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Protocol status: Working
We use this protocol and it's working

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Sleep-Wake Recording in Dan lab

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ABSTRACT

Surgery and Setups for Recording 24-Hour Natural Sleep/Wake Cycles in Mice.

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Surgery

1 Mice were anesthetized with 1.5% isoflurane and placed in a stereotaxic frame.

2 Body temperature was maintained using a heating pad.

3 The skin was incised to expose the skull after asepsis and connective tissue was removed.

4 To implant electroencephalogram (EEG) and electromyogram (EMG) recording electrodes, two stainless steel screws were inserted into the skull 2.5 mm from the midline and 3 mm posterior to the bregma, and two EMG electrodes were also inserted into the neck muscles.

5 A reference screw for grounding was placed on top of the left cerebellum.

6 Insulated leads from the EEG and EMG electrodes were soldered to a pin header, which was secured to the skull using dental cement.

Recording

7 After a minimum of 7 days of undisturbed post-surgery recovery, behavioral

experiments were carried out in home cages placed in sound-attenuating boxes.

8 EEG and EMG electrodes were connected to flexible recording cables via a mini-connector.

9 Recordings started after 1-2 days of habituation and continued for 3-4 days on a 12-h dark/12-h light cycle.

10 Mouse behavior was recorded using a video camera at 10 frames per second (fps), along with EEG and EMG recordings.

11 The signals were recorded with a TDT RZ10x/PZ5-32 or LR10-SK1 system.