IN BRIEF

NEURONAL MIGRATION

Neuroepithelial cells require fucosylated glycans to guide the migration of vagus motor neuron progenitors in the developing zebrafish hindbrain

Ohata, S. *et al. Development* **136**, 1653–1663 (2009)

Accurate neuronal migration is essential for the formation of precise neural circuitry. Here the authors screened zebrafish mutants for defects in the migration of developing vagus motor neurons. They revealed that expression of GDP-mannose 4,6-dehydratase — a key enzyme in the pathway that mediates glycan fucosylation — in the neuroepithelial cells surrounding the neurons is crucial for their normal migration. Fucosylated glycans might act as guidance molecules to prevent overshooting.

BRAIN NETWORKS

Neurodegenerative diseases target large-scale human brain networks

Seeley, W. W. *et al. Neuron* **62**, 42–52 (2009)

It has been suggested that neurodegenerative diseases might specifically affect brain regions that form intrinsic functional networks. The authors now provide evidence for this hypothesis, showing that patients with five different neurodegenerative conditions exhibit distinct patterns of atrophy that closely match five different intrinsic functional networks in healthy controls. How neurodegeneration 'spreads' through these networks, and how it affects their functional connectivity, remains to be determined.

STRESS

Steroid receptor coactivator-1 is necessary for regulation of corticotropin-releasing hormone by chronic stress and glucocorticoids

Lachize, S. *et al. Proc. Natl Acad. Sci. USA* 28 Apr 2009 (doi:10.1073/pnas.0812062106)

Corticotropin-releasing hormone (CRH) regulates brain and body responses to stress, and the expression of CRH is in turn subject to regulation by glucocorticoids and stress-related neurogenic signals; however, how this regulation is achieved is not fully understood. Lachize ***et al.*** now show that the transcriptional coregulator SRC1 is important for both baseline expression of *CRH* and regulation of *CRH* expression by glucocorticoids or chronic stress in the central nucleus of the amygdala and the paraventricular nucleus of the hypothalamus.

EMOTIONS

Coherent gamma oscillations couple the amygdala and striatum during learning

Popescu, A. T. *et al. Nature Neurosci.* 10 May 2009 (doi:10.1038/nn.2305)

Activity in the basolateral amygdala (BLA), which is increased by emotionally arousing events, is thought to enhance memory storage in structures that receive inputs from the BLA, such as the striatum. Here the authors show that gamma-range activity originating in the BLA enhances and coordinates the functional coupling between BLA and striatal neurons. Furthermore, increases in coherent BLA-striatal gamma coupling were observed during acquisition on a stimulus–response task. These results shed light on the mechanisms by which emotion can alter learning.