



F V ~~B~~-g f 14^{g(tau-MAPT*P301L)4510Kha/} J I w s J

Stock No: 015815 | Tg(tauP301L)4510

Coisogenic, Transgenic



AVAILABLE

P L A C E O R D E R

Live mice available in varying quantities. Ask Customer Service for details.

Overview

Also Known As: Tg(tauP301L)4510

*tetO-MAPT*P301L* transgenic mice allow Tet-Off/Tet-On expression of a P301L mutant variant of human four-repeat microtubule-associated protein tau (4R0N tauP301L). These mice may be useful in generating animals with conditional (inducible/reversible) tau_{P301L} expression for studying the formation of neurofibrillary tangles associated with Alzheimer's disease, neurodegenerative tauopathies and frontotemporal dementia.

In [Goodwin et al. 2019 Genome Res. 29:494](#), it was discovered that the *tetO-MAPT*P301L* transgene integrated into chromosome 14 causing a 244 kbp deletion in the fibroblast growth factor 14 locus (*Fgf14*) - creating a *Fgf14* null allele. Furthermore, [Gamache et al. 2019 Nat Commun. 10:2479](#) identified there were ~70 transgene copies integrated.

Donating Investigator

Dr. Karen K. Hsiao Ashe, University of Minnesota

Dr. Jada Lewis, Center for Translational Research in Neurodegenerative Disease

Dr. Michael Hutton, Mayo Clinic

READ MORE +

GENETIC OVERVIEW

Genetic Background

Generation

?+pN15

(2019-12-27 00:00:00)

Fgf14^{Tg(*tetO-MAPT*P301L*)4510}*Kha*

Allele Type

Transgenic (Inducible, Null/Knockout, Inserted expressed sequence, Humanized sequence)

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research

Research Tools

Mouse/Human Gene Homologs

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$278.00 Domestic price for female 4-week

356.51 Domestic price for breeder pair

V I E W P R I C E L I S T

Details

Detailed Description

These transgenic mice have the Tet-responsive element (TRE or *tetO*) and mouse prion protein promoter sequences (*PrP* or *Pmp*) directing expression of the P301L mutant variant of human four-repeat microtubule-associated protein tau (4R0N tauP301L). The untranslated sequence from *Pmp* results in moderate levels of tauP301L expression in brain before Tet-induction, but do not result in tauopathies.

In [Goodwin et al. 2019 Genome Res. 29:494](#), it was discovered that the *tetO-MAPT*P301L* transgene integrated into chromosome 14 causing a 244 kbp deletion in the fibroblast growth factor 14 locus (*Fgf14*) - creating a *Fgf14* null allele. Furthermore, [Gamache et al. 2019 Nat Commun. 10:2479](#) identified there were ~70 transgene copies integrated.

When these transgenic mice are exposed to tetracycline-controlled transactivator protein (tTA) or reverse tetracycline-controlled transactivator protein (rtTA), high levels of tauP301L in the resulting animals can be regulated with tetracycline or its analog doxycycline (dox).

Breeding to Camk2a-tTA (see Stock Nos. [003010](#) / [007004](#)) results in the rTg4510 bitransgenic model with conditional (inducible/reversible) tauP301L expression in the forebrain (see Stock No. [024854](#)). Similarly made bitransgenic mice are described with tauP301L expression levels approximately 13-fold greater than endogenous murine tau. This high tauP301L expression in forebrain results in age-independent behavioral and pathological abnormalities, as well as age-dependent functional and structural abnormalities, associated with the progression of Alzheimer's disease. After treatment with dox, neuronal death ceases and the ability to acquire and retain new spatial memories is restored.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Fgf14^{Tg(tetO-MAPT*P301L)4510Kha}

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

+ References

- Technical Support

T E C H N I C A L S U P P O R T C H A T

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

Probe: [Tg\(MAPT\) cDNA](#)

QPCR: [Tg\(MAPT\) cDNA](#)

Probe: [Fgf14^{Tg\(tetO-MAPT*P301L\)4510Kha}](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, hemizygous mice may be bred to wildtype (non-carrier) mice from the colony or to FVB/NJ inbred mice (Stock No. [001800](#)).

[Additional Breeding and Husbandry Support](#)

Mating System

Noncarrier x Hemizygote

Hemizygote x Noncarrier

Citation

When using the [Tg\(tetO-MAPT*P301L\)4510](#) mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #015815 in your Materials and Methods section.

[Facility Barrier Level Descriptions](#)

 [AX12 \(Maximum\)](#)

- Pricing & Availability



Live mice available in varying quantities. Ask Customer Service for details.

Available

Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

Live Mouse			
AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
4 weeks	Female	Noncarrier	\$78.51
	Male	Noncarrier	\$78.51
5 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
5 weeks	Female	Noncarrier	\$78.51

	SEX	Noncarrier	\$78.51
6 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
6 weeks	Female	Noncarrier	\$78.51
	Male	Noncarrier	\$78.51
7 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
7 weeks	Female	Noncarrier	\$78.51
	Male	Noncarrier	\$78.51
8 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
8 weeks	Female	Noncarrier	\$78.51
	Male	Noncarrier	\$78.51
9 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
9 weeks	Female	Noncarrier	\$78.51
	Male	Noncarrier	\$78.51
10 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
10 weeks	Female	Noncarrier	\$78.51
	Male	Noncarrier	\$78.51
11 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
11 weeks	Female	Noncarrier	\$78.51
	Male	Noncarrier	\$78.51
12 weeks	Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
	Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}	\$278.00
12 weeks	Female	Noncarrier	\$78.51
	Male	Noncarrier	\$78.51

Breeder Pair			
SEX	GENOTYPE		PRICE
Female	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}		\$356.51
Male	Noncarrier		
Female	Noncarrier		\$356.51
Male	Hemizygous for Fgf14 ^{Tg(tetO-MAPT*P301L)4510Kha}		

Related Products and Services

Frozen Mouse Embryo

FVB-Fgf14<Tg(tetO-MAPT*P301L)4510Kha>/JlwsJ Frozen Embryo

\$2595.00

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