IN BRIEF

PAIN

Stress-induced analgesia in fish

Thomson, J.S. et al. *J. Exp. Biol.* **223**, jeb224527 (2020)

In mammals, exposure to acute stress (AS) before a painful event can reduce responses to pain, whereas exposure to chronic stress (CS) results in stress-induced hyperalgesia.

Now, a team from the University of Liverpool describes the effects of stress on pain perception in zebrafish subjected to a painful procedure. In absence of stress, fin-clipped fish had a preference for the bottom of the tank, swam at slower speed and with less complex swimming patterns compared to sham fish, whereas fin-clipped fish that had been exposed to either AS or CS behaved like undisturbed fish. These findings indicate the presence of stress-induced analgesia, a phenomenon that could be a confounding factor in studies using zebrafish. *ALB*

https://doi.org/10.1038/s41684-020-0624-z

MOVEMENT DISORDER

Gait analysis in mice

Machado, A.S. et al. *eLife* **9**, e55356 (2020)

In a new study published in *eLife*, investigators from Champalimaud Centre for the Unknown used LocoMouse—a system they had developed in their lab for automated, markerless, 3D tracking of locomotor kinematics in freely walking mice—to compare the motor deficits of *Purkinje cell degeneration* (*pcd*) and *reeler* mice, two ataxic mutant mice.

They showed that the two mutant mice, which share abnormal cerebellar circuitry but show differences in synaptic connectivity across the brain, exhibited both shared and distinct features of gait ataxia. The system could be used to capture locomotor kinematics in different cerebellar and extracerebellar models and identify the neural circuits controlling locomotion in health and disease. *ALB*

https://doi.org/10.1038/s41684-020-0626-x

PHARMACOTHERAPY

Toxicity screening in zebrafish

Wertman, J. N. et al. *eLife* **9**, e56235 (2020)

Cisplatin, a chemotherapy drug used to treat several types of cancer, is associated with oto- and nephrotoxicity. Unfortunately, few pharmacological options are available to protect against these adverse effects.

A new study used a two-pronged screen based on an in vitro nephrotoxicity assay using human proximal tubule cells and an in vivo ototoxicity assay using the zebrafish lateral line system—a superficial sensory organ comprised of mechanosensory hair cells that are similar to mammalian hair cells in the cochlea—to identify protective agents. A total of 1280 compounds were tested, and 22 drugs were identified as being both oto- and nephroprotective during cisplatin exposure.

Additional experiments in other models will be needed before moving these compounds into human trials. *ALB*

https://doi.org/10.1038/s41684-020-0625-y

MICE

Effects of separated pair housing

Hohlbaum, K. et al. Sci. Rep. **10**, 11165 (2020)

Single housing is a common approach to prevent aggression in male laboratory mice, but social isolation can have negative welfare implications. Separated pair housing (in which a cage divider separates the cage into two compartments, allowing sensory contact while preventing fighting) is an alternative but the long-term effects of this strategy are not known.

A team led by Kristina Ullmann from Charité, Berlin compared the well-being of adult male C57BL/6JRj mice after eight weeks in different housing systems (single-, pair-, or grouped-housed). Their results did not reveal clear long-term beneficial effects of separated pair housing compared to the other housing conditions, but transfer from single to pair housing at week 8 for a few weeks slightly improved the well-being of the mice. *ALB*

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