

Consider the consequences of substrain

The very first C57BL/6 mouse was bred in 1921. “Black 6” mice have been distributed to a number of different institutions over the years that have since developed and maintained their own C57BL/6 populations. Given that it’s an inbred mouse strain, a C57BL/6 should be a C57BL/6 no matter where it’s from, right? That’s not quite the case –genetic drift and environmental variables over time have produced subtle differences in animals originating from different providers. Substrain matters, with potential consequences for experimental outcomes that should be taken into consideration.

In a new research article, Johanna Åhlgren & Vootele Voikar from the University of Helsinki in Finland present the results of their systematic evaluation of behavioral differences observed in female C57BL/6 mice obtained from three commercial European mouse vendors.

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Machine learning takes on the behavioral data deluge

Much science rests on interpreting animal behavior and linking that to its underlying biological mechanisms. But identifying what an animal is doing can take a lot of time. Many a scientist, or any of their army of undergraduates often put to the task, can speak to how tedious it can be to manually annotate hours of animals recordings. But if a human can do it, what about a machine? Computers have gotten good at ‘seeing’ things in images, and algorithms written to interpret that information are becoming increasingly sophisticated and capable of tackling repetitive tasks, such as annotating video frames. Machine learning, and its rapidly advancing deep learning offshoot, has entered the animal lab. In the June Technology Feature, we explore machine learning with examples of how researchers are applying the concepts and building custom tools to sort through their behavioral data.

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