STOCK Kit^{W-sh}/HNihrJaeBsmJ

Stock No: 005051 | sash

Spontaneous Mutation

Also Known As: sash, c-Kit^{W-sh}, cKit^{W-sh}

Estimated Removal of Live Colony date: 08 November 2018

This strain will be removed from the shelf in the near future.
See Stock No. 030764 that is fully congenic on C57BL/6J and newly available.

These mice carry the spontaneous Kit “sash” mutation associated with melanogenesis and mast cell deficiency.

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>N15F1 x F26</td>
<td></td>
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<td>(2018-04-16 00:00:00)</td>
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<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Spontaneous</td>
<td>Kit</td>
<td>KIT proto-oncogene receptor tyrosine kinase</td>
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</tbody>
</table>

RESEARCH APPLICATIONS

- Research Tools
- Immunology, Inflammation and Autoimmunity Research
- Sensorineural Research
- Dermatology Research
Starting at:
$333.00 Domestic price for female

**Details**

**Important Note**

In 2010, The Jackson Laboratory performed a 126 single nucleotide polymorphism analysis on all pedigree lines of Kit<sup>W-sh</sup> mice from Stock No. 005051. This revealed 14/126 markers that were homozygous C3H/He allele-type (two on Chr 5 [including the marker at 76.4 Mbp; closest to the Kit locus], three on Chr 6, one on Chr 8, two on Chr 12, two on Chr 13, one on Chr 15, two on Chr 16, one on Chr 18). Additionally, two markers were segregating for C57BL/6 and C3H/He allele-type (one on Chr 6, one on Chr 16). The amount of 101/H markers present (if any) was not determined. These data show Stock No. 005051 to be only ~87% C57BL/6-genetic background; and suggests it was not completely backcrossed to C57BL/6 prior to arrival in 2004. Therefore, we also offer a fully C57BL/6J-congenic Kit<sup>W-sh</sup> model (Stock No. 030764) for studying Kit<sup>W-sh</sup> on a C57BL/6J genetic background.

**Detailed Description**

The sash mutation results in an embryonic deficit and eventual abolishment of mast cells soon after birth. There is also a deficit of melanocytes and interstitial cells in these mice. Reduced numbers of melanocytes results in some hearing impairment in homozygotes. The Kit<sup>W-sh</sup> mutation is an inversion in regulatory elements upstream of the c-kit element. Homozygotes are white with black eyes and some pigment around the ears. Heterozygotes are black with a white sash at the midline. The mice are fertile and not anemic.

Recent findings of altered immune responses as a result of mast cell deficit in these mice include:

- heightened susceptibility to vaccinia virus skin infection;
- earlier and more severe experimental autoimmune encephalomyelitis disease (a model of multiple sclerosis) with extensive demyelination and inflammation in the CNS;
- exacerbated dermatitis upon repeated oxazolone challenge when compared to their wild-type;
- Ultra violet exposure in these mice does not induce immune suppression, as it does in wild type mice;
- lower serum IgE levels compared with wild-type mice under steady-state conditions and after N. brasiliensis (hookworm) infection;
- failure to elicit histamine release or contractile responses in trachea isolated from ovalbumin sensitized mast cell-deficient mice;
- development of 50% more adenomas than littermate controls and with tumors being 33% larger in Kit<sup>W-sh</sup> mice;
- increased resistance to bacterial lipopolysaccharide injection;
- failure of ovalbumin sensitization to elicit histamine release or contractile responses in trachea isolated from sensitized Kit<sup>W-sh</sup> mice.

**Development**

**Control Suggestions**
Genotyping Protocols
Separated PCR: Kit$^{W-sh}$
Genotyping resources and troubleshooting

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

Breeding Considerations
Homozygotes are fertile and produce normal litters.
Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Appearance
black with white sash at midline, black eyes
Related Genotype: a/a Kit$^{W-sh}$/+

Citation
When using the research mouse strain in a publication, please cite the originating article(s) and include JAX stock #005051 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions
AX11 (Maximum)

Pricing & Availability
Live colonies of this strain will be removed soon

### Domestic

<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>Homozygous for KitW-sh</td>
<td>$333.00</td>
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<tr>
<td></td>
<td>Male</td>
<td>Homozygous for KitW-sh</td>
<td>$333.00</td>
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### Related Products and Services

- **Frozen Mouse Embryo**
  - $2,595.00 per straw or vial

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[General Terms and Conditions](#)

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