

Animal Behavior Core

UK (University of Kentucky) maintains an Animal Behavior Core (ABC) that serves as a central resource to conduct reliable and validated animal behavior tests to ensure that qualified and trained investigators have access to state-of-the-art behavioral testing instrumentation and to assist in the design, implementation, and analysis of behavioral experiments in rodents. The rodent behavior suite is a five-room customized facility in the basement vivarium of the Healthy Kentucky Research Building. Additional space for animal housing and full DLAR veterinary and technical support are available. Rodent behavioral testing spans a broad range of physiological and behavioral domains, including general health, cognitive, emotional, sensory, and motor function tests. These include such tests as sleep-awake and activity monitoring, functional observation battery (activity/arousal, motor and autonomic measures, sensory function and reflexes, neuropsychiatric function, and gross appearance and behaviors), Morris water maze, radial arm water maze, novel object recognition, conditioned avoidance, grip strength, balance beam walking, rotarod, open field activity (locomotion, exploration, anxiety, and risk assessment in response to a novel environment), Y maze, three chamber social interaction tests, marble burying, and elevated plus maze to measure fear and anxiety-like behaviors. In addition to instrumentation from Noldus, SD Instruments, Med Associates, Inc., and a UK-developed sleep-wake monitoring system to conduct these tests, the facility uses EthoVision XT 17 video tracking software with a multiple arena module and a multiple body point module for tracking behavior, movement, and activity. Behavioral analysis of non-rodent animals is also available. All behavioral testing procedures are conducted in compliance with the policies on animal welfare of the NIH, as outlined in the *Guide for the Care and Use of Laboratory Animals*, National Research Council, 8th edition, 2011. The ABC has an approved IACUC protocol covering all tests, and the "request for service" form can be appended to any other IACUC protocol as a simplified amendment. The ABC works with the UK Good Research Practice Resource Center to maintain and improve data quality, which is assessed and updated each year.