



B 6 E i C 3a ~~S~~ n T s (~~1~~) 6 5 D n / J

Stock No: 001924 | Ts65Dn

Chromosome Aberration, Trisomy



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.

[READ MORE +](#)

GENETIC OVERVIEW

Genetic Background Generation
[N[?]+N6+N27](#)
(2019-06-17 00:00:00)

[Ts\(17¹⁶\)65Dn](#)

Allele Type	Gene Symbol	Gene Name
Radiation induced	Ts(17 ¹⁶)65Dn	trisomy, Chr 16 translocation to Chr 17, Davisson 65

[VIEW GENETICS](#)

RESEARCH APPLICATIONS

Neurobiology Research
Mouse/Human Gene Homologs

[VIEW ALL RESEARCH APPLICATIONS](#)

BASE PRICE

Starting at:

\$247.50 Domestic price for female 4-week

408.00 Domestic price for breeder pair

V I E W P R I C E L I S T

Details

Important Note

Pde6b^{rd1}, 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^{rd1}*.

Detailed Description

Segmentally trisomic Ts(17¹⁶)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 hypospermia.

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 Chrs 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 *Ctcc1^{m1J}* 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(17¹⁶)65Dn

Disease/Phenotype

Disease Terms

[+ Research Areas By Genotype](#)

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

[- Technical Support](#)

C H A T O  F L I N E

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

QPCR: [Ts\(17¹⁶\)65Dn](#)

Separated PCR: [Clcc1^{m1J}](#)

Standard PCR: [Pde6b^{rd1}](#)

Separated PCR: [Ts\(17¹⁶\)65Dn](#)

Standard PCR: [Ts\(17¹⁶\)65Dn](#)

Standard PCR: [Ts\(17¹⁶\)65Dn](#)

Standard PCR: [Pde6b^{rd1}](#)

Probe: [Pde6b^{rd1}](#)

[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 Ts65Dn mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #001924 in your

[Materials and Methods](#) section.

[Facility Barrier Level Descriptions](#)

 [AX11 \(Maximum\)](#)

[- Pricing & Availability](#)



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Not-For-Profit & Academic

Live Mouse			
AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
4 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40
	Male	Wild-type; Diploid for Chromosome 16	\$81.40
5 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
5 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40
	Male	Wild-type; Diploid for Chromosome 16	\$81.40
6 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
6 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40
	Male	Wild-type; Diploid for Chromosome 16	\$81.40
7 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
7 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40
	Male	Wild-type; Diploid for Chromosome 16	\$81.40
8 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
8 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40
	Male	Wild-type; Diploid for Chromosome 16	\$81.40
9 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
9 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40
	Male	Wild-type; Diploid for Chromosome 16	\$81.40
10 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
10 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40
	Male	Wild-type; Diploid for Chromosome 16	\$81.40
11 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
11 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40
	Male	Wild-type; Diploid for Chromosome 16	\$81.40
12 weeks	Female	Trisomic for distal Chromosome 16	\$247.50
	Male	Trisomic for distal Chromosome 16	\$247.50
12 weeks	Female	Wild-type; Diploid for Chromosome 16	\$81.40

	SEX	Wild-type; Diploid for Chromosome 16	\$81.40
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Breeder Pair		
SEX	GENOTYPE	PRICE
Female	Trisomic for distal Chromosome 16	\$430.50
Male	B6EiC3SnF1/J (001875)	

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