These Pax8-rtTA mice provide a Tet-On tool that allows the inducible expression of genes in renal tubular epithelial cells, and may be useful in studying renal disorders such as fibrosis or polycystic kidney disease, renal cancer, and Tuberous Sclerosis (along with Stock No. 005680).

Donating Investigator
IMR Colony, The Jackson Laboratory

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

Detailed Description

Transgenic Pax8-rtTA mice are viable and fertile. These mice express an optimized reverse tetracycline-controlled transactivator (rtTA2S-M2) protein under the control of the murine Pax8 promoter, which directs expression to proximal and distal tubules and the collecting duct system of both embryonic and adult kidney. The rtTA2S-M2 variant of rtTA contains five amino acid changes in the TetR moiety (S12G, E19G, A56P, D148E, and H179R) and a synthetic optimized transactivating domain, resulting in reduced basal activity and enhanced doxycycline sensitivity compared to wild-type rtTA. When mated to a second strain carrying a gene of interest under the regulatory control of a tetracycline-responsive promoter element (TRE or tetO), expression of the target gene in kidney cells is induced with administration of the tetracycline analog, doxycycline (dox). These Pax8-rtTA mice provide a Tet-On tool that allows the inducible expression of genes in renal tubular epithelial cells, and may be useful in studying renal disorders such as fibrosis or polycystic kidney disease, renal cancer, and Tuberous Sclerosis.

In an attempt to offer alleles on well-characterized or multiple genetic backgrounds, alleles are frequently moved to a genetic background different from that on which an allele was first characterized. It should be noted that the phenotype could vary from that originally described. We will modify the strain description if necessary as published results become available.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(Pax8-rtTA2S*M2)1Koes
Genotyping Protocols
Standard PCR: Tg(Pax8-rtTA2S*M2)1Koes
QPCR: Tg(Pax8-rtTA2S*M2)1Koes
Genotyping resources and troubleshooting

Breeding Considerations
Mutant mice were bred to C57BL/6J mice to generate this congenic strain. When maintaining the live congenic colony, hemizygous mice are bred with wildtype siblings or to C57BL/6J inbred mice.

Additional Breeding and Husbandry Support

Citation
When using the B6.Cg-Tg(Pax8-rtTA2S*M2)1Koes/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #007176 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.

**CRYORECOVERY - DOMESTIC PRICING**

<table>
<thead>
<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
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<tr>
<td>Cryo Recovery</td>
<td>Hemizygous or Non carrier for Tg(Pax8-rtTA2S*M2)1Koes</td>
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**RELATED PRODUCTS AND SERVICES**

| Frozen Mouse Embryo | B6.Cg-Tg(Pax8-rtTA2S*M2)1Koes/J Frozen Embryos                              | $2,595.00 |

**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.

**THE JACKSON LABORATORY'S GENOTYPE PROMISE**

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.

**Terms Of Use**

**TERMS OF USE**

General Terms and Conditions

**QUESTIONS ABOUT TERMS OF USE**

**ADDITIONAL USE RESTRICTIONS APPLY**

Use of MICE by companies or for-profit entities requires a license prior to shipping.

**LICENSING INFORMATION**
## Related Strains

- All
- By Allele
- By Gene
- By Collection