B6EiC3Sn A-Ts(17^16)65Dn/J

Stock No: 001924 | Ts65Dn

Available

PLACE ORDER

Live mice available in varying quantities. Ask Customer Service for details.

Overview
**Also Known As: Ts65Dn**

Ts65Dn mice are trisomic for about two-thirds of the genes orthologous to human chromosome 21 and are a well-characterized model for studying Down Syndrome.

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**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>N7×N6×N27</td>
<td>(2019-06-17 00:00:00)</td>
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</table>

**Ts(17\(^{16}\))65Dn**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation induced</td>
<td>Ts(17(^{16}))65Dn</td>
<td>trisomy, Chr 16 translocation to Chr 17, Davisson 65</td>
</tr>
</tbody>
</table>

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**RESEARCH APPLICATIONS**

Neurobiology Research  
Mouse/Human Gene Homologs

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**BASE PRICE**

Starting at:  
$247.50 Domestic price for female
Important Note

Pde6b<sup>rd1</sup>, the recessive retinal degeneration 1 mutation, is segregating in this colony. Animals that are homozygous for rd1 will be blind. Stock No. 005252 is an alternative strain, with a virtually identical genetic background except that it is wild-type for Pde6b<sup>rd1</sup>.

Detailed Description

Segmentally trisomic Ts(17<sup>16</sup>)65Dn mice provide a postnatal model for Down syndrome. Ts65Dn mice have three copies of most of the genes on mouse Chr 16 that are homologues of human Chr 21 genes. These extra genes, along with the centromere and about 5% of proximal Chr 17 are contained in a small extra chromosome derived from a reciprocal translocation.

Neural cognitive deficits and behavioral abnormalities have been noted in Ts65Dn mice. They have spatial learning and memory defects as assessed in the Morris water maze and the radial arm maze, show developmental delay in sensorimotor milestones, and exhibit locomotor hyperactivity, lack of behavioral inhibition, and stereotypic behavior. They perform similar to controls in visual placing, balance, prehensile reflex and traction on a horizontal bar, motor coordination, swimming ability and olfaction orienting. They also show altered noradrenergic transmission in the hippocampus and cerebral cortex and degeneration of basal forebrain cholinergic neurons by 6 months of age. Trisomic females are smaller and produce fewer, smaller litters than euploid females while trisomic males are effectively sterile with hyposperma.

The precise locations of the Chr 16 and Chr 17 breakpoints are 84,351,351 bp and 9,426,822 bp, respectively. The Chr 16 segment contains about two thirds of the human Chr 21 homologues in the mouse, from mitochondrial ribosomal protein L39 (Mrpl39) gene to the distal telomere. These data were used to generate a PCR genotyping assay for Ts65Dn (Reinholdt et al., 2011), replacing the previous methods of chromosome analysis or qPCR. For comparison of segments conserved in human Chr 21 with mouse Chr 16, 17, 10 and genetic definition of Ts65Dn, see the Human - Mouse Orthology Map. Northern and Western blotting, enzyme activity assays and reverse phase protein arrays (RPPA) demonstrate that some but not all genes in the translocation product are expressed at elevated levels in segmentally trisomic animals. RPPA shows a loss of correlation among some brain proteins (Ahmed et al., 2012). The Ccct<sup>1m1j</sup> spontaneous mutation, which causes increased sensitivity to endoplasmic reticulum stress in the cerebellum, is a homozygous strain characteristic of C3H/HeSnJ (Jia et al., 2015) so is segregating in this strain.

Please see the Down Syndrome and Cytogenetics Models Resource for more information.

Development

Control Suggestions

Selected References

Genetics

Ts(17<sup>16</sup>)65Dn

Disease/Phenotype

Disease Terms
Genotyping Protocols
QPCR: Trisomy QPCR
High Resolution Melting: Ts1716
Separated PCR: Ts(1716)
Standard PCR: Generic Pde6b
High Resolution Melting: Ts1716
MELT: Generic Pde6b Alternate1
Separated PCR: Cllc1m1J

Genotyping resources and troubleshooting

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

Breeding Considerations
Male carriers are sterile.

Additional Breeding and Husbandry Support

Mating System
Ts65Dn trisomic females x B6EiC3SnF1/J (001875) males
See Colony Maintenance for Ts65Dn for additional details

Citation
When using the Ts17Dn mouse strain in a publication, please cite the originating article(s) and include JAX stock #001924 in your
Materials and Methods section.

Pricing & Availability
Live mice available in varying quantities. Ask Customer Service for details.
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<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tr>
<td>Approx 4-8</td>
<td>Female</td>
<td>Trisomic for distal Chromosome 16</td>
<td>$247.50</td>
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<tr>
<td>weeks</td>
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#### Breeder Pair

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<td>Male</td>
<td>B6EiC3SnF1/J (001875)</td>
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Strain from the Cytogenetic Models Resource. Each order requires submission of a Request Form, please inquire.

**Licensing Information**

Phone: 207-288-6470

Email: TechTran@jax.org

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