Caracul-like 7, a dominant mutation resembling *Krt2-6g*^{Ca} (caracul).

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Mutation (allele) symbol: *Cal7*

Mutation (allele) name: Caracul-like 7

Gene symbol: *Krt2-6g*

Strain of origin: C.129S2(B6)-*Il4*^{tm1Gru}/J

Current strain name: STOCK *I14*^{tm1Gru}-*Cal7*/GrsrJ

Stock #005409

Phenotype categories: hair

Abstract

A spontaneous, dominant curly coat mutation resembling caracul (*Krt2-6g*^{Ca}) has been discovered and named caracul-like 7 (*Cal7*). This mutation maps to Chromosome 15 in the same region as *Krt2-6g*^{Ca}. The phenotype and map position of *Cal7* suggest that it may be a remutation to *Krt2-6g*^{Ca} however a direct test for allelism was not performed because caracul is only available as frozen embryos.

Origin and Description

This dominant mutation was discovered in a breeding colony of C.129S2(B6)-*I14*^{tm1Gru}/J at The Jackson Laboratory in March of 2002 by Sean Sullivan. Mice homozygous or heterozygous for the *Cal7* mutation are phenotypically the same in appearance and both are fertile. Mice carrying the *Cal7* mutation are recognized at 3 weeks of age by their very curly coats and kinked vibrissae. With age, the coat of mutant mice straightens some and has a ruffled look. The original caracul mutation has a very similar dominant phenotype showing wavy hair and curved vibrissae.

Genetic Analysis

To determine the mode of inheritance an affected (*Cal7*/+) male was mated to an unrelated normal BALB/cByJ female. In 3 litters produced, 11 progeny were affected and 4 were normal, thus proving the mutation to be dominant. Using our standard mapping procedures *Cal7* was determined to map between *D15Mit44* and *D15Mit35* in 21 animals typed. The Ensembl placement of these markers and *Krt2-6gCa* is *D15Mit44* at 101.0 Mb, *D15Mit35* at 104 Mb, and *Krt2-6gCa* at 103.9 Mb. Consequently it is likely that *Cal7* is a remutation to *Krt2-6g*^{Ca}.

Pathology
Fur samples and pelt pads were prepared from a 3 week old mutant and a control littermate and were viewed microscopically.

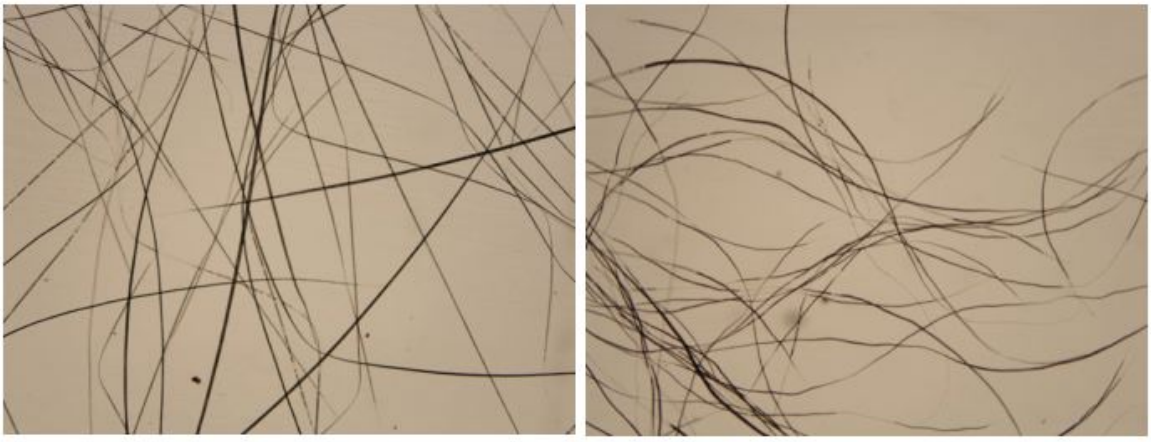

Figure 1. Hair from a 3 week old control on left and from a 3 week old mutant on the right. The hairs in the mutant are thinner, there are fewer awls and auchenne hair types present, and the bends in the zigzags are less prominent.

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

MGSC27.33c.1. Mouse Genome Sequencing Consortium
(URL: http://www.ensembl.org/Mus_musculus/)