Memory and Behavioral Function Progression in Tau Mus musculus

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Alzheimers Disease is a neurodegenerative disease resulting in loss of brain function and memory, caused by the build-up of Amyloid-beta (Abeta) protein plaques and neurofibrillary tangles. These neurofibrillary tangles are a result of tau proteins in the brain becoming hyperphosphorylated and grouping together. When these tau proteins become hyperphosphorylated, they are unable to bind to microtubules, break down, and form "tangles", preventing signals in the brain from being sent. In this project, Tau mice underwent the Radial Arm Maze, a test measuring short-term memory and learning ability. For this test, each mouse was placed in the eight-spoked arm maze, with one arm baited. It was then timed for however long it took the mice to find the bait. Once the mouse had gone to the baited arm first, three consecutive times, it was considered to have "learned" that scenario. It would then move on to another baited arm. This data was compared to data from mice without Alzheimers Disease (wild type mice) to compare the progression of memory loss in a short period of time, just as the disease starts to affect the mices brains. It was predicted that within this short amount of time at an early stage of the disease, there would be little difference between the memory and learning abilities of the Tau and wild type mice.

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