

Cocoa 7 Jackson, a new spontaneous mouse mutation in the *Hps3* gene.

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Mutation (allele) symbol: *Hps3*^{coa-7J}

Mutation (allele) name: cocoa 7 Jackson

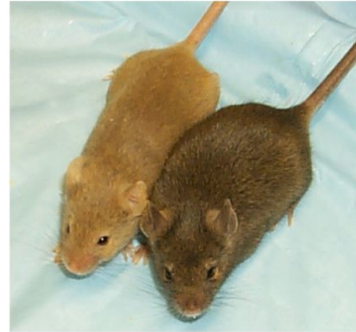
Gene symbol: *Hps3*

Strain of origin: C3H/HeJ

Current strain name: C3H/HeJ-*Hps3*^{coa-7J}/GrsrJ

Stock #006656 (jaxmice.jax.org)

Phenotype categories: coat color



A light colored mouse homozygous for *coa-7J* on the left and a darker colored heterozygous littermate control on the right, both at 6 weeks of age.

Origin and Description

The recessively inherited cocoa 7 Jackson (*Hps3*^{coa-7J}) mutation arose spontaneously in a colony of C3H/HeJ mice in the Russell-Dickie Foundation Stocks colonies at The Jackson Laboratory and was discovered by Helen Tracey in 2004.

Like previously described *Hps3*^{coa} mutants, mice homozygous for the *coa-7J* mutation have a lighter coat color than littermate controls and can be recognized when their first coat of hair comes in at about 10 days of age. The originally described *coa* mutants had prolonged bleeding associated with a platelet defect. Bloodwork was not performed on the *coa-7J* mutants, so it is uncertain that they carry the platelet defect. Heterozygotes have a normal C3H/HeJ coat color (agouti). Both homozygotes and heterozygotes breed well and live a normal lifespan.

Genetic Analysis

Using our standard mapping protocols a linkage cross was performed by mating a CAST/Ei male mouse to a female homozygous for the *coa-7J* mutation. F1 progeny from this mating were intercrossed and produced 54 affected animals of which 21 were used for linkage analysis. The mutation was mapped to the region of Chromosome 3 where the *Hps3*^{coa} gene is located. Because of the similarity of phenotype of *Hps3*^{coa} mutants to the new mutation, a test for allelism was performed. A homozygous mutant female B6.B10-*Hps3*^{coa}/J mouse was mated to a male heterozygous for this new *coa-7J* mutation. In two litters, 16 progeny were produced of which 7 were affected with the *coa* phenotype proving allelism.

Acknowledgements

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