B6129S-Tc(HSA21)1TybEmcf/J

Stock No: 010801 | **Tc1**

AVAILABLE FOR REGISTERING INTEREST

REGISTER INTEREST

Please contact Technical Support for more information

Overview

Also Known As: Tc1, Tc(HSA21)91-1Emcf

This strain is currently unavailable due to replenishing of cryopreserved stocks.

These Tc1 mice contain 42Mb (approximately 90%) of a freely segregating human fragment of Chromosome 21 *Hsa21* containing 269 genes, including most of the gene orthologs located on mouse Chromosome 10 (Mmu10), Mmu16, and Mmu17, which have been found to contribute to human Down Syndrome (DS). These mice may be useful for studying the genes involved in human chromosome aneuploidy and its role in DS.

Donating Investigator

Elizabeth MC Fisher, UCL Institute of Neurology

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GENETIC OVERVIEW

Genetic Background	Generation

Tc(HSA21)1TybEmcf

Allele Type	Gene Symbol	Gene Name
Not Applicable (Inserted expressed sequence, Humanized sequence)	*Tc(HSA21)1TybEmcf*	transchromosomal, human 21, line 1, Victor Tybulewicz and Elizabeth M C Fisher

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research
Developmental Biology Research
Mouse/Human Gene Homologs

VIEW ALL RESEARCH APPLICATIONS

Details

Detailed Description

Mice carrying a human fragment of Chromosome 21 (*Hsa21*) are viable, fertile, and normal in size, only the female carriers consistently transmits the mutation to the germline. When maintained on a background other than (C57BL/6 X 129S8/SvEv) germline transmission is completely abolished. These Tc1 mice contain 42Mb (approximately 83%) of a freely segregating *Hsa21* containing 269 genes, including most of the gene orthologs located on mouse Chromosome 10 (Mmu10), Mmu16, and Mmu17, which have been found to contribute to human Down Syndrome (DS). This mouse strain represents the most complete model of DS, exhibiting alterations in behavior, learning, memory, synaptic plasticity, cerebellar neuronal number, heart development, mandible size, defects in motor coordination, perturbed hematopoiesis, and reduced tumor angiogenesis. These mice may be useful for studying the genes involved in human chromosome aneuploidy and its role in DS.

Development

Control Suggestions

Selected References

Genetics

Tc(HSA21)1TybEmcf

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CHAT OFFLINE

CONTACT TECHNICAL SUPPORT

Genotyping Protocols
Standard PCR:Tc(Hsa21)1TybEmcf
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, Tc1 females are bred to B6129S8F1/J males (Stock No. 012868) to maintain the live colony. Tc1 males do not consistently transmit mutation to germline, and transmission is completely lost on some congenic backgrounds.
Additional Breeding and Husbandry Support

Mating System
Heterozygote x F1

Citation
When using the Tc1 mouse strain in a publication, please cite the originating article(s) and include JAX stock #010801 in your Materials and Methods section.

STRAIN INTEREST REGISTRATION

Please fill out the form below to indicate your interest in purchasing this JAX®Mice strain.
This information helps us manage the colony build and better meet the broad needs of the research community.
Please send any technical questions to Technical Support.

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By Allele

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