B6.129S-Ly6a^tm1.1(cre)Jmol/J

Stock No: 032621 | Ly6a^Cre

- Congenic, Targeted Mutation

Also Known As: Ly6a^Cre

Ly6a^Cre knock-in/knock-out mice express cre recombinase and nuclear-localized EGFP from the mouse Ly6a (Sca1) promoter in Ly6a-expressing cells, including cardiac vascular endothelial cells.

Donating Investigator

Jeffery D. Molkentin, Cincinnati Children's Hospital

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**GENETIC OVERVIEW**

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<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tr>
<td>?×pN1</td>
<td>(2018-12-28 00:00:00)</td>
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Ly6a^tm1.1(cre)Jmol

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Recombinase-expressing, Null/Knockout)</td>
<td>Ly6a</td>
<td>lymphocyte antigen 6 complex, locus A</td>
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**RESEARCH APPLICATIONS**

Research Tools

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Details
Detailed Description

Cardiac cells expressing Ly6a (lymphocyte antigen 6 complex, locus A; also called Sca1) predominantly contribute to the cardiac vasculature, particularly in the endothelial cell expansion and remodeling that occurs early after birth or following myocardial infarction (MI). These Ly6a<sup>Cre<sup> knock-in/knock-out mice express cre recombinase from the mouse Ly6a promoter in Ly6a-expressing cells, including cardiac vascular endothelial cells. Expression of Ly6a is eliminated by the targeted allele. Though present in the targeting construct, IRES-driven expression of nuclear localized EGFP is not observed. Heterozygotes and homozygotes are viable and fertile with no overt developmental or adult phenotype. Expression of a cre-dependent TdTomato reporter has been confirmed in the heart and kidney via immunohistochemistry. Crosses with cre-responsive R26-TdT reporter mice (see Stock No. 007914) enable permanent labeling and lineage tracing of cells that normally express Ly6a throughout development and postnatal growth, or after cardiac injury. Though rare cardiomyocytes are labeled, this may be the result of fusion events from lineage-traced leukocytes. Approximately 30% of total bone marrow cells are labeled (mostly mature hematopoietic cells).

Development

Control Suggestions

Selected References

Genetics

Ly6a<sup>bm1.1(cre)Jmol</sup>

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols
Probe: Generic Cre Probe
Genotyping resources and troubleshooting

Breeding Considerations
Heterozygotes and homozygotes are viable and fertile.
Additional Breeding and Husbandry Support
Mating System
Heterozygote x Heterozygote

Citation
When using the JAX C57BL/6 mouse strain in a publication, please cite the originating article(s) and include JAX stock #032621 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

AX18 (Maximum)

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## Related Strains

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All Related Strains
Leading the search for
TOMORROW'S CURES