Overview

These TRE-mUbe3a_v2[884] transgenic mice allow Tet-Off/Tet-On expression of a FLAG-tagged Ube3a splice variant 2 protein, in addition to normal expression of endogenous *Ube3a*. These mice are useful to study temporally-controlled, tissue-specific Ube3a...
variant 2 overexpression as a model for maternal 15q11-13 duplication (dup15) and triplication (isodicentric extranumerary chromosome, idic15); both are associated with human autism spectrum disorder.

Donating Investigator
Scott V Dindot, Texas A&M University

GENETIC OVERVIEW

Tg(tetO-Ube3a*2)884Svd

Allele Type
Transgenic (Inducible, Inserted expressed sequence)

RESEARCH APPLICATIONS

Neurobiology Research
Developmental Biology Research
Research Tools

BASE PRICE
Starting at:
$2,854.50 Domestic price Cryo Recovery

The TRE-Ube3av2 transgene has a modified Tet response element (TRE or tetO) upstream of a cDNA sequence encoding a functional, full-length mouse ubiquitin protein ligase E3A transcript variant 2 protein with N-terminal FLAG tag (FLAG-Ube3a_v2). Transgenic mice from founder line 884 (TRE-mUbe3a_v2(884)) are described here.

When these TRE-mUbe3a_v2(884) transgenic mice are bred with another mouse expressing tetracycline-controlled transactivator
protein (tTA) or reverse tetracycline-controlled transactivator protein (rTAT), FLAG-Ube3a_v2 expression in the resulting double mutant offspring can be regulated with tetracycline or its analog doxycycline (dox). As designed, TRE-mUbe3a_v2[884] transgenic mice have no reported levels of FLAG-Ube3a_v2 expression in absence of tTA. When TRE-mUbe3a_v2[884] transgenic mice are bred to Camk2a-tTA transgenic mice (see Stock Nos. 003010 / 007004), the resulting CaMKIIα-mUbe3a_v2[884] double transgenic mice have FLAG-Ube3a_v2 expression in forebrain neurons.

TRE-mUbe3a_v2[884] transgenic mice have normal expression of endogenous Ube3a. Importantly, the endogenous Ube3a gene is only expressed from the maternal chromosome in neurons; a result of paternal imprinting (the antisense transcript functions to silence paternal expression in brain). Because the TRE-Ube3av2 transgene lacks the transcription initiation site of the antisense transcript, expression of FLAG-Ube3a_v2 is independent of parent-of-origin or sex of the animal.

Hemizygous TRE-mUbe3a_v2[884] transgenic mice are viable and fertile. The donating investigator has not tried to generate homozygous mice to date (December 2014).

Genotyping Protocols
Standard PCR:Tg(tetO-Ube3a*2)884Svd
Standard PCR:Tg(tetO-Ube3a*2)884Svd-V2 and V3
Genotyping resources and troubleshooting
Breeding Considerations
When maintaining our live colony, hemizygous mice may be bred to wildtype (noncarrier) mice from the colony or to FVB/NJ inbred mice (Stock No. 001800). The donating investigator has not attempted to breed homozygous animals to date (December 2014).

Additional Breeding and Husbandry Support

Citation
When using the FVB/N-Tg(tetO-Ube3a*2)884Svd/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #026279 in your Materials and Methods section.

Facility Barrier Level Descriptions
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>Pricing &amp; Availability Service/Product</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Hemizygous or non carrier for Tg(tetO-Ube3a*2)884Svd</td>
<td>$2,854.50</td>
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</tbody>
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