Overview

Also Known As: Rho\textsuperscript{P23H}

These mice carry the P23H mutation of the \textit{Rho} (rhodopsin) gene and exhibit progressive retinal degeneration observed in patients with autosomal dominant retinitis pigmentosa.

Donating Investigator

Krzysztof Palczewski, Case Western Reserve University
GENETIC OVERVIEW

Genetic Background

Generation

?pN1+N1F7
(2019-10-07 00:00:00)

Allele Type

Gene Symbol

Gene Name

Rho

rhodopsin

RESEARCH APPLICATIONS

Research Tools

Sensorineural Research

Developmental Biology Research

BASE PRICE

Starting at:

$278.00 Domestic price for female 4-week

Details

Detailed Description

These mice carry a nucleotide substitution at codon 23, CCC to CAC, encoding the amino acid substitution of proline to histidine at position 23, P23H. The P23H mutation is one of the most common causes of autosomal dominant retinitis pigmentosa. Mice that are homozygous for the targeted mutation are viable and fertile. Both the mutant and wildtype gene product (mRNA) is detected by cDNA sequencing chromatogram. The phenotype in heterozygous mice mimics the retinopathy and progressive retinal degeneration observed in patients with autosomal dominant retinitis pigmentosa caused by the P23H mutation. By 35 days of age, heterozygotes have a shorter rod outer segment when compared to controls. At post natal day 63, heterozygotes have fewer rod nuclei (half the number observed in wildtype mice), and decreased length of the rod outer segment. Homozygous mice exhibit a more severe phenotype with thinner outer nuclear layer, severe photoreceptor degeneration by post natal day 23 and loss of almost all photoreceptor cells by post natal day 63. Glycosylation of the mutant P23H protein is severely diminished.
Genotyping Protocols
Pyrosequencing: **Rho**<sup>P23H</sup> Sanger sequencing: Rho<sup>tm1.1Kpal</sup> SEQ Standard PCR: Rho<sup>tm1.1Kpal</sup>

Genotyping resources and troubleshooting

Dietary Information
New Diet as of March 2015: Lab Diet® 5K0Q (6% fat)

Breeding Considerations
When maintaining a live colony, these mice can be bred as homozygotes.

Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Citation
When using the Rho<sup>P23H</sup> mouse strain in a publication, please cite the originating article(s) and include JAX stock #017628 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

AX18 (Maximum)
## Live Mouse

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### Frozen Mouse Embryo

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### Related Products and Services

**Frozen Mouse Embryo**

B6.129S6(Cg)-Rho<tm1.1Kpal>/J $2595.00

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