

B6;CBA-Tg(Camk2a-tTA)1Mmay/JStock No: **003010** | CaMKII-tTA **Transgenic**

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

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When these Camk2a-tTA transgenic mice are mated to strain carrying a gene of interest under the regulatory control of a tetracycline-responsive promoter element (TRE; tetO), expression of the target gene can be blocked by administration of the tetracycline analog, doxycycline. These mice are a "Tet-Off" tool that allow the inducible expression of genes in forebrain neurons, and may be useful in studying brain disorders such as Alzheimer's, Parkinson's disease, or other neurodegenerative diseases.

As described for Stock No. 007004, the CaMK2a-tTA transgene integrated into chromosome 12 causing a 508 Kb deletion that spans the 3' half of *Vipr2*, the entire *Wdr60*, *Esy2*, *D430020J02Rik* and *Ncapg2* loci and the first two exons of *Ptpm2*. Homozygous mice will therefore have a functional knock-out of the deleted loci, and altered or null expression of *Vipr2* and *Ptpm2*. Founder line 1 has >20 transgene copies [[Goodwin et al. 2019 Genome Res. 29:494](#)].

Donating Investigator

Dr. Mark Mayford, The Scripps Research Institute

[R E A D M O R E +](#)**GENETIC OVERVIEW****Genetic Background****Generation****Tg(Camk2a-tTA)1Mmay****Alele Type**

Transgenic (Null/Knockout, Transactivator)

[V I E W G E N E T I C S](#)**RESEARCH APPLICATIONS**

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

Details

Detailed Description

CaMK2a-tTA transgenic mice express the tetracycline-controlled transactivator protein (tTA) under regulatory control of the forebrain-specific calcium-calmodulin-dependent kinase II (Camk2a) promoter.

As described for Stock No. [007004](#), the CaMK2a-tTA transgene integrated into chromosome 12 causing a 508.12 Kb deletion that spans the 3' half of *Vipr2* (vasoactive intestinal peptide receptor 2), the entire *Wdr60* (WD repeat domain 60), *Esyt2* (extended synaptotagmin-like protein 2), *D430020J02Rik* (RIKEN cDNA D430020J02 gene) and *Ncapg2* (non-SMC condensin II complex, subunit G2) loci and the first two exons of *Ptpm2* (protein tyrosine phosphatase, receptor type, N polypeptide 2). Homozygous mice will therefore have a functional knock-out of the deleted loci (*Wdr60*, *Esyt2*, *D430020J02Rik*, *Ncapg2*), and altered or null expression of *Vipr2* and *Ptpm2*. Founder line 1 has a copy number of greater than 20 [[Goodwin et al. 2019 Genome Res. 29:494](#)].

Hemizygous mice are viable and fertile. When hemizygotes are mated to a second strain carrying a gene of interest under the regulatory control of a tetracycline-responsive promoter element (TRE; tetO), expression of the target gene can be blocked by administration of the tetracycline analog, doxycycline (dox). These mice are a "Tet-Off" tool that allow the inducible expression of genes in forebrain neurons, and may be useful in studying brain disorders such as Alzheimer's disease (when used in conjunction with Stock No. [005706](#), Stock No. [007049](#), Stock No. [007051](#), Stock No. [007052](#)), Parkinson's disease (Stock No. [013583](#)), or other neurodegenerative diseases.

Of note, mice expressing Tg(Camk2a-tTA)1Mmay on the C57BL/6 background exhibit resistance to tTA-induced neurotoxicity (dentate gyrus granule cell layer atrophy). All other backgrounds tested (FVB/NJ, CBA/J, 129X1/SvJ, C3H/HeJ, DBA/1J) exhibit varying levels of neurotoxicity [[Han et al. 2012 J Neurosci 32:10574](#)].

Development

Expression Data

Control Suggestions

Selected References

– Genetics

+ [Tg\(Camk2a-tTA\)1Mmay](#)

– Disease/Phenotype

+ [Disease Terms](#)

+ [Research Areas By Phenotype](#)

+ [Mammalian Phenotype Terms by Genotype](#)

+ [References](#)

– Technical Support

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

Standard PCR: [Tg\(Camk2a-tTA\)1Mmay](#)

Standard PCR: [Tg\(tTA\)](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

Expected coat color from breeding is Black, Agouti. When maintained in a live colony, these mice were bred as wildtype sib x hemizygous or reciprocal.

[Additional Breeding and Husbandry Support](#)

Mating System

+/+ sibling x Hemizygote

Appearance

agouti

Related Genotype: *A*/?

black

Related Genotype: *a/a*

Citation

When using the CaMKII-tTA mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #003010 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

➔ Pricing & Availability



Cryo
Recovery

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Domestic | International

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Hemizygous or Non carrier for Tg(Camk2a-tTA)1Mmay	\$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	B6;CBA-Tg(Camk2a-tTA)1Mmay/J Frozen Embryo	\$2595.00
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