

CBA/CaJStock No: **000654** | CBA/Ca **Inbred Strain**

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The CBA inbred strain was initially bred for longevity and a low incidence of spontaneous mammary tumors relative to C3H. CBA/CaJ mice are commonly used for leukemogenesis research because this strain has a low spontaneous incidence of leukemia while myeloid leukemia can readily be induced. CBA/CaJ mice carry viral proteins Mtv8, Mtv9, and Mtv14. Male CBA/CaJ mice develop a mild adult onset diabetes-obesity syndrome that is characterized by hyperglycemia, hyperinsulinemia and insulin resistance. Unlike the CBA/J substrain, CBA/CaJ mice do not carry the retinal degeneration 1 allele (*Pde6b^{rd1}*), and CBA/CaJ mice are not histocompatible with the CBA/J.

[READ MORE +](#)**GENETIC OVERVIEW****Genetic Background****Generation**[VIEW GENETICS](#)

RESEARCH APPLICATIONS

Diabetes and Obesity Research
Cancer Research
Research Tools
Sensorineural Research
Reproductive Biology Research

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BASE PRICE

Starting at:

\$48.36 Domestic price for female 3-week

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[Detailed Description](#)

CBA inbred mice are derived from a cross of an unpedigreed Bagg albino female and an early DBA progenitor male. C3H mice are descended from the same cross. The CBA inbred strain was initially bred for longevity and a low incidence of spontaneous mammary tumors (compared with C3H). Burdette and Strong reported that CBA mice were comparatively susceptible to tumor induction after a single subcutaneous injection of methylcholanthrene. The tumor types identified in this early work in CBA mice included spindle cell sarcoma, rhabdomyosarcoma, and epidermoid carcinoma. Strong and Smith reported finding benign hepatomas in aging CBA mice. Several groups confirmed this finding, and the majority of studies found a higher frequency of spontaneous hepatomas in males than in females.

CBA/CaJ mice are commonly used for leukemogenesis research because this strain has a low spontaneous incidence of leukemia but has a relatively high inducibility of myeloid leukemia in response to benzene and radiation exposure. Multiple reports using CBA, its F1 hybrids, and other strains, have indicated that deletions in a specific segment of chromosome 2 are linked to radiation and chemical induction of myeloid leukemia. This segment is reported to map to a 1 cM interval flanked by D2Mit126 and D2Mit185 which is homologous to human chromosome segment 11p11-12.

In addition, CBA/CaJ mice have been used for the assessment of cytostatic drug combination protocols and have also been utilized successfully as hosts for childhood rhabdomyosarcoma xenografts, after thymectomy and irradiation. CBA/CaJ mice carry viral proteins Mtv8, Mtv9, and Mtv14.

Male CBA/CaJ mice develop a mild adult onset diabetes-obesity syndrome that is characterized by hyperglycemia, hyperinsulinemia and insulin resistance. Pancreatic beta cells do not degenerate and circulating insulin levels remain high throughout life.

CBA/CaJ electroretinograms show a reduced amplitude of both scotopic and photopic b-waves but normal a-wave. This was found to be caused by a p.Met66Leu mutation in metabotropic glutamate receptor 6, *Grm6*^{no66}. This substitution at a conserved methionine causes decreased glycosylation, and decreased expression in the depolarizing bipolar cell dendritic tips, the normal site of expression, with increased expression in the cell bodies. The decreased scotopic b-wave also has prominent high frequency oscillatory potentials. There are fewer visually responsive retinal ganglion cells and the time to peak

of ON retinal ganglion cells is increased relative to C57BL/6J controls, although the time to peak of OFF is normal. Retinal structure is normal. The *Grm6^{nob8}* mutation provides a model for congenital stationary night blindness type 1B that is more mild than that provided by *Grm6* null alleles, which have no b-wave. Unlike the CBA/J substrain, CBA/CaJ mice do not carry the retinal degeneration 1 allele (*Pde6b^{rd1}*). CBA/CaJ mice are not histocompatible with the CBA/J substrain (Green and Kaufer, 1965).

+ Development

+ Selected References

- Genetics

+ *Grm6^{nob8}*

+ *Rmcf^f*

- Disease/Phenotype

+ Disease Terms

+ Research Areas By Phenotype

+ Mammalian Phenotype Terms by Genotype

+ Phenotype Information

+ References

- Technical Support

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

End Point Analysis:[Crb1 End Point](#)

Standard PCR:[Generic Pde6b Alternate1](#)

Probe:[Pde6b Probe](#)

[Genotyping resources and troubleshooting](#)

Inbred mouse strains are maintained through sibling (sister x brother) matings; no genotyping required.

Breeding Considerations

This strain is a good breeder.

[Additional Breeding and Husbandry Support](#)

Mating System

Sibling x Sibling

Appearance

agouti

Related Genotype: *A/A*

Citation

When using the CBA/Ca mouse strain in a publication, please include JAX stock #000654 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

 [AX27 \(Maximum\)](#)

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	Male	Not Applicable	\$48.36
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	Male	Not Applicable	\$48.36
6 weeks	Female	Not Applicable	\$51.81
	Male	Not Applicable	\$51.81
7 weeks	Female	Not Applicable	\$55.26
	Male	Not Applicable	\$55.26
8 weeks	Female	Not Applicable	\$58.71
	Male	Not Applicable	\$58.71
9 weeks	Female	Not Applicable	\$62.16

	Male	Not Applicable	\$62.16
	SEX		
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	Male	Not Applicable	\$65.61

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