

IN BRIEF

BEHAVIOURAL NEUROSCIENCE**Fighting females**

The ventromedial hypothalamus (VLMvl) has been shown to play a key role in aggression in male mice, but whether it plays a similar role in females remains controversial. Both aggression-inducing conditions and mating increased directly measured neural activity in oestrogen-expressing neurons in the VLMvl. In addition, VLMvl oestrogen-expressing neurons that were active during mating and aggressive behaviour were non-overlapping, suggesting that different subpopulations of these cells are involved in these two behaviours.

ORIGINAL ARTICLE Hashikawa, K. *et al.* *Esr1⁺* cells in the ventromedial hypothalamus control female aggression. *Nat. Neurosci.* <http://dx.doi.org/10.1038/nn.4644> (2017)

GLIA**Pulling in opposite directions**

The influence of gliotransmitter release from astrocytes on synaptic plasticity in the hippocampus remains unclear. Hippocampal astrocytes express two vesicular SNARE proteins, synaptobrevin II (SYB2) and cellubrevin (CEB), which are located on glutamatergic vesicles and neuropeptide-Y (NPY)-containing vesicles, respectively. Working with hippocampal cell culture and acute brain slices and comparing responses from mice lacking either SYB2, CEB or both, the authors show that whereas CEB-dependent NPY release from astrocytes decreases fast glutamatergic neurotransmission, SYB2-dependent glutamate release from astrocytes promotes such neurotransmission.

ORIGINAL ARTICLE Schwarz, Y. *et al.* Astrocytes control synaptic strength by two distinct v-SNARE-dependent release pathways. *Nat. Neurosci.* <http://dx.doi.org/10.1038/nn.4647> (2017)

CANCER**Growth restriction**

High-grade gliomas (HGGs) are difficult to treat. The growth of a number of HGG subtypes is promoted by neural activity that is mediated by activity-dependent cleavage of neuroligin-3 (NLGN3) by ADAM10 and subsequent NLGN3 ectodomain secretion. Here, secreted NLGN3 was found to stimulate a number of cancer-promoting signalling pathways, and blocking ADAM10 activity restricted HGG xenograft growth. ADAM10 might therefore be a potential therapeutic target for the treatment of glioma.

ORIGINAL ARTICLE Venkatesh, H. S. *et al.* Targeting neuronal activity-regulated neuroligin-3 dependency in high-grade glioma. *Nature* **549**, 533–537 (2017)

COGNITIVE NEUROSCIENCE**Spatial navigation takes two**

The medial entorhinal cortex (MEC) contains parvalbumin (PV)- and somatostatin (SOM)-expressing interneurons, but their individual roles in grid formation by grid cells in the MEC is poorly understood. The authors recorded MEC grid cell activity in freely moving mice while selectively silencing PV-expressing interneurons and found that it interfered with the spatial selectivity of grid cells and the tuning of speed cells. By contrast, silencing of SOM-expressing interneurons had no effect on speed cells or grid cells but decreased the spatial selectivity of cells with aperiodic firing fields, indicating that these two interneuron subtypes have different roles in spatial representation in the MEC.

ORIGINAL ARTICLE Miao, C. *et al.* Parvalbumin and somatostatin interneurons control different space-coding networks in the medial entorhinal cortex. *Cell* <http://dx.doi.org/10.1016/j.cell.2017.08.050> (2017)