

IMPAIRED SPATIAL LEARNING AND INCREASED LOCOMOTOR ACTIVITY IN
TgCRND8 MICE AS A MODEL OF ALZHEIMER'S DISEASE

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ABSTRACT

This study provides a behavioral characterization of the TgCRND8 mouse strain, an APP (double-mutant) transgenic model of Alzheimer's disease (AD). While past research focused mainly on 2-5 month-old TgCRND8 mice, this study used an older age cohort (8-9 months old), in addition to a 4 month-old cohort of both transgenic and wild-type female mice. Performance was assessed using three behavioral measures: touch escape, the Barnes maze, and an open-field test. No differences in irritability were found between Tg and control mice in the younger cohort; however, older Tg mice displayed significantly higher irritability compared to wildtype littermates, as measured by the touch escape test. Both younger and older transgenic mice displayed poor spatial learning in the Barnes maze task compared to their wildtype littermates, as demonstrated by significantly longer latencies and more errors both during acquisition and at 2-week retest. Additionally, Tg mice of both cohorts showed increased long-term (60 min) locomotion in the open-field test.