DBA/1J mice are widely used as a model for rheumatoid arthritis: immunization with type II collagen leads to the development of severe polyarthritis mediated by an autoimmune response. DBA/1J mice show an intermediate susceptibility to developing atherosclerotic aortic lesions on an atherogenic diet. In response to challenge, DBA/1J mice develop immune-mediated nephritis characterized by proteinuria, glomerulonephritis and tubulointerstitial disease.

Also Known As: D1, DBA1

DBA/1J mice are widely used as a model for rheumatoid arthritis: immunization with type II collagen leads to the development of severe polyarthritis mediated by an autoimmune response. DBA/1J mice show an intermediate susceptibility to developing atherosclerotic aortic lesions on an atherogenic diet. In response to challenge, DBA/1J mice develop immune-mediated nephritis characterized by proteinuria, glomerulonephritis and tubulointerstitial disease.
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 after 10 months of age.

Detailed Description
DBA/1J mice are widely used as a model for rheumatoid arthritis: immunization with type II collagen leads to the development of severe polyarthritis mediated by an autoimmune response. The incidence of collagen induced arthritis varies by experimental protocol, but is less than 100%. Similar to the human condition, mice with collagen-induced arthritis display synovitis and erosions of cartilage and bone. In addition, susceptibility in both humans and mice is linked to the expression of specific MHC class II molecules. DBA/1J mice show an intermediate susceptibility to developing atherosclerotic aortic lesions on an atherogenic diet. In response to challenge, DBA/1J mice develop immune-mediated nephritis characterized by proteinuria, glomerulonephritis and tubulointerstitial disease (Xie et al., 2004). There is high incidence of calcified lesions of the tongue with age. This strain is among the least responsive to phytohemagglutinin (Heiniger et al., 1975).
Selected References

Genetics

- Gpr84<sup>del</sup>
- Rmcf<sup>a</sup>
- P2rx7<sup>P451L</sup>
- Tyrp1<sup>b</sup>
- a
- Cdh23<sup>ahl</sup>
- Cd5<sup>a</sup>
- Cox7a2<sup>d</sup>
- Myo5a<sup>d</sup>

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.

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations

This strain is a good breeder.

Additional Breeding and Husbandry Support
Mating System
Sibling x Sibling

Appearance
dilute brown

Related Genotype: \( a^a \ Tyrp1^b \) /\( Tyrp1^b \) \( Myo5a^d \) /\( Myo5a^d \)

Citation
When using the DBA/1J mouse strain in a publication, please include JAX stock #000670 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

- AX27 (Maximum)
- RB09 (Maximum)

Pricing & Availability

Sized to accommodate orders of up to 100 or more. Ask Customer Service for details.

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### Volume Pricing Details

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<tr>
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**Volume Pricing Program**
Quantities: Volume pricing is automatically applied when a minimum quantity per strain for a shipment is reached.
Sexes: Sexes of the same strain may be combined to reach minimum quantity levels to receive the volume pricing.
Shipment: All shipping destinations qualify.

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Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

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The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. **Therefore, we cannot guarantee a strain's phenotype will meet all expectations.** To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project.

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Terms Of Use

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Licensing Information

Phone: 207-288-6470
Email: TechTran@jax.org

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### Related Strains

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All Related Strains
Did you find what you were looking for?
☐ Yes  ☐ No