Mouse Models MSA/OPCA Publication

Plp1-tTA::tetO-SNCA*A53T bi-transgenic mice

IDENTIFICATION

Causal gene(s)	Sporadic
Repeat size or mutation	mutant A53T human ?-syn specifically in oligodendrocytes
Animal model	Mouse

MODEL DETAILS

Mouse strain / background	C57BL/6JJcl x C57Bl/C3H
Type of model	Transgenic

TRANSGENIC CONSTRUCT

Transgenic construct: details	Tet-Off system was used to obtain conditional Bi-Tg mice (Plp1-tTA::tetO-SNCA*A53T) overexpressing human A53T ?-syn in oligodendrocytes
Promoter: gene	Plp1 (tTa) and PrP (SNCA*A53T)
Promoter: species	Mouse

PHENOTYPE

Progression	Progressive
Hallmark features	Rapid progressive motor deterioration, ataxia and early death at 30 weeks of age

SOURCE & PUBLICATIONS

Originating lab / institution	Kyushu University
Links to publications or public resources	A rapidly progressive multiple system atrophy-cerebellar variant model presenting marked glial reactions with inflammation and spreading of u03b1-synuclein oligomers and phosphorylated u03b1-synuclein aggregates - PubMed https://pubmed.ncbi.nlm.nih.gov/38986725/