Overview

B6;129S-Tnf/J

Stock No: 003008 | TNFα

Targeted Mutation

AVAILABLE

PLACE ORDER

Live mice available in varying quantities. Ask Customer Service for details.
Also Known As: TNFα

Homozygous TNFα KO mice are useful when studying the role of tumor necrosis factor (TNF) in various systems, including inflammatory responses as seen in lung immunopathology and inflammatory bowel disease.

Donating Investigator
Dr. George Kollias, Biomedical Sciences Research Centre Alexander Fleming

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td></td>
<td>?+pF10</td>
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**Tnfm1Gkl**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Tnf</td>
<td>tumor necrosis factor</td>
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</tbody>
</table>

RESEARCH APPLICATIONS

- Apoptosis Research
- Cancer Research
- Cardiovascular Research
- Endocrine Deficiency Research
- Hematological Research
- Immunology, Inflammation and Autoimmunity Research
- Diabetes and Obesity Research
- Internal/Organ Research
Development of both lymph nodes and Peyer's patches is normal in these mice, with homozygous mutants exhibiting no apparent outward phenotypic abnormalities. Homozygous mice completely lack splenic primary B cell follicles and cannot form organized follicular dendritic cell networks and germinal centers. TNF-deficient mice treated to induce skin carcinogenesis develop significantly less benign and malignant tumors than treated wildtype mice. Nonobese homozygous mutant mice show modest decreases in body weight, epididymal fat depot weight, and percent body fat (statistically significant in males at 28 weeks of age). Further characterization indicates that 28 week old male mutant mice display lower insulin, triglyceride, and leptin levels compared to wildtype controls. Characterization of TNF deficient homozygotes injected with gold-thioglucose (GTG) to induce hyperphagic obesity indicates that the presence of TNF does not affect the degree of obesity. However, fasting plasma glucose and insulin levels, and the insulin response to an oral glucose load were significantly decreased in obese TNF deficient mice compared to obese wildtype controls. These results indicate TNF plays a role in lipid and glucose metabolism but is not sufficient to completely eliminate hyperglycemia and hyperinsulinemia in this induced obesity model. \textit{TNFa KO} mice are viable and fertile.
Genotyping Protocols
Standard PCR: Tnf<sup>tm1Gkl</sup>
Standard PCR: Tnf<sup>tm1Gkl</sup>

Genotyping resources and troubleshooting

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

Breeding Considerations

This strain is a good breeder.
When maintaining a live colony, homozygous mice may be bred together.

Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Appearance
black
Related Genotype: a/a

Citation
When using the TNFα mouse strain in a publication, please cite the originating article(s) and include JAX stock #003008 in your Materials and Methods section.

Animal Health Reports

Facility Barrier Level Descriptions

Pricing & Availability

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

<table>
<thead>
<tr>
<th>Live Mouse</th>
<th>SEX</th>
<th>GENOTYPE</th>
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#### Terms of Use

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Email: TechTran@jax.org

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- All
- By Allele
- By Gene
- By Collection

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