

USE OF SOCIAL RECOGNITION TEST AND OPEN FIELD TEST TO ASSESS PIGLET COGNITION

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ABSTRACT

Due to similarities to children in brain formation and development, the piglet is an ideal model to assess cognitive function using behavioral tests. Two important cognitive tests utilized in this study are social recognition and open field tests, which quantitatively assess social memory and piglet behaviors including anxiety and willingness to explore. In the social recognition test, piglets are exposed to an unfamiliar pig and a novel object in a sociability test, followed by a 10 minute inter-phase interval, and then exposed to a familiar pig and a novel pig in a social recognition test. Piglets are expected to spend more time with the unfamiliar pig in the sociability trial than the novel object and are expected to spend more time with the novel pig in the social recognition trial than the familiar pig, indicating that the piglet had retained a social memory of the familiar piglet. In the open field test, piglets are placed in an open arena for 10 minutes to monitor different aspects of behavior such as ambulation, exploratory interest, and anxiety. Piglets are expected to explore fewer zones and become less ambulatory over time, demonstrating significantly decreased exploratory interest as time passes, and generally become less anxious. This test overall should display that the piglets will become habituated to the arena. Taken together, these two tests will quantify normal piglet behavior, which can be used in the future as a basis of comparison to assess cognitive deficits associated with neural disease and injury models.