

## IN BRIEF

**NEUROGENETICS****Genetic variation in human NPY expression affects stress response and emotion**

Zhou, Z. *et al. Nature* 2 Apr 2008 (doi:10.1038/nature06858)

This study showed that allelic variation in the gene for the anxiolytic neuropeptide NPY influenced levels of plasma NPY and NPY mRNA in the brain: one diplotype was associated with low levels (LL) whereas two other diplotypes were associated with high levels (HH). In response to images of threat-related facial expressions, amygdala activity was higher in LL individuals than in HH individuals, and LL individuals showed less opioid release in response to stress than HH individuals, indicating that allelic variation in *NPY* might contribute to individual differences in resilience to stress.

**REWARD****Food reward in the absence of taste receptor signaling**

de Araujo, I. E. *et al. Neuron* 57, 930–941 (2008)

The TRPM5 ion channel is thought to be a receptor for sweet taste. This article shows that mice lacking TRPM5 can nevertheless develop a preference for a sucrose-containing solution over water, but not for a solution containing the non-caloric sweetener sucralose. Moreover, in *Trpm5*<sup>-/-</sup> mice, ingestion of sucrose but not sucralose resulted in dopamine release in the nucleus accumbens. These findings indicate that the preference for high-calorie foods might be based on the rewarding properties of a food's metabolic value as well as of its palatability.

**VISUAL SYSTEM****Molecular identification of a retinal cell type that responds to upward motion**

Kim, I.-J. *et al. Nature* 452, 478–482 (2008)

Different subsets of retinal ganglion cells (RGCs) respond to specific visual stimuli. This article describes the discovery in mice of a subset of RGCs with distinct asymmetric dendritic arbours that all point in a dorsal-to-ventral direction. The RGCs have corresponding asymmetric receptive fields: they fired selectively to stimuli whose direction of motion paralleled the trajectory of the cells' dendritic arbours, suggesting that, in this case, function follows form. As retinal images are reversed in the brain, the data imply that these newly discovered RGC cells detect to upward motion.

**STEM CELLS****Therapeutic cloning in individual parkinsonian mice**

Tabar, V. *et al. Nature Med.* 14, 379–381 (2008)

In cell transplantation, nuclear transfer embryonic stem cells (ntESs) can be genetically matched to the recipient to avoid donor–host compatibility issues. Here, ntESs were used to restore midbrain dopamine levels in the striatum of 6-hydroxydopamine-treated, 'parkinsonian' mice. NtES lines were created for each individual mouse by injecting nuclei from the mouse's fibroblasts into mouse oocytes. Treatment with autologous ntESs resulted in increased numbers of midbrain dopamine cells without immune cell infiltration, and a reduction of the parkinsonian behavioural phenotype, revealing the promising therapeutic potential of ntESs for the treatment of Parkinson's and, possibly, other neurodegenerative diseases.