associated with retinal degeneration due to *Gnb1* haploinsufficiency resulting from the distal breakpoint falling in intron 2.

READ MORE +

GENETIC OVERVIEW

Genetic Background

Generation

F?+33
(2020-04-23 00:00:00)

In(4)56Rk

Allele Type	Gene Symbol	Gene Name
Radiation induced (Null/Knockout, Null/Knockout)	In(4)56Rk	inversion, Chr 4, Roderick 56

In(4)56Rk-p

Allele Type	Gene Symbol	Gene Name
Radiation induced	In(4)56Rk-p	inversion, Chr 4, Roderick 56, proximal

VIEW GENETICS

RESEARCH APPLICATIONS

Sensorineural Research
Developmental Biology Research

VIEW ALL RESEARCH APPLICATIO

BASE PRICE

Starting at:

$205.90 Domestic price for female

229.94 Domestic price for breeder pair

VIEW PRICE LIST

Details

Important Note

This strain is segregating for *Rd4*, a dominant retinal degeneration allele.

Detailed Description

The In(4)56Rk inversion encompasses nearly all of Chromosome 4 with the proximal breakpoint in the centromere and the distal breakpoint in the second intron of guanine nucleotide binding protein beta 1, *Gnb1*. This separates the 5-prime untranslated region at a point just proximal to coding sequence of *Gnb1* and results in decreased levels of *Gnb1* transcript in the retina of heterozygotes at 8 and 11 days of age, 58% and 36% that of controls respectively, consistent with haploinsufficiency. At 16 days of age the levels of *Gnat1* and *Rho* transcript were also found to be decreased, although normal at 8 and 11 days of age. In(4)56Rk is homozygous lethal and in heterozygotes is always associated with retinal degeneration. In heterozygotes, the retinal outer nuclear and plexiform layers begin to reduce at 10 days of age, showing total loss at 6 weeks. The recordable electroretinograms (ERG) showed poorly at 3 to 6 weeks and were barely detected after 6 weeks of age. Retinal vessel attenuation, pigment spots, and optic atrophy appeared in the fundus at 4 weeks of age. (Roderick et al., 1997; Kitamura et al., 2006.)

Development

Control Suggestions

Genetics

In(4)56Rk

In(4)56Rk-p

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols
Genotyping resources and troubleshooting

Appearance
black, retinal degeneration
Related Genotype: *a/a Rd4/+*

black, unaffected
Related Genotype: *a/a +/+*

Citation
When using the STOCK In(4)56Rk/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #001379 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

MGL277 (Low)

Pricing & Availability

Availability
Varies

Domestic Internatic

Pricing effective for USA, Canada and Mexico shipping destinations

LIVE MOUSE

AGE	SEX	GENOTYPE	PRICE
Approx 4-8 weeks	Female	Heterozygous for In(4)56Rk, Heterozygous for Rd4	$205.90
	Male	Heterozygous for In(4)56Rk, Heterozygous for Rd4	$205.90

BREEDER PAIR

SEX	GENOTYPE	PRICE
Female	Heterozygous for In(4)56Rk, Heterozygous for Rd4	$229.94
Male	C57BL/6J (000664)	

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All

By Allele

By Gene

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