› NEWS UPDATES

Food for (good) thoughts

Eating certain foods may boost your mood as effectively as prescription antidepressants, according to a new study in rats.

Building on previous research demonstrating that alterations in brain phospholipid composition and membrane fluidity can have mood-altering effects, William A. Carlezon, Jr., and his colleagues at Harvard-affiliated McLean Hospital (Belmont, MA), tested two dietary components for antidepressant effects in rats. Using the forced-swim test—the standard test in rodents to determine if a drug will have antidepressant properties in humans—Carlezon's group found that rats given uridine injections or a diet supplemented with omega-3 fatty acids responded similarly to those given antidepressant drugs, continuing to swim for significantly longer periods than control rats. When they combined the two treatments, the researchers saw antidepressant effects at lower doses (*Biol. Psychiatry*, 15 February).

These results are not entirely surprising, since it is known that populations that consume large quantities of fish high in omega-3 fatty acids have lower rates of depression. Unfortunately, uridine does not occur in large amounts in any food and is not available as a supplement.

Window to successful xenotransplants

When it comes to xenotransplantation of embryonic pig tissues, timing is everything, according to a recent study. Defining the optimal time points for transplantation moves research one step closer to developing a much-needed source of replacement organs.

Because of pigs' similarities in size and physiology, researchers have long considered them a potential source of organs for transplantation into humans, but problems such as organ rejection have hindered progress. One potential solution is the use of embryonic tissues; however, tissues from too early in gestation form teratomas, while tissues that have differentiated too much will elicit an immune response in the host.

Yair Reisner of the Weizmann Institute of Science in Rehovot, Israel and his colleagues transplanted embryonic pig lung, liver, and pancreatic tissue precursors at various gestational time points into immunodeficient mice and monitored the mice for teratoma formation and engraftment. They found that the three tissue types varied significantly in the appropriate gestational age for transplantation (*Proc. Natl. Acad. Sci. USA*, 22 February).

Defining exactly when to harvest embryonic tissue for transplant should increase the chances of successful application of this technique in the future. As yet no one has determined if similar results can be obtained in immunocompetent organ recipients.

Change of coat gets HIV into mice

By swapping one HIV surface protein with a similar protein from a mouse virus, researchers have created a promising new system for studying the AIDS virus in rodents.

The extremely narrow host preference of HIV has hindered animal studies of this pathogen, and considerable effort has gone into the development of models that allow the infection of rodents or rodent-derived cell lines with HIV.

David Volsky and Mary Jane Potash of the Columbia University Medical Center (New York, NY) have recently come up with an alternative approach to this conundrum: rather than working with genetically modified mice or cells, they and their colleagues opted to modify the virus itself, replacing the HIV envelope glycoprotein gp120—a primary determinant for viral host preference—with gp80, a similar surface glycoprotein from a mouse-specific retrovirus, murine leukemia virus (MLV) (*Proc. Natl. Acad. Sci. USA*, 8 March).

More than 75% of the mice inoculated with this modified virus, EcoHIV, became infected, and the researchers detected viral DNA in spleen cells at a frequency that roughly mirrors levels observed in HIV-positive human patients. In the spleen, infection appropriately took place only in $CD4^+$ cells, but viral DNA was also detected in the brains of several of the treated mice.

Longer term studies of EcoHIV pathology will be essential, but the initial findings at least suggest that such chimeric viruses may yet help shrink HIV studies down to the scale of the mouse cage.