IN BRIEF

PEPTIDES

Functional amyloids as natural storage of peptide hormones in pituitary secretory granules

Maji, S. K. *et al. Science* 18 Jun 2009 (doi:10.1126/science.1173155)

Amyloid accumulation is associated with Alzheimer's disease, but little is known about the normal function of amyloids. The authors showed that peptide and protein hormones stored in pituitary secretory granules form amyloid-like aggregates *in vitro*. The amyloid fibrils could release monomers, indicating that they are not stable. Moreover, mouse pituitary tissue showed colocalization of an amyloid-specific dye with pituitary hormones. These findings indicate a biological function for amyloid aggregates in hormone storage.

SYNAPTIC PLASTICITY

CaMKII controls the direction of plasticity at parallel fiber–Purkinje cell synapses

van Woerden, G. M. *et al. Nature Neurosci.* **12**, 823–825 (2009)

Calcium/calmodulin-dependent protein kinase II (CAMKII) isoform α is important for the induction of long-term depression at cerebellar parallel fibre–Purkinje cell synapses, but the role of βCAMKII at these synapses is unknown. Here, whole-cell recordings revealed that paired parallel and climbing fibre stimulation induced long-term depression in Purkinje cells from wild-type mice but long-term potentiation in Purkinje cells from *Camk2b*$^{-/-}$ mice. Parallel fibre stimulation alone had the opposite result. This indicates that βCAMKII regulates bidirectional synaptic plasticity at parallel fibre–Purkinje cell synapses.

REPAIR

Reassessment of corticospinal tract regeneration in Nogo-deficient mice

Lee, J. K. *et al. J. Neurosci.* **29**, 8649–8654 (2009)

The axon growth inhibitor Nogo (also known as reticulon 4) has been studied as a potential target for stimulating axon regeneration after injury. However, different Nogo-deficient mouse lines have yielded mixed findings, with both no and extensive regeneration found — the latter was later shown to be due to a labelling artefact. The authors re-examined the line showing extensive regeneration and investigated a different line, which was deficient of all Nogo isoforms. They found no evidence of enhanced axon regeneration after spinal cord injury in either line compared with a wild-type line, suggesting that Nogo might not be a viable therapeutic target.

PSYCHIATRIC DISORDERS

Interaction between the serotonin transporter gene (*5-HTTLPR*), stressful life events, and risk of depression

Risch, N. *et al. JAMA* **301**, 2462–2471 (2009)

The increased risk of depression that results from an interaction between stressful life events and a polymorphism in the serotonin transporter gene (*5-HTTLPR*; also known as *SLC6A4*) is often used as a prime example of gene–environment interactions. However, some studies could not replicate this effect. This meta-analysis showed that the *5-HTTLPR* polymorphism was not associated with depression, nor was there an interaction between stressful life events and *5-HTTLPR* genotype. This result highlights the importance of sample size and study design in gene–environment association studies.