Also Known As: 129X1
129 inbred mice are characterized by a high incidence of spontaneous testicular teratomas, though the incidence differs between substrains. 129/SvJ mice, as well as mice from other 129 sublines, are widely used in the production of targeted mutations due to the availability of multiple embryonic stem cell lines derived from them. Major genetic variation exists between various sublines of the 129 "family".

GENETIC OVERVIEW

Genetic Background
Generation
Contact Technical Support
(2019-05-22 00:00:00)

VIEW GENETICS
Details

Important Note
This strain is homozygous for Cdh23<sup>ahl</sup>, the age related hearing loss 1 mutation, which on this background results in progressive hearing loss with onset prior to three months of age.

Detailed Description
Historically, the 129 inbred mice are known for the high incidence of spontaneous testicular teratomas, though the incidence differs between substrains. (1-3% in 129 parental substrains; 30% in teratoma substrains.) More recently 129 mice are widely used in the production of targeted mutations due to the availability of multiple embryonic stem cell lines derived from them. There is major genetic variation within the 129 “family”, which has led to an update of the nomenclature and a division of the substrains into three major groups: parental substrains (129P), steel substrains (129S) and “teratoma” substrains (129T). Investigators using 129 substrains for targeted mutagenesis should be careful in the selection of the appropriate 129 substrain to match the embryonic stem cell line. For a complete history of the numerous 129 substrains, see Simpson et al. 1997.

In response to challenge, 129X1/SvJ mice develop immune-mediated nephritis characterized by proteinuria, glomerulonephritis and tubulointerstitial disease (Xie et al. 2004).

White et al. reported a variation in thioglycolate medium-induced peritoneal leukocyte recruitment in 4 analyzed strains. The response of total leukocyte recruitment, from greatest to least, was C57BL/6J>BALB/c>CD1>129X1/SvJ. Variations were also found in the timeline of response and cell types most impacted.

Development

Selected References
Genetics

- Cdh23ahl
- Poli’d
- Disc1del
- Astn2ridge

Disease/Phenotype

- Disease Terms
- Research Areas By Phenotype
- Mammalian Phenotype Terms by Genotype
- Phenotype Information
- References

Technical Support

Genotyping Protocols
Genotyping resources and troubleshooting
Inbred mouse strains are maintained through sibling (sister x brother) matings; no genotyping required.

Breeding Considerations
This strain is a challenging breeder.
Additional Breeding and Husbandry Support
Mating System
Sibling x Sibling

Appearance
pink-eyed, light-bellied, light chinchilla
Related Genotype: $\text{A}^w/\text{A}^w\text{Oca2}^p\text{Tyr}^{c-ch}/\text{Oca2}^p\text{Tyr}^c$

albino
Related Genotype: $\text{A}^w/\text{A}^w\text{Oca2}^p\text{Tyr}^c/\text{Oca2}^p\text{Tyr}^c$

pink-eyed, light-bellied, chinchilla
Related Genotype: $\text{A}^w/\text{A}^w\text{Oca2}^p\text{Tyr}^{c-ch}/\text{Oca2}^p\text{Tyr}^{c-ch}$

Citation
When using the 129X1 mouse strain in a publication, please include JAX stock #000691 in your Materials and Methods section.

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RELATED PRODUCTS AND SERVICES

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