neurons, and silencing fpC1 neurons reduced the aggression induced by high-intensity activation of CAP neurons. Thus, fpC1 neurons in female flies seem to be functionally analogous to MAP neurons in male flies.

Previous work has shown that social isolation increases aggressiveness in flies. Here, suppressing CAP neuron activity in socially isolated (SI) flies of either sex reduced aggressive approaches and attacks compared with control SI flies. Even weak activation of CAP neurons in SI flies of either sex elicited both approach and attack behaviours. Moreover, the responses of MAP neurons or fpC1 neurons to optogenetic activation of CAP neurons were greater in SI flies than in group-housed flies. Therefore, social isolation boosts aggressiveness, potentially by strengthening the functional connection between CAP neurons and downstream MAP or fpC1 neurons.

Overall, this study provides evidence that CAP neurons in both sexes control the appetitive phase of aggressive behaviour (approach), whereas MAP neurons in males, or fpC1 neurons in females, regulate sexually dimorphic consummatory (attack) behaviours.

IN BRIEF

CELLULAR NEUROSCIENCE

Nose-to-tail transcriptomics

Primary cultures of rat hippocampal neurons were microdissected to separate individual dendritic processes and somas. In the three types of GABAergic interneuron studied, transcriptome-based clustering analysis revealed that dendritic expression profiles differed from those of somatic compartments. Dendrites typically contained around 4,000 mRNA species, some of which encoded dendritic proteins, suggesting local translation. Indeed, newly made proteins were detected in neurites, suggesting that, as in excitatory neurons, local protein synthesis also occurs in inhibitory neurons.

PAIN

A painless STING

STING is an intracellular sensor of DNA expressed in nociceptors that, when activated, induces expression of type 1 interferons (IFN1). Knockout of STING or IFN1 receptors selectively from mouse peripheral sensory neurons increased sensitivity to nociceptive stimuli and increased intrinsic excitability. Conversely, central administration of a STING agonist resulted in reduced nociceptor action potential firing and anti-nociceptive effects in mice and non-human primates. Thus, STING-mediated IFN1 induction is an important regulator of nociception in rodents and non-human primates.

NEUROGENETICS

Double trouble

Inherited and de novo genetic factors (a major source of which are tandem repeats) are thought to contribute to autism spectrum disorder (ASD). Here, the authors developed a method to identify de novo tandem-repeat mutations (TRMs) in whole-genome sequencing data from probands with ASD and their unaffected siblings. Probands showed more TRMs than unaffected siblings, and TRMs in probands were enriched in genomic regions associated with fetal brain development. Certain TRMs may therefore contribute to risk of ASD.