of the research groups, led by Qi Zhou of the Institute of Zoology (Beijing) and Fanyi Zeng of Shanghai Jiao Tong University, transferred iPS cells into a tetraploid embryo, an embryo that lacks any of the embryonic cells that could become part of the body of a mouse (*Nature* published online 23 July 2009; doi:10.1038/nature08267). The researchers implanted this embryo into a surrogate mouse, which gave birth to a mouse created from the iPS cells. In total, the team reported 27 live births of mice from iPS cells. Though the mice appeared to have high death rates and some had physical abnormalities, all 12 of the mice that were mated produced offspring. The team has since generated second- and third-generation mice.

Shaorong Gao of the National Institute of Biological Sciences (Beijing) and colleagues implanted iPS cells into 187 tetraploid embryos and generated two live births (*Cell Stem Cell* 5, 135–138; 2009). They are trying to breed their one surviving mouse. Future research will likely explore why only some iPS cell lines successfully generate viable mice.

How geckos get sticky

The adhesion and locomotion systems of geckos have been of interest in the biological and biotechnological worlds for decades. Research has uncovered the structure of geckos' feet and the mechanisms underlying their exceptional clinging ability. But until recently, not much was known about when and how geckos activate their traction systems. Now, Anthony P. Russell (University of Calgary, Alberta, Canada) and Timothy E. Higham (Clemson University, SC) have shown that the adhesion system is triggered by gravity.

Russell and Higham placed six Moorish geckos (*Tarentola mauritanica*), a clinging species, on a high-friction surface (sandpaper) or a smooth surface (Plexiglas), held either horizontally or at an angle (*Proc. R. Soc. B.* published online 5 August 2009; doi:10.1098/rspb.2009.0946). None of the geckos activated their adhesion systems on horizontal surfaces, even though they had difficulty moving forward on the smooth surface when it was held horizontally. At an angle of 10°, three geckos activated their adhesion systems on both the rough and smooth surfaces; at 30°, all six geckos did so. Activating the adhesion system resulted in better traction for the lizards, but also slower locomotion.

The research may have commercial applications in robotics for space exploration, medical procedures and military measures such as bomb disposal.

Annual animal facility reports must be posted

On 1 July, the Humane Society of the United States and the Department of Agriculture signed a court settlement requiring the Department of Agriculture to post annual reports from animal research facilities on its website. These reports include "pain and distress information" of research animals covered by the Animal Welfare Act.

According to the Humane Society, in 2001, it requested certain documents relating to pain and distress in laboratory animals from the Department of Agriculture. After it was unable to obtain some of the requested information from the Agriculture Department, the Humane Society filed a lawsuit. The lawsuit alleged that the Agriculture Department had violated the Freedom of Information Act by not providing the society with the requested information. In 2002, the Department had stopped posting some animal testing information on its website. In response to the lawsuit, the Department of Agriculture announced it would begin posting the annual reports again.

In addition to posting annual reports, the Department of Agriculture must indicate on its website which animal research facilities did not submit annual reports. As *Lab Animal* went to press, the settlement had been submitted to the federal district courts for the District of Columbia for approval.