C3HeB/FeJ
Stock No: 000658 | C3HFe

Also Known As: C3Fe, HeB, C3H Fekete, C3HFe

This general purpose strain shares a common origin with C3H/HeJ and C3H/HeOuJ. Unlike C3H/HeJ, it carries a normal allele at the Tir4 locus, but is homozygous for Pde6b<sup>rd1</sup>, which causes retinal degeneration.

Genetic Background

Contact Technical Support
(2018-07-27 00:00:00)
Important Note
This strain does not carry mouse mammary tumor virus (MMTV). See JAX® NOTES, May 2000, No. 480. This strain is also homozygous for the retinal degeneration allele Pde6b<sup>rd1</sup>. See article "Genetic Background Effects: Can Your Mice See?", JAX® NOTES Spring 2002, No. 485. A sighted alternative is Stock No. 003648, C3Sn.BLiA-Pde6b<sup>rd1</sup>/DnJ.

Detailed Description
This general purpose strain shares a common origin with C3H/HeJ and C3H/HeOuJ. Unlike C3H/HeJ, it carries a normal allele at the Tkr4 locus, but is homozygous for Pde6b<sup>rd1</sup>, which causes retinal degeneration. This C3H subtype lacks the nob5 allele of Gpr179 (Chang, 2015). C3HeB/FeJ inbred mice have been found to be extremely susceptible to virulent Mycobacterium tuberculosis. They develop pulmonary tuberculosis and die within 25-28 days of infection with $10^5$ CFU of Erdman strain of M. tuberculosis (Kramnik et al, 1998). Several QTL have been identified that contribute to the M. tuberculosis susceptibility (Sissons et al., 2009). The QTL susceptibility to tuberculosis 1 (sst1) on Chromosome 1, mapped to a locus that includes the Sp110 gene, which was shown to have variable copy number in C3HeB/FeJ and comparatively decreased expression subsequent to TB infection. Transgenic expression of Sp110 in macrophages increased resistance to TB in C3HeB/FeJ (Pan et al., 2005, Kramnik, 2008). C3HeB/FeJ has also been found to be susceptible to infection by Chlamydia pneumoniae and Listeria monocytogenes and that susceptibility also maps in part to the sst1 locus (Boyartchuk et al., 2004, He et al., 2013). These mice have also been found to be susceptible to Salmonella typhimurium infection (Eisenstein et al., 1982). In response to kainic acid this inbred strain has a low dose tolerance, high rate of induced seizure duration and severity, and high induced mortality rate. None survive induced status epilepticus, and just prior to severe seizures the mice display hyperactivity and running behavior (McKhann et al., 2003).

Selected References

Genetics

Sst<sup>1</sup><sup>C3HeB/FeJ</sup>

Pde6b<sup>rd1</sup>

Disease/Phenotype
Genotyping Protocols
Genotyping resources and troubleshooting
Inbred mouse strains are maintained through sibling (sister x brother) matings; no genotyping required.

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

Breeding Considerations
This strain is an exceptional breeder.
Additional Breeding and Husbandry Support

Mating System
Sibling x Sibling

Appearance
agouti
Related Genotype: A/A

Citation
Animal Health Reports
When using the C3H/He mouse strain in a publication, please include JAX stock #000658 in your Materials and Methods section.

Facility Barrier Level Descriptions
- MP16 (Standard)
- RB07 (Maximum)

Pricing & Availability
Sized to accommodate orders of up to 100 or more. Call Customer Service for details.
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