B6.Cg-A\(^y\)/J

Stock No: 000021 | lethal yellow

- Congenic Spontaneous Mutation

Available

PLACE ORDER

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

Overview

Also Known As: lethal yellow

Nonagouti; agouti yellow (A\(^y\)) is a semidominant spontaneous mutation with homozygotes dying before implantation. Heterozygotes are characterized by obesity, yellow hair pigment, black eyes, elevated malic enzyme in the liver, and susceptibility to several kinds of tumors.

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>000664 C57BL/6J</td>
<td>N113</td>
</tr>
<tr>
<td></td>
<td>(2018-11-30 00:00:00)</td>
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</table>

A\(^y\)

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous</td>
<td>a</td>
<td>nonagouti</td>
</tr>
</tbody>
</table>

VIEW GENETICS
### Details

**Detailed Description**

Mice homozygous for the yellow spontaneous mutation (A°) die before implantation or shortly thereafter. The time of death and type of abnormality is, in part, determined by the genetic background on which the mutation is placed. Hair pigment in heterozygous mice is yellow, but eyes are black. Heterozygotes usually become obese and infertile after the first few months. Increased adipose tissue mass is due to fat-cell hypertrophy. It has been hypothesized that the obesity results from the observed reduction in hypothalamic norepinephrine and dopamine levels. Insulin resistance and hyperglycemia follow development of hyperinsulinemia in early adulthood, although the degree is less severe than on the KK/UpJ genetic background (Stock No. 002468). Heterozygotes are also more susceptible to several kinds of tumors than normal mice, and their spleen cells cause a significantly lower graft vs. host reaction. The level of malic enzyme in the liver is elevated.

**Control Suggestions**

**Selected References**

### Genetics

**A°**

### Disease/Phenotype

**Disease Terms**

### Research Areas By Genotype
Mammalian Phenotype Terms by Genotype

Phenotype Information

References

Technical Support

Genotyping Protocols
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K54 formulation (4% fat)

Breeding Considerations
Mice heterozygous for A⁺ can be identified phenotypically; see Strain Description. A⁺/A⁺ homozygotes die embryonically. The weanlings are sometimes small and can be aggressive.

Additional Breeding and Husbandry Support

Mating System
heterozygote x C57BL/6J or C57BL/6J x heterozygote

Appearance
yellow, affected
Related Genotype: A⁺/a

black, unaffected
Related Genotype: a/a

Citation
When using this strain in a publication, please cite the originating article(s) and include JAX stock #000021 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

FG829 (Standard)

Pricing & Availability

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

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Heterozygous for A⁺</td>
<td>$278.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Heterozygous for A⁺</td>
<td>$278.00</td>
</tr>
</tbody>
</table>

Domestic | International

Pricing effective for USA, Canada and Mexico shipping destinations.
Breeder Pair

<table>
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<tr>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Female</td>
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<td>C57BL/6J (000664)</td>
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Terms of Use

General Terms and Conditions

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Phone: 207-288-6470

Email: TechTran@jax.org

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