Also Known As: CaMKII-tTA
A C57BL/6J congenic version of this strain is available as Stock No. 007004.

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, Esyt2, D430020J02Rik and Ncapg2 loci and the first two exons of Ptprn2. Homozygous mice will therefore have a functional knock-out of the deleted loci, and altered or null expression of Vipr2 and Ptprn2. Founder line 1 has >20 transgene copies [Goodwin et al. 2019 Genome Res. 29:494].

Donating Investigator
Dr. Mark Mayford, The Scripps Research Institute

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<td>Tg(Camk2a-tTA)1Mmay</td>
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**Allele Type**
Transgenic (Null/Knockout, Transactivator)

**RESEARCH APPLICATIONS**

Research Tools
Neurobiology Research

**BASE PRICE**

Starting at:

$2,854.50 Domestic price Cryo Recovery
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 Ptprn2 (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 Ptprn2. 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).
Genotyping Protocols
Standard PCR: Tg(Camk2a-tTA)1Mmay
Standard PCR: Generic 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.

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

Pricing & Availability

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

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Hemizygous or Non carrier for Tg(Camk2a-tTA)1Mmay</td>
<td>$2,854.50</td>
</tr>
</tbody>
</table>

We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryorecovery to establish a Dedicated Supply for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

Related Products and Services

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

Animal Health Reports
Facility Barrier Level Descriptions
Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200
Payment Terms and Conditions
Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

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Related Strains

- All
- By Allele
- By Gene
- By Collection

All Related Strains