Also Known As: BTBR

This strain is used in studies of autism because it exhibits several symptoms of autism including reduced social interactions, impaired play, unusual vocalizations as compared to other inbred strains. BTBR mice exhibit a 100% absence of the corpus callosum and a severely reduced hippocampal commissure.

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>Contact Technical Support</td>
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<td>(2018-07-27 00:00:00)</td>
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</table>
BTBR mice exhibit a 100% absence of the corpus callosum and a severely reduced hippocampal commissure (Wahlsten D, 2003 *Brain Res*). This strain exhibits several symptoms of autism including reduced social interactions, impaired play, low exploratory behavior, unusual vocalizations and high anxiety as compared to other inbred strains (McFarlane HG, 2008, Gen, *Brain Behav*, Moy SS, 2007, *Behav Br Res*, Scattoni ML, 2008, *PLos*). Diet has been found to impact these phenotypes, levels of neuroinflammation, neurogenesis and synaptic function (Currais et al., 2016, *Mol Psych*).

This inbred strain recognized by its distinctive black and tan coat color and abnormal hair growth pattern and appearance. Specifically, mice homozygous for the spontaneous tufted mutation (*Itpr3<sup>T</sup>* ) exhibit alternating waves of hair loss and growth are repeated throughout the life of the mouse, creating a sparse hair appearance (Lyon MF, 1956, *J Hered*).

In 2019-2020, researchers at The Jackson Laboratory discovered this inbred strain contains the *Trem2<sup>S148E</sup>* allele - a naturally occurring variant at position 48351151-48351152 on Chr 17 (*rs108080490* and *rs107649577*; Ensembl GRCm38.p6). This TC to GA transition results in a serine to glutamic acid substitution at amino acid 148 (S148E).

### Selected References

- *Disc<sub>1del</sub>*
- *T*<sup>+</sup>
**Disease/Phenotype**

**Disease Terms**

**Research Areas By Phenotype**

**Mammalian Phenotype Terms by Genotype**

**Phenotype Information**

**References**

**Technical Support**

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**Genotyping Protocols**
End Point Analysis: Itpr3
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**
black and tan, tufted
Related Genotype: *a/a T+/T+ Itpr3ff/Itpr3ff*

**Citation**
When using the BTBR mouse strain in a publication, please include JAX stock #002282 in your Materials and Methods section.

---

**Animal Health Reports**
Facility Barrier Level Descriptions
## Pricing & Availability

### Live Mouse

<table>
<thead>
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<th>SEX</th>
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<td>Not Applicable</td>
<td>$135.32</td>
</tr>
</tbody>
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Phone: 207-288-6470
Email: TechTran@jax.org

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All Related Strains

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