B6.129P2(C)-Mecp2<sup>tm1.1Bird/J</sup>

Stock No: 003890 | Mecp2<sup>-</sup>

Published: Congenic, Targeted Mutation

**PLACE ORDER**

1 week average lead time for up to 30 mice

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**Also Known As: Mecp2<sup>-</sup>**

This Mecp2 knockout strain is a mouse model of human Rett Syndrome. Mecp2-deficient males (Mecp2<sup>−/-</sup>) exhibit mobility problems and a range of Rett Syndrome-like characteristics at 3-8 weeks of age. Heterozygous females exhibit a much later onset (~6 months of age).

**Donating Investigator**

Adrian Bird, University of Edinburgh

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<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tr>
<td></td>
<td>N4×N40</td>
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<td>(2018-04-03 00:00:00)</td>
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**Mecp2Im1.1Bird**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Mecp2</td>
<td>methyl CpG binding protein 2</td>
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</tbody>
</table>

Neurobiology Research
Mouse/Human Gene Homologs

Starting at:

- $0.00 Domestic price for male 4-week
- $231.36 Domestic price for breeder pair

Details

**Detailed Description**

The Mecp2 knockout mutation is X-linked; therefore the Mecp2-deficient mice are Mecp2^−/− (homozygous) females and Mecp2^+/− (hemizygous) males.

Mecp2 null mice are viable and appear normal at birth. No Mecp2 gene product (mRNA or protein) is detected in tissues. Mobility problems are apparent at 3-8 weeks of age. Mice exhibit hindlimb clasp and uneven breathing. An uneven wearing of teeth associated with misalignment of the jaws is observed in 50% of the animals. Adult males do not mate and their testes remain internal although sperm are present in the cauda epididymis. Symptom progression is variable, but mice can be expected to undergo weight loss, shivering, continued mobility problems before succumbing. Expected lifespan is about 50-60 days.

Heterozygous female mice display mobility problems and hindlimb clasp and starting at about 6 months, but the symptoms appear not to be progressive.

This Mecp2 knockout strain is useful for studying Rett Syndrome.

Importation of this model was supported in part by the Rett Syndrome Research Foundation.

Development

Control Suggestions

Selected References
Genotyping Protocols
End Point Analysis: Mecp2\textsuperscript{lm1.1Bird}\_PROBE-alt1
Standard PCR: Mecp2\textsuperscript{lm1.1Bird}
Genotyping resources and troubleshooting

Dietary Information
LabDiet\textsuperscript{®} 5K52 formulation (6% fat)

Breeding Considerations
The Mecp2 knockout mutation is X-linked; therefore the Mecp2-deficient mice are Mecp2\textsuperscript{+/–} (homozygous) females and Mecp2\textsuperscript{+/-} (hemizygous) males.

When maintaining a live colony at The Jackson Laboratory, heterozygous females are bred to C57BL/6J inbred males (Stock No. 000664). Heterozygous females breed best when under 6 months of age. Coat color expected from breeding is black.

Additional Breeding and Husbandry Support

Mating System
Heterozygote \texttimes{} C57BL/6J (000664)

Citation
When using the Mecp2\textsuperscript{−} mouse strain in a publication, please cite the originating article(s) and include JAX stock #003890 in your Materials and Methods section.

Facility Barrier Level Descriptions

AX11 (Maximum)
<table>
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<tr>
<th>AGE</th>
<th>SEX</th>
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<th>PRICE</th>
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<td>Heterozygous for MeCP2^{tm1.1Bird}</td>
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<tr>
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<td>Hemi-zygous for MeCP2^{tm1.1Bird}</td>
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<tr>
<td>4 weeks</td>
<td>Female</td>
<td>Wild-type for MeCP2^{tm1.1Bird}</td>
<td>$76.22</td>
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<tr>
<td></td>
<td>Male</td>
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**Breeder Pair**

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Email: TechTran@jax.org

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