A new mouse mutation on Chromosome 13 causing a striped coat

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Mutation (allele) symbol: *Mfs*

Mutation (allele) name: Mutant fur is striped

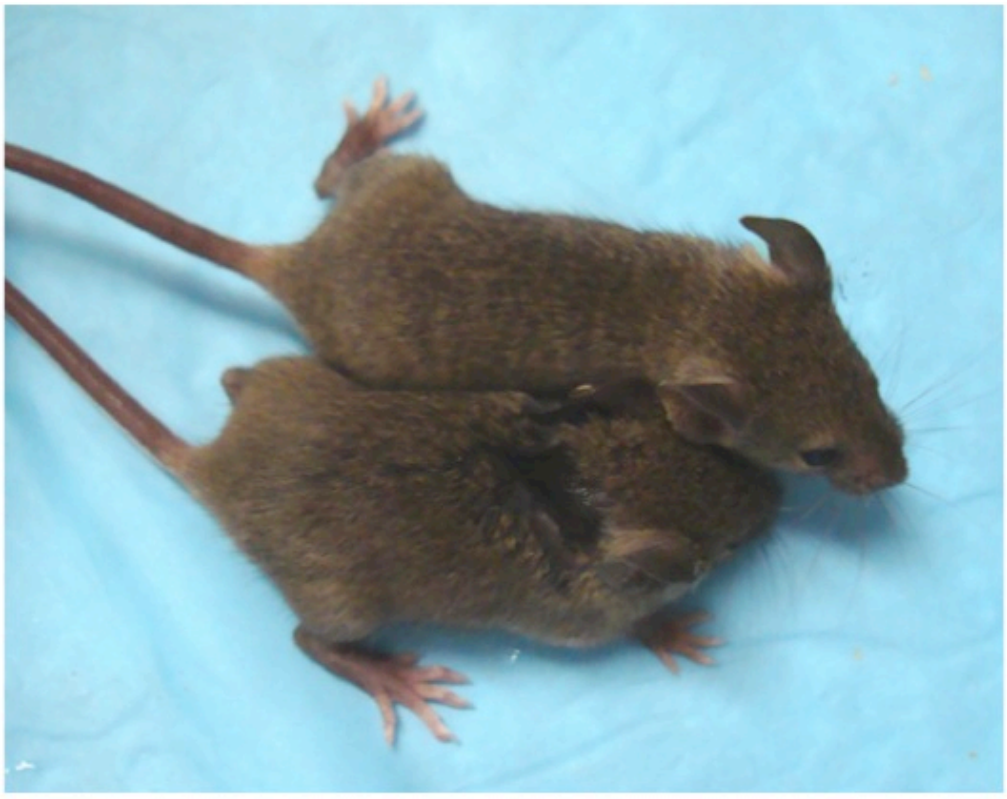
Strain of origin: C3H/HeJ

Current strain name: C3H/HeJ-*Mfs*/J

Stock #004806 (jaxmice.jax.org)

Phenotype categories: skin and hair

Abstract
A dominant coat color mutation has been found in the Mouse Mutant Resource at the Jackson Laboratory and has been named Mutant fur is striped (*Mfs*). The mutants can be recognized by 3 weeks of age by their striped coats. The mutation maps to Chromosome 13.



Two female mice at 3 weeks of age: The mouse on top is a *Mfs*/+ mutant and the lower mouse is an unaffected +/+ mouse.

Origin and Description
The *Mfs* mutation was found in a colony of C3H/HeJ mice bearing a different new mutation at generation F 226+F3. Mice affected by the *Mfs* mutation are recognized by a striped pattern in their coats that can be seen by three weeks of age. The striping occurs in both males and females and in both homozygotes and heterozygotes. Both female and male mutants are fertile and have the expected ratio of mutants in their offspring. The C3H/HeJ-*Mfs*/J colony is currently maintained by wildtype x heterozygote matings.

Genetic Analysis
Using the standard mapping protocols of The Mouse Mutant Resource, a female affected by the *Mfs* mutation was mated to a CAST/Ei male mouse. The affected F1 progeny produced from this mating were then backcrossed to an unaffected mouse and produced 90 affected progeny of which 21 were used for linkage analysis. The *Mfs* mutation maps to Chromosome 13 between *D13Mit16* (NCBI 36 position 20.3 Mb) and *D13Mit10* (UCSC position 49.7-49.9), and is non-recombinant with *D13Mit60* (NCBI 36 position 35.9 Mb).

Pathology
A pathological screen of three mutants and one control mouse found no lesions. The eyes of two mutant mice and one control mouse were examined with an ophthalmoscope and all had retinal degeneration 1 ($Pde6b^{rd1}$) which is normal for the C3H/HeJ background strain and not caused by the *Mfs* mutation. Hearing as assessed by auditory brainstem testing (ABR) of both mutant and control mice showed that all had normal hearing

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