An affordable alternative to the rTg4510 model of tauopathy

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For over 25 years, scientists have been trying to make mouse models for tauopathies like frontotemporal lobar degeneration with tau and Alzheimer's disease. Many models are now available, but the most commonly used models have notable drawbacks. The rTg4510 model is one of the most commonly used models of tauopathy, but its use is complicated by complex breeding and a large deletion of the endogenous genome that was an artifact of transgenesis. We have now used the CamKIIalpha promoter to drive the expression of the human 0N4R P301L tau gene in a neuronally-focused pattern through a simple, single transgenic approach that improves on the bigenic complexity of rTg4510 line. These mice, termed cTauP301L, develop tauopathy by 8 months of age and display profound cognitive deficits in the Morris Water Maze. This model lacks the large artifactual deletion observed in rTg4510 mice and serves as a cost-effective, simplified alternative to the rTg4510 model.

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