Caracul-like 4, a dominant mutation resembling *Krt2-6g*^{Ca} (caracul) and mapping to the same chromosomal location.

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Mutation (allele) symbol: *Cal4*

Mutation (allele) name: caracul-like 4

Gene symbol: *Cal4*

Strain of origin: C57BL/6J

Current strain name: C57BL/6J- *Cal4*/GrsrJ

Stock #:005123 (Available as DNA only from the Jackson Laboratory DNA Resource)

Phenotype categories: Hair

Abstract
A spontaneous, dominant, curly coat mutation resembling *Krt2-6g*^{Ca} (caracul) has been discovered and named caracul-like 4 (*Cal4*). This mutation maps to Chromosome 15 in the same region as *Krt2-6g*^{Ca}. *Cal4* may be a remutation to *Krt2-6g*^{Ca} however a direct test for allelism was not performed.

Origin and Description
This spontaneous mutation was discovered in a production colony (Annex-10) at the Jackson Laboratory on Nov. 28, 2001 by Karen Hammond. Mice carrying the *Cal4* mutation are easily recognizable at 3 weeks of age by their very curly coat and kinked vibrissae. With age, the coat of mutant mice straightens slightly but appears to be rubbed the wrong way, while the vibrissae are kinked to a lesser degree.

Genetic Analysis
To determine the mode of inheritance an affected female was mated to an unrelated normal C57BL/6J male. In 4 litters produced, 11 progeny were affected and 9 were normal thus proving the mutation to be dominant. *Cal4* maps between *D15Mit76* and *D15Mit16* and is non-recombinant with *D15Mit44* and *D15Mit263* in 21 animals typed. Our placement of these markers and of *Ca* agree with the Ensembl Build 32 placement, with *D15Mit76* at 96.9 Mb, *D15Mit44* at 101.0 Mb, *D15Mit263* at 101.3 Mb, *Ca* at 103.9 and *D15Mit16* at 105Mb.

Pathology
Our standard pathology screen revealed no lesions in major organs other than skin. The skin of a 7-week old *Cal4*/+ mutant mouse had aberrant large hair follicles (possibly

guard hair follicles) that may have been prohibitive to hair growth; a 7-week old +/+ control had no skin lesions. Hair samples taken from a 3-week-old *Cal4*/+ mouse displayed occasional dysplastic hair follicles, while the hair from a control littermate was normal. Auditory-evoked brainstem response testing revealed no significant hearing loss in 1 *Cal4*/+ mutant and 1 +/+ control tested at 5 weeks of age.

Discussion

Based on the phenotype and chromosomal location of *Cal4*, it is likely to be a remutation to *Krt2-6g*^{Ca}.

Acknowledgements

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References

Mouse Genome Database (MGD) Mouse Genome Informatics Project, The Jackson Laboratory, Bar Harbor, Maine. World Wide Web

MGSC19.32.2., Mouse Genome Sequencing Consortium (ensembl.org/Mus_musculus/)