

B6.Cg-*Sle1*^{NZM2410/Aeg} *Yaa*/DcrJ

Stock No: **021569**

 Congenic, QTL, Spontaneous Mutation

Estimated to begin distribution on Jul 26, 2021

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autoimmune pathology. These mice may be useful in studying the type I IFN-responsive gene signature in autoimmune kidney and lupus pathogenesis. B6.*Sle1yaa* mice are also ideal for breeding with other mutant/transgenic mice already on the C57BL/6 genetic background. This bicongenic B6.*Sle1yaa* strain is also called B6.*Sle1*^{NZM2410/Aeg} *Yaa*, B6.(D1Dcr2-D1Dcr19)^{NZM2410/J} *Yaa* or B6.*Sle1*^{NZM2410/J} *Yaa*.

Donating Investigator

Dr. Derry Roopenian, The Jackson Laboratory

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GENETIC OVERVIEW

Genetic Background

Generation

N7F9pN1
(2021-01-21 00:00:00)

Yaa

Alele Type

Spontaneous

Gene Symbol

Yaa

Gene Name

accelerated autoimmunity and lymphoproliferation transposition

Sle1^{NZM2410/Aeg}

Alele Type

QTL

Gene Symbol

Sle1

Gene Name

systemic lupus erythmatosus susceptibility 1

VIEW GENETICS

RESEARCH APPLICATIONS

Immunology, Inflammation and Autoimmunity Research
Mouse/Human Gene Homologs
Internal/Organ Research
Developmental Biology Research
Endocrine Deficiency Research

[VIEW ALL RESEARCH APPLICATIONS](#)

BASE PRICE

Starting at:

\$278.00 Domestic price for female

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Details

Detailed Description

B6.*Sle1yaa* males are C57BL/6J-congenic animals carrying the systemic lupus erythematosus susceptibility 1 quantitative trait locus from NZM2410/Aeg inbred mice (Stock No. [002676](#)) and the mutant *Yaa*-containing Y chromosome from BXSb/MpJ inbred mice (Stock No. [000740](#)).

While B6.*yaa* males have no overt autoimmune disease, homozygous addition of *Sle1* (which contains the autoimmune-predisposing *Slam/Cd2* haplotype) causes B6.*Sle1yaa* males to develop spontaneous lupus-like autoimmune syndrome with numerous immunological aberrations similarly to BXSb/MpJ inbred males. Specifically, mortality in B6.*Sle1yaa* males starts at ~12-15 weeks of age with 50% lethality by ~30-38 weeks of age. In addition, B6.*Sle1yaa* males exhibit severe kidney pathology characterized by hyalinized end-stage disease in most kidney glomeruli. Significant levels of auto-antibodies are detectable by 6-8 weeks, and IgG auto-antibodies against dsDNA and kidney glomerular antigens increase dramatically with onset of severe glomerulonephritis around 4-6 months. The CD4+ T cell lineage is dysregulated in B6.*Sle1yaa* males: early and progressive CD4+ T cell activation leads to increased IFN γ -secreting cells and, eventually, to a chronic-activation induced replicative senescence phenotype (limitation in the number of times that cells can divide).

B6.*Sle1* females do not have the *Yaa*-containing Y chromosome, and have normal lifespan with little or no evidence of autoimmune disease by nine months of age. B6.*Sle1* females develop a benign autoimmunity characterized by the production of IgG anti-chromatin auto-antibodies (increased levels compared to C57BL/6). Minimal CD4+ T cell lineage dysregulation is observed in B6.*Sle1* females.

Development

Control Suggestions

Selected References

Genetics

+ [Yaa](#)

+ [*Sle1*^{NZM2410/Aeg}](#)

Disease/Phenotype

+ [Disease Terms](#)

+ [Research Areas By Phenotype](#)

+ [Mammalian Phenotype Terms by Genotype](#)

+ [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

Standard PCR:[D1Mit47-ABI](#)

Standard PCR:[D1Mit15 Alternate1](#)

Standard PCR:[D1Mit17 alternate1](#)

[Genotyping resources and troubleshooting](#)

Dietary Information

LabDiet® 5K52 formulation (6% fat)

Breeding Considerations

Mortality in B6.*Sle1*^{yaa} males starts at ~12-15 weeks of age with 50% lethality by ~30-38 weeks of age. To maintain the live B6.*Sle1*^{yaa} colony (Stock No. 021569), homozygous mice are bred together. That is, homozygous females (*Sle1*^{NZM2410/Aeg}/*Sle1*^{NZM2410/Aeg}; XX) are bred with homozygous males (*Sle1*^{NZM2410/Aeg}/*Sle1*^{NZM2410/Aeg}; XY^{Yaa}). Avoid breeding to C57BL/6 males as it will result in loss of the *Yaa* mutation (loss of the Y^{Yaa} chromosome). The expected coat color is black.

[Additional Breeding and Husbandry Support](#)

Mating System

Homozygote x Homozygote

Citation

When using the B6.Cg-Sle1^{NZM2410/Aeg} Yaa/DcrJ mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #021569 in your Materials and Methods section.

Animal Health Reports

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RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	B6.Cg-Sle1<NZM2410/Aeg> Yaa/DcrJ	\$2595.00
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