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DEVELOPMENT

SIRT6 at the beginning

Nature **560**, 661–665 (2018)

In previous research with mice, the gene *SIRT6* had been linked to aging—overexpressing it was shown to increase the lifespans of male mice, while deficient animals appeared to age and die prematurely. A new study in a closer relative to humans suggests a different role.

Using CRISPR-Cas9, a team of Chinese researchers knocked out *SIRT6* in cynomolgus macaques. Unlike mice, these nonhuman primates didn't seem to age prematurely; rather, they didn't develop properly in utero. They were smaller than wild-type newborns, with brain, tissue, and skeletal impairments. The researchers looked closer at gene expression in the underdeveloped animals, finding a number that were differently expressed. One was particularly upregulated in the underdeveloped brains: an RNA that impedes the development of neurons. In primates, it seems *SIRT6* has a role at the beginning of life that's not apparent in rodents. *EPN*

https://doi.org/10.1038/s41684-018-0184-7

BIOLOGICAL TECHNIQUES

Stress in the field

Conserv Physiol **6**, coy008 (2018)

In many parts of the world, amphibian populations are stressed. To monitor those populations, researchers need a way to quickly assess individual animals in the field, where fecal samples can be hard to come by and other methods, like blood draws, measuring hormones from tank water, or analysis post-euthanasia, aren't well suited. The field could use a simpler alternative.

Researchers recently developed a method to gauge stress that uses non-invasive skin swabs to measure glucocorticoid secretions. They first tested it with a variety of captive amphibians before and after they were exposed to stressful situations. The swabs picked up the difference in all but hellbenders, a giant salamander native to eastern North America. Out in the field, the swabbing approach successfully detected glucocorticoids in several wild species. It also revealed that capture method can impact stress levels in amphibians. *EPN*

https://doi.org/10.1038/s41684-018-0186-5

NEUROSCIENCE

Male/female microglia

Cell Rep. **24**, 2773–2783 (2018)

Microglia help protect the brain from pathogens. There's also evidence that these immune cells can influence brain development and that they differ between the sexes. Neurological diseases often vary depending on whether the afflicted is male or female as well, leading researchers to ponder the role of microglia in health and disease.

A team of German researchers led by Susanne Wolf at the Max Delbrück Center for Molecular Medicine in Berlin recently attempted to characterize the problem. They examined structure, function, transcriptome, and protein profiles of microglia sampled from 13-week-old male and female C57BL/6J mice, noting several sex-specific differences others might want to be aware of in future brain research. *EPN*

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PAIN

Pain from the brain

Nature **561**, 547–550 (2018)

Pain is felt by individual neurons in different parts of the body and then relayed by the spinal cord on to the brain to be processed. But whether and how the brain can control the perception of pain has been unclear. A new paper in *Nature* suggests pain sensitivity is controlled by corticospinal projects.

These are neurons that descend from the cortex of the brain to the spinal cord. They interact with dorsal horn neurons in the spinal cord, which receive sensory information from elsewhere in the body. Through several means of activating and de-activating different neurons in mice, the researchers established that the corticospinal projections in the brain can modulate sensitivity to both innocuous touches and painful ones. *EPN*

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