

AutoSom™ – An Automated Sleep Deprivation System

AfaSci has extended SmartCage platform to enable perform automated and noninvasive sleep deprivation (SD) system for mice and rats, and verified its utility through animal studies.

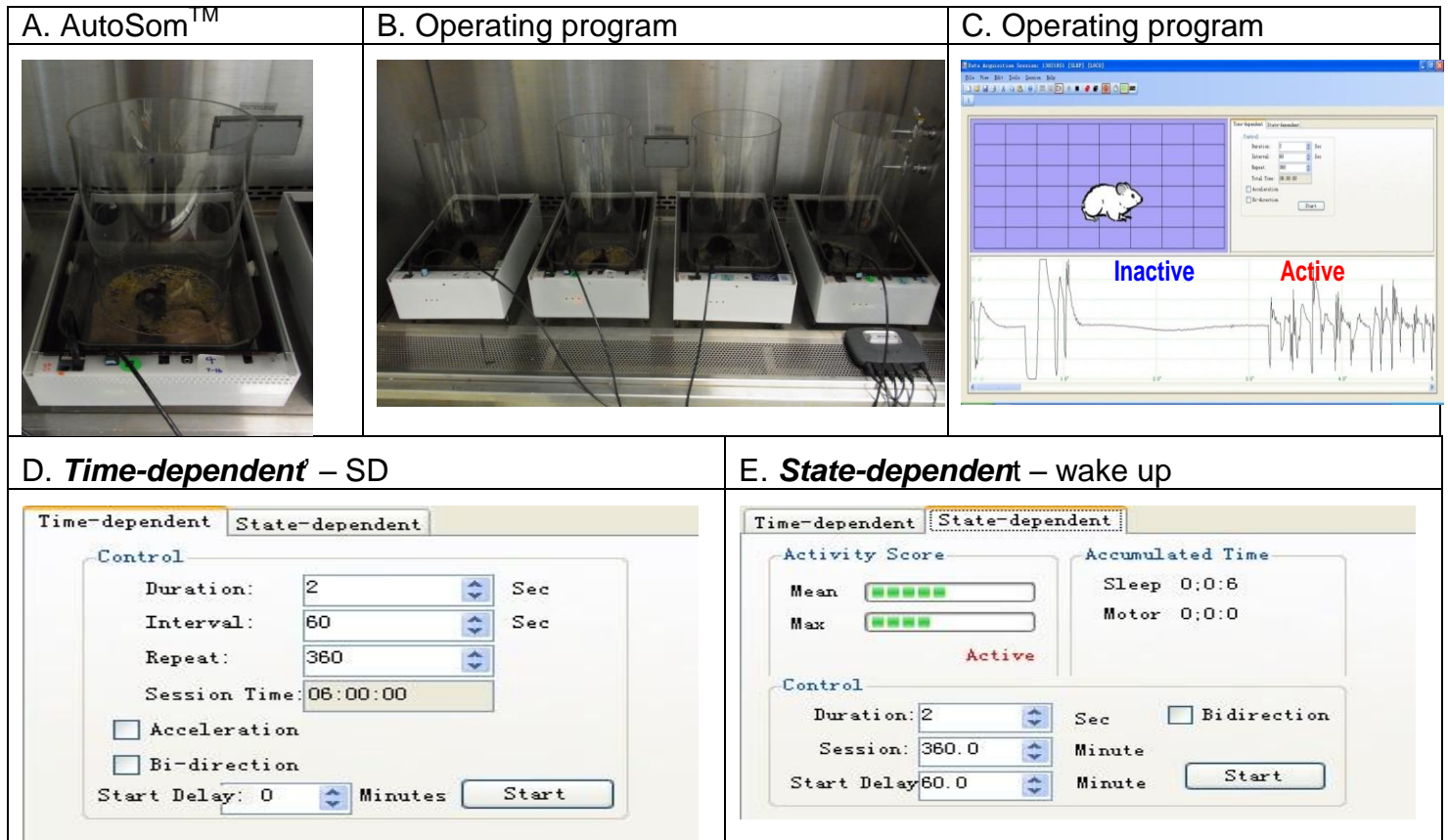


Figure 1. **A.** A single AutoSom™. A normal mouse cage with a floor-sensor board detects the vibrations when the mouse moves. Under the floor-sensor board there is a motor to turn the rotating bar to keep the animal awake. **B.** Four units were operated by one PC via USB cable with a hob. **C.** Screenshot of the SmartCage using vibration signal to assess active or inactive ('sleep'), and IR array for detection of location and locomotion of the animal. **D.** 'Time-dependent' mode permits the user to define duration, interval and start time of automated SD. **E.** 'State-dependent' wakes up the animal only when the mouse is in inactive/sleep state.

Features

- The sleep deprivation method can effectively reduce animals' sleep and does not cause significant sleep loss in the matched control animals when they received the same amounts of physical stimulation.
- Our method and system can be used for studying effects of chronic sleep loss on health in rodents, and for rapid phenotypic drug screening on SD-induced disorders comorbid with a variety of neurological and psychiatric disorders.

For more information and a quotation, contact:

Email: simonxie@afasci.com

Tel: 650-995-7320