

Annual Report for FY 2017

NP 1/17/18

Column E

Conditioned fear response (CFR) is a widely used, validated behavior test which tests the animal's ability to learn an association between an aversive stimulus and the context in which this stimulus was delivered. Here, animals will be tested on their ability to learn and remember context, a hippocampal-dependent experience. Voles will be trained to associate a designated cage with an unpleasant experience. This will be accomplished by administering a mild shock (2 seconds, 0.5mA) to their feet after they have explored the cage for 3 minutes, and then monitoring them for an additional 30 seconds. During the 3.5 minutes in the cage, the animal will be observed and given a behavior score every five seconds. This score is determined by observing the animal and quantifying "freezing" behavior (i.e. the vole stands motionless). One week following injury, animals will be returned to the same cage and freezing behavior again quantified for five minutes. No shock will be administered during the second visit. While the stimulus is aversive, it is mild, brief in duration, and does not cause long-lasting pain. Therefore no pain or distress relief is necessary for this procedure. Moreover, analgesics may interfere with the learning process that is being tested.

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