The olfactory marker protein gene drives expression of a tetracycline-regulated transactivator in these mice, allowing the inducible expression of genes in olfactory receptor neurons. They may have applications in studying the formation and organization of olfactory and other sensory maps.

Donating Investigator
C. Ron Yu, Stowers Institute for Medical Research

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Omp</strong>&lt;sup&gt;tm1(tTA)Gogo&lt;/sup&gt;</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted (Transactivator)</td>
<td>Omp</td>
<td>olfactory marker protein</td>
</tr>
</tbody>
</table>

RESEARCH APPLICATIONS

Research Tools
Neurobiology Research
Sensorineural Research
Details

Detailed Description

An internal ribosome entry site (IRES) fused with a tetracycline-regulated transactivator (tTA) was inserted into the 3’ untranslated region of the mouse olfactory marker protein (Omp) gene in these mice. Homozygous mice are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. When 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 olfactory receptor neurons, and may be useful in studying the formation and organization of the olfactory and other sensory maps. For example, when mated to mice expressing the tetanus toxin light chain (TeTxLC) and β-galactosidase (lacZ) under the control of tetO, dox induction allows for visualization of 70% to 80% of olfactory neurons in the resulting mice.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Omp<sup>tm1(TA)Gogo</sup>

Disease/Phenotype
Genotyping Protocols
Separated PCR: Omp
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, homozygous mice may be bred together.

Additional Breeding and Husbandry Support

Citation
When using the OMP-tTA mouse strain in a publication, please cite the originating article(s) and include JAX stock #017754 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
Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.
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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The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. Therefore, we cannot guarantee a strain’s phenotype will meet all expectations. To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee breeding performance and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.
## Related Strains

<table>
<thead>
<tr>
<th>By Allele</th>
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<tbody>
<tr>
<td>By Gene</td>
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<td>By Collection</td>
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