IMAGING

Zebrafish stamps

Kleinhans, D.S. and Lecaudey, V. *BMC Biotechnol.* **19**, 68 (2019)

Frustrated with mounting your zebrafish embryos for confocal imaging? Have access to a 3D printer? Writing in *BMC Biotechnology*, David Simon Kleinhans and Virginie Lecaudey from Goethe University in Frankfurt detail the design and use of a 3D-printed stamp to standardize the embryo mounting process.

Into an agar cast, their stamp creates a 2D coordinate system of μ-wells that model average embryo shape and size at a given stage. Anesthetized embryos—up to 44 for the stamp described—are pipetted onto the cast and then arranged into the μ-wells. These orient the embryos along their X,Y, and Z axes, enabling simultaneous imaging of developing zebrafish that are neatly arranged in nearly identical positions, equidistant apart. Embryos can be retrieved after imaging for genotyping or additional study. *EPN*

https://doi.org/10.1038/s41684-019-0455-y

MITOCHONDRIA

Tagging mitoribosomes

Busch, J.D. et al. *Cell Rep.* **29**, 1728–1738.e9 (2019)

Mitoribosomes—specialized ribosomes in the mitochondria—synthesize proteins upon which mitochondria depend. Should mitoribosomes go awry, a number of mitochondrial disorders can ensue; most studies on the subject have however been done in yeast and human cell lines. To study the composition and function of mitoribosomes in vivo, researchers from the Karolinska Institute in Sweden and the Max-Planck Institute for Biology of Aging in Germany developed the MitoRibo-Tag mouse.

These knockin mice express a FLAG-tag on mitoribosomal protein ML62; this protein tag enables mitoribosome tracking across different tissues, allowing researchers to see where and how these RNA/protein complexes interact with different molecules. In the paper, published in *Cell Reports*, the researchers use MitoRibo-Tag mice to identify a number of regulatory factors, as well as the identity of an orphan protein and its role in efficient mitochondrial translation. *EPN*

https://doi.org/10.1038/s41684-019-0457-9

ANIMAL BEHAVIOR

Survey says…

Lidster, K., Owen, K., Browne, W.J., and Prescott, M.J. *Sci. Rep.* **9**, 15211 (2019)

Mice are a social species, and as such animal care guidelines generally recommend they be group-housed in the lab. But within the confines of a cage, aggression and subsequent injury can occur, particularly among males. Why mice come to blows and how aggressive behavior can be curbed is thus an important welfare concern.

At the front lines are the animal technicians who observe mice day-to-day as part of routine cage checks. Recently, the National Centre for the Replacement, Refinement, and Reduction of Animals in Research in the UK surveyed technicians for incidences of aggression at their facility. Across a sample of 137,580 mice, technicians at 44 facilities noted 788 aggression-related injuries, varying by strain and influenced by several husbandry and housing variables. Details about the results of the survey can be found in *Scientific Reports*. *EPN*

https://doi.org/10.1038/s41684-019-0456-x

IMAGING

NASH in contrast

Salarian, M. et al. *Nat. Commun.* **10**, 4777 (2019)

Nonalcoholic steatohepatitis (NASH) is a growing liver pathology of increasing public health concern. There's no treatment available once it develops, making early intervention key. Tracking the progression of the disease, particularly at those critical early stages, is however a challenge. Biopsies are the gold standard, but these are invasive and can be subject to sampling error and inter-observer variability.

In search of a non-invasive option, researchers led by Jenny Yang at Georgia State University have developed a protein MRI contrast agent, collagen type I targeting protein-based contrast agent (ProCA32.collagen1), which can be used to differentiate the fibrotic cells that characterize the liver disease from the surrounding background tissue over time—even at early disease stages. The team reports their ProCA32.collagen1 MRI results in chemical- and diet-induced NASH mouse models in *Nature Communications*. *EPN*

https://doi.org/10.1038/s41684-019-0458-8

Alexandra Le Bras and Ellen P. Neff