Characterization of Learning and Memory Dysfunction in Mouse Models of Genetic and Acquired Epilepsy

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Epilepsy is a terrible disease characterized by spontaneous recurrent seizures that negatively impact the day to day lives of affected patients. In addition to seizures, epilepsy patients also suffer from cognitive and neuropsychiatric comorbidities that further negatively impact their quality of life. Pathophysiology is poorly understood, and no effective treatments exist to treat the debilitating behavioral and cognitive dysfunction that patients with epilepsy experience. Accordingly, translational animal models of epilepsy with cognitive and neuropsychiatric comorbidities (symptoms experienced by epilepsy patients) are needed in order to find effective medicines and therapies. There are two different types of epilepsy that are currently being studied in labs worldwide: genetic and acquired epilepsy. Although there are numerous animal models of these epilepsies, the presence and commonality of their cognitive and neuropsychiatric comorbidities are often poorly understood. Therefore, in an effort to address this deficit in knowledge, I examined and characterized mouse models of genetic (Dravet Syndrome) and acquired (Intra-Amygdala Kainate, IAK) epilepsies in a spatial learning and memory assay.

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