

C3Fe.Cg-*Fig4*^{plt1}/MmJ

Stock No: 017801

 Congenic, Spontaneous Mutation

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pigmentation.

Donating Investigator

Miriam Meisler, University of Michigan

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GENETIC OVERVIEW

Genetic Background

Generation

?+pN1F7
(2019-05-01 00:00:00)

Fig4^{plt1}

Alele Type

Spontaneous

Gene Symbol

Fig4

Gene Name

FIG4 phosphoinositide 5-phosphatase

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research

Mouse/Human Gene Homologs

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$328.00 Domestic price for female 4-week

356.51 Domestic price for breeder pair

V I E W P R I C E L I S T

Details

Detailed Description

The pale tremor (*plt*) allele is a spontaneous retrotransposon insertion in the *Fig4* gene. FIG4, a lipid phosphatase homolog of the yeast SAC (suppressor of actin), catalyzes removal of a phosphate from PI(3,5)P₂, a membrane-bound phospholipid involved in the trafficking and fusion of intracellular vesicles. Mutations in human FIG4 are associated with Charcot-Marie-Tooth disease type 4J (CMT4J). Initially identified by tremors, an abnormal gait, which progresses to a loss of mobility, small size, juvenile lethality and diluted pigmentation, homozygous mice are characterized by spongiform degeneration of the brain and loss of neurons from peripheral ganglia. Neuron loss and accumulation of cytoplasmic vacuoles is observed in layers 4 and 5 of the cortex, deep cerebellar nuclei, and dorsal root ganglia. Homozygote survival is dependent on strain background. On the C57BL/6 background, homozygotes are neonatal lethal; on a C3HeB/FeJ background homozygotes survive to two weeks; on a mixed C57BL/6 and C3HeB/FeJ background, homozygotes survive 4-6 weeks. These mice may be useful in studies of Charcot-Marie-Tooth disease type 4J.

In 2020 a 48 SNP (single nucleotide polymorphism) panel analysis, with 43 markers covering all 19 chromosomes and the X chromosome, as well as 5 markers that distinguish between the C57BL/6J and C57BL/6N substrains, was performed on the rederived living colony at The Jackson Laboratory Repository. One of the 43 markers throughout the genome, on Chromosome 10, was segregating with C57BL/6, likely a passenger segment with the Fig 4 mutation.

Development

Control Suggestions

Selected References

Genetics

Fig4^{plt1}

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:[Fig4 Alternate1](#)

[Genotyping resources and troubleshooting](#)

Dietary Information

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

Breeding Considerations

While maintaining a live colony, these mice are bred as heterozygotes. Homozygote survival is dependent on strain background. On the C57BL/6 background, homozygotes are neonatal lethal; on a C3H background homozygotes survive to two weeks; on a mixed background, homozygotes survive 4-6 weeks.

[Additional Breeding and Husbandry Support](#)

Citation

When using the C3Fe.Cg-*Fig4*^{blt1}/MmJ mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #017801 in your Materials and Methods section.

Animal Health Reports

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LIVE MOUSE

AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Wild-type for Fig4 ^{pl1}	\$128.51
	Male	Wild-type for Fig4 ^{pl1}	\$128.51
4 weeks	Female	Heterozygous for Fig4 ^{pl1}	\$328.00
	Male	Heterozygous for Fig4 ^{pl1}	\$328.00
5 weeks	Female	Wild-type for Fig4 ^{pl1}	\$128.51
	Male	Wild-type for Fig4 ^{pl1}	\$128.51
5 weeks	Female	Heterozygous for Fig4 ^{pl1}	\$328.00
	Male	Heterozygous for Fig4 ^{pl1}	\$328.00
6 weeks	Female	Wild-type for Fig4 ^{pl1}	\$128.51
	Male	Wild-type for Fig4 ^{pl1}	\$128.51
6 weeks	Female	Heterozygous for Fig4 ^{pl1}	\$328.00
	Male	Heterozygous for Fig4 ^{pl1}	\$328.00
7 weeks	Female	Wild-type for Fig4 ^{pl1}	\$128.51
	Male	Wild-type for Fig4 ^{pl1}	\$128.51
7 weeks	Female	Heterozygous for Fig4 ^{pl1}	\$328.00
	Male	Heterozygous for Fig4 ^{pl1}	\$328.00
8 weeks	Female	Wild-type for Fig4 ^{pl1}	\$128.51
	Male	Wild-type for Fig4 ^{pl1}	\$128.51
8 weeks	Female	Heterozygous for Fig4 ^{pl1}	\$328.00
	Male	Heterozygous for Fig4 ^{pl1}	\$328.00
9 weeks	Female	Wild-type for Fig4 ^{pl1}	\$128.51
	Male	Wild-type for Fig4 ^{pl1}	\$128.51
9 weeks	Female	Heterozygous for Fig4 ^{pl1}	\$328.00
	Male	Heterozygous for Fig4 ^{pl1}	\$328.00
10 weeks	Female	Wild-type for Fig4 ^{pl1}	\$128.51
	Male	Wild-type for Fig4 ^{pl1}	\$128.51
10 weeks	Female	Heterozygous for Fig4 ^{pl1}	\$328.00
	Male	Heterozygous for Fig4 ^{pl1}	\$328.00
11 weeks	Female	Wild-type for Fig4 ^{pl1}	\$128.51
	Male	Wild-type for Fig4 ^{pl1}	\$128.51

11 weeks	SEX	Heterozygous for Fig4 ^{plt1}	\$328.00
	Male	Heterozygous for Fig4 ^{plt1}	\$328.00
12 weeks	Female	Wild-type for Fig4 ^{plt1}	\$128.51
	Male	Wild-type for Fig4 ^{plt1}	\$128.51
12 weeks	Female	Heterozygous for Fig4 ^{plt1}	\$328.00
	Male	Heterozygous for Fig4 ^{plt1}	\$328.00

BREEDER PAIR			
SEX	GENOTYPE		PRICE
Female	Heterozygous for Fig4 ^{plt1}		\$456.51
Male	Wild-type for Fig4 ^{plt1}		
Female	Wild-type for Fig4 ^{plt1}		\$456.51
Male	Heterozygous for Fig4 ^{plt1}		

RELATED PRODUCTS AND SERVICES		
Frozen Mouse Embryo	C3Fe.Cg-Fig4<plt1>/MmJ	\$2595.00

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