FVB.129S6-Gt(ROSA)26Sor "tm2(Hif1A/luc)Kael"/J

Stock No: 006206 | ODD-Luc

Congenic, Targeted Mutation

REPOSITORY LIVE

PLACE ORDER

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

Also Known As: ODD-Luc

These "ODD-Luc" bioluminescent reporter mice may be useful in researching transcriptional regulation of hypoxia-inducible genes, cancer, ischemia, cardiovascular, myocardial infarction, stroke, pharmacokinetics, or other studies where imaging/reporting the development of tissue hypoxia and the action of small molecule inhibitors of HIF prolyl hydroxylase activity are appropriate.

Donating Investigator

William G. Kaelin, Dana Farber Cancer Institute

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GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>N7+N2F15</td>
<td>(2018-08-16 00:00:00)</td>
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Gt(ROSA)26Sor "tm2(Hif1A/luc)Kael"

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Reporter, Inserted expressed sequence, Humanized sequence)</td>
<td>Gt(ROSA)26Sor</td>
<td>gene trap ROSA 26, Philippe Soriano</td>
</tr>
</tbody>
</table>

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools
Internal/Organ Research
Cardiovascular Research

VIEW ALL RESEARCH APPLICATIONS
Details

Detailed Description

Mice heterozygous for this 'ODD-luc' knock-in are viable and fertile with no gross phenotypic or behavioral abnormalities. These mice have the C-terminal portion of the hypoxia-inducible factor 1 alpha (HIF1A) oxygen-dependent degradation domain (ODD) fused to the firefly luciferase (luc) gene. This region of the ODD also contains a proline residue (amino acid 564) that, when hydroxylated, will serve as a binding site for von Hippel-Lindau tumor suppressor protein (pVHL). Under normal oxygen concentrations, prolyl hydroxylation by egg-laying-defective nine (EGLN) proteins leads to pVHL-dependent polyubiquitylation and proteasomal degradation (thus, little or no luciferase fluorescence). Under hypoxia, proline hydroxylation is impaired and ubiquitination is attenuated, resulting in stabilization of the fusion protein and high levels of luciferase fluorescence in the hypoxic tissue(s). These 'ODD-Luc' bioluminescent reporter mice may be useful in researching transcriptional regulation of hypoxia-inducible genes, cancer, ischemia, cardiovascular, myocardial infarction, stroke, pharmacokinetics, or other studies where imaging/reporting the development of tissue hypoxia and the action of small molecule inhibitors of HIF prolyl hydroxylase activity are appropriate.

Development

Expression Data

Control Suggestions

Selected References

Genetics

GT(ROSA)26Sor<sup>tm2H1F1A/lucKarl</sup>

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support
Genotyping Protocols
Separated PCR: Gt(ROSA)26Sor^{tm1(HIF1A/luc)Kael}
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations
When maintaining a live colony, these mice may be bred as heterozygotes or homozygotes.
Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Citation
When using the OR01Luc mouse strain in a publication, please cite the originating article(s) and include JAX stock #006206 in your Materials and Methods section.

Facility Barrier Level Descriptions
AX10 (Standard)

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

Repository Live

Domestic | International
Pricing effective for USA, Canada and Mexico shipping destinations

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Homozygous for Gt(ROSA)26Sor^{tm2(HIF1A/luc)Kael}</td>
<td>$271.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Gt(ROSA)26Sor^{tm2(HIF1A/luc)Kael}</td>
<td>$271.00</td>
</tr>
</tbody>
</table>

Related Products and Services
Frozen Mouse Embryo $2,595.00 per straw or vial

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All

By Allele

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