B6;129S-Sox2^{tm1(creERT2)Hoch}/J

Stock No: 017593 | Sox2-CreER

Targeted Mutation

REPOSITORY LIVE

PLACE ORDER

3–6 week average lead time depending on quantity and age requests are not accepted

Also Known As: Sox2-CreER

These Sox2-CreER (Sox2-Cre_{ER}^{E}) knockin mice have the Sox2 open reading frame replaced with a CreER_{T2} fusion gene. These mice may be useful for inducible Cre recombinase expression/flxed gene deletion in blastocysts, neural progenitor cells and in many adult epithelial tissues.

Donating Investigator

Konrad Hochedlinger, Massachusetts General Hospital / Harvard

READ MORE +

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>F7+/N1F14</td>
<td>(2018-07-30 00:00:00)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted (Recombinase-expressing, Inducible)</td>
<td>Sox2</td>
<td>SRY (sex determining region Y)-box 2</td>
</tr>
</tbody>
</table>

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools
Developmental Biology Research
Hematological Research
Cancer Research
Cell Biology Research
Immunology, Inflammation and Autoimmunity Research

VIEW ALL RESEARCH APPLICATIONS
Details

Detailed Description

These Sox2-CreER (Sox2-CreER<sup>ER</sup>) knockin mice have the Sox2 open reading frame replaced with a CreER<sup>T2</sup> fusion gene. Sox2 is a widespread marker of pluripotent and many adult stem/progenitor cell types. Heterozygous mice are viable and fertile, while homozygous mice exhibit embryonic lethality. Following tamoxifen administration, Cre-ER<sup>T2</sup> activity is observed in adult epithelial tissues; including testes, forestomach, glandular stomach, anus, cervix, esophagus, and lens, as well as glands associated with oral cavity, trachea, and cervix. When these mice are bred with mice containing loxP-flanked sequence, tamoxifen-inducible, Cre-mediated recombination will result in deletion of the floxed sequences in the cre-expressing cells of the offspring. Cre-ER<sup>T2</sup> activity is also detected in blastocysts, neural progenitor cells, and embryonic stem cell cultures following tamoxifen administration. These mice may be useful for studying common target genes and pathways in maintaining the self-renewal and differentiation potential of these cells.

The Cre-ERT2 fusion protein consists of Cre recombinase fused to a triple mutant form of the human estrogen receptor which does not bind its natural ligand (17β-estradiol) at physiological concentrations but will bind the synthetic estrogen receptor ligands 4-hydroxytamoxifen (OHT or tamoxifen) and, with lesser sensitivity, ICI 182780. Restricted to the cytoplasm, Cre-ERT2 can only gain access to the nuclear compartment after exposure to tamoxifen. To counteract the mixed estrogen agonist effects of tamoxifen injections, which can result in late fetal abortions in pregnant mice, progesterone may be coadministered.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Sox2<sup>tm1creERT2Ifshc</sup>

Disease/Phenotype

Disease Terms
**Genotyping Protocols**

Probe: **Generic Cre Probe**  
Standard PCR: **Generic Cre**  
MELT: **Generic Cre Melt Curve Analysis**  
MELT: **Sox2\textsuperscript{tm1[creERT2]Hoch} Alt1**

**Genotyping resources and troubleshooting**

**Dietary Information**

LabDiet® 5K52 formulation (6% fat)

**Breeding Considerations**

When maintaining a live colony, heterozygous mice may be bred with wildtype mice from the colony. The donating investigator reports that homozygous mice are embryonic lethal.

**Additional Breeding and Husbandry Support**

**Mating System**

Heterozygote x +/- sibling  
+/- sibling x Heterozygote

**Citation**

When using the Ert2\textsuperscript{CreER} mouse strain in a publication, please cite the originating article(s) and include JAX stock #017593 in your Materials and Methods section.

**Facility Barrier Level Descriptions**

- AX10 (Standard)

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## Pricing & Availability

| Repository Live | 3–6 week average lead time depending on quantity and age requests are not accepted |

### Domestic

**Live Mouse**

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Heterozygous for Sox2\textsuperscript{tm1[creERT2]Hoch}</td>
<td>$271.00</td>
</tr>
</tbody>
</table>

Pricing effective for USA, Canada and Mexico shipping destinations.
### Breeder Pair

<table>
<thead>
<tr>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Wild-type for Sox2^{tm1cre/ERT2}Hoch</td>
<td>$347.22</td>
</tr>
<tr>
<td>Male</td>
<td>Heterozygous for Sox2^{tm1cre/ERT2}Hoch</td>
<td>$347.22</td>
</tr>
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### Related Products and Services

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>$2,595.00 per straw or vial</td>
</tr>
</tbody>
</table>

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