IN BRIEF

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CELL FATE

The glial or neuronal fate choice of oligodendrocyte progenitors is modulated by their ability to acquire an epigenetic memory

Liu, A. *et al. J. Neurosci.* **27**, 7339–7343 (2007)

It is not fully understood how cells acquire their specific postnatal identity during development. This study suggests that oligodendrocyte precursors (OPCs) require persistent histone deacetylase (HDAC) activity to differentiate into oligodendrocytes, and that this is associated with the downregulation of neuron- and astrocyte-specific genes. Treatment with HDAC inhibitors *in vitro* and *in vivo* blocked differentiation along the oligodendrocyte lineage and allowed OPCs to acquire full neuronal identity. This strategy could be used to drive neurogenesis in a therapeutic setting.

PAIN

Placebo effects on human μ-opioid activity during pain

Wager, T. D., Scott, D. J. & Zubieta, J.-K. *Proc. Natl Acad. Sci. USA* **104**, 11056–11061 (2007)

The mere expectancy of pain relief has been shown to reduce pain in a manner that is reversible by opioid antagonists. Using positron-emission tomography and a μ-opioid-receptor selective radiotracer, the authors were able to measure the placebo-induced activation of the opioid system in specific brain regions. They found an increase in opioid neurotransmission in regions that have a central role in pain processing, demonstrating that placebo analgesic treatments potentiate the endogenous opioid response to painful stimuli.

SYNAPSE ASSEMBLY

Syntabulin–kinesin-1 family member 5B-mediated axonal transport contributes to activity-dependent presynaptic assembly

Cai, Q., Pan, P.-Y. & Sheng, Z.-H. *J. Neurosci.* **27**, 7284–7296 (2007)

Syntabulin is an adaptor protein that binds to the microtubule motor protein KIF5B and syntaxin-1, and is crucial for the anterograde transport of active zone components to presynaptic sites. RNAi-induced depletion of syntabulin, or disruption of the syntaxin-1–syntabulin–KIF5B complex, reduced the activity-induced transport of the presynaptic protein bassoon from the soma to new presynaptic terminals and led to impaired synaptic transmission. This study suggests that syntabulin-mediated axonal transport helps to regulate presynaptic plasticity.

EVOLUTION

Generalized reciprocity in rats

Rutte, C. & Taborsky, M. *PLoS Biology* **5**, e196 (2007)

Cooperation in societies might have evolved through the mechanism of generalized reciprocity, in which an individual is more likely to cooperate in a cooperative environment than in a non-cooperative one. Generalized reciprocity exists in humans, and the authors show that it also occurs in rats: female rats were more likely to pull a stick that delivered food to an unfamiliar rat (and not to herself) if the female had recently experienced this help from other unfamiliar rats. This study indicates that generalized reciprocity may have evolutionary rather than cultural origins.