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Ketamine's effects on long-term potentiation

Hippocampal long-term potentiation (LTP) is a form of synaptic plasticity that depends on N-methyl-D-aspartate (NMDA) receptors and is believed to underlie learning and memory. Ketamine, an anesthetic agent frequently used in animal research studies, is an NMDA receptor antagonist and, therefore, may negatively impact memory function. Previous studies showed that ketamine abolishes hippocampal LTP measured immediately after its administration. It is not known, however, whether a single dose of ketamine administered to mice causes persistent alterations to hippocampal LTP. To address this question, Ribeiro *et al.* report their measurements of LTP induction and maintenance in hippocampal slices taken from mice 24 h after ketamine administration.

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Assessing competence in lab animal science

One way of ensuring the welfare of laboratory animals is to provide sufficient education to practitioners of laboratory animal science. Evaluation of skills, knowledge and competencies is an essential part of this education. As a consequence of the revised EU directive, the European Union's education and training framework for laboratory animal science courses now places a greater emphasis on learning outcomes, rather than on course time and syllabuses, and sets new standards for the assessment of competences in these courses. To address this shift, Hansen & Sørensen provide their experiences with administering various types of course examinations and address the challenges of assessing competence in laboratory animal science.

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Sustained analgesics for laboratory animals

The provision of adequate analgesia is an important consideration in animal research. Many of the analgesic drugs currently used to treat pain in animals have short durations of action, necessitating the development of analgesics that provide sustained analgesia for longer periods of time. These include drugs that have a prolonged duration of action as well as drug formulations designed to continuously release a short-acting drug. Foley reviews the sustained analgesic formulations that have been tested in species commonly used for research as well as some analgesic formulations that are still under development or have not yet been tested for use in laboratory animals.

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