C57BL/6-Atp7a Mo-br/J

Stock No: 002566

Spontaneous Mutation

AVAILABLE FOR REGISTERING INTEREST

REGISTER INTEREST

Please contact Customer Service for more information

Overview

This colony is currently unavailable due to replenishing of cryopreserved stocks. We are unable to determine when it will be available in the future.

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GENETIC OVERVIEW

Genetic Background Generation

Atp7a Mo-br

Allele Type Gene Symbol Gene Name
Spontaneous Atp7a ATPase, Cu++ transporting, alpha polypeptide
RESEARCH APPLICATIONS
Metabolism Research
Dermatology Research
Developmental Biology Research
Neurobiology Research
Mouse/Human Gene Homologs

Details

Detailed Description
Heterozygous females carrying the brindled allele (Atp7a<sup>Mo<br></sup>) are very similar to mottled heterozygous females (Atp7a<sup>Mo</sup>+/+) in appearance but have normal viability. They have curly vibrissae, but the coat is not noticeably waved. Heterozygous males are almost devoid of pigment except in the eyes and ears. The vibrissae are strongly curled, and the coat is wavy. Males usually die by two weeks of age, but a few have lived and been fertile. They have a behavioral abnormality consisting of a slight tremor, uncoordinated gait, and clasping of the hindfeet when held up by the tail. Histological examination of the brain of brindled males shows widespread neuronal degeneration in the cerebral cortex and thalamic nuclei and scattered degeneration in the cerebellum. Heterozygous females have been shown to have neurochemical abnormalities as well. In contrast to mice bearing other Atp7a alleles, brindled mice have no aortic lesions and no defect in crosslinking of collagen and elastin. Brindled males have defective placental transport and defective intestinal absorption of copper. Parenteral injection of copper at 7 to 10 days of age prevents tremor and early death, allows normal pigmentation, improves growth, produces normal concentrations of copper in organs previously deficient (except liver), produces normal activity of some copper-dependent enzymes, and prevents neuronal degeneration.

Development

Control Suggestions

Genetics

Atp7a<sup>Mo<br></sup>

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support
Genotyping Protocols
Genotyping resources and troubleshooting

Breeding Considerations
As hemizygous (Atp7a<sup>Mb-br</sup>/Y) males and homozygous (Atp7a<sup>Mb-br</sup>/Atp7a<sup>Mb-br</sup>) females do not survive to breeding age, this strain must be maintained by breeding heterozygous (Atp7a<sup>Mb-br</sup>+/+) females to wild-type males.

Additional Breeding and Husbandry Support

Appearance
black coat with light patches, curly vibrissae
Related Genotype: a/a Atp7a<sup>Mb-br</sup>/+

black
Related Genotype: a/a +/+ or a/a +/+ 

Citation
When using the C57BL/6-Atp7a<sup>Mb-br</sup>/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #002566 in your Materials and Methods section.

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