

Peli2 Cas9-KO Strategy

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Project Overview

Project Name

Peli2

Project type

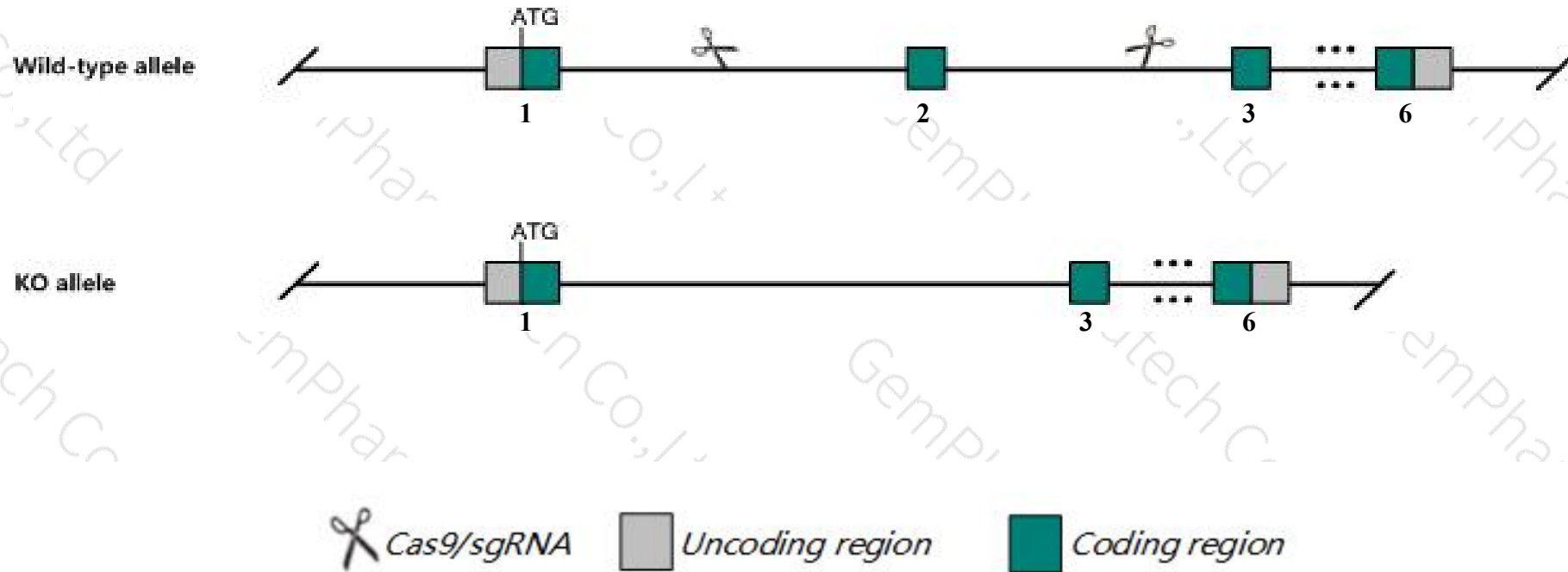
Cas9-KO

Strain background

C57BL/6J

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Peli2* gene. The schematic diagram is as follows:



- The *Peli2* gene has 8 transcripts. According to the structure of *Peli2* gene, exon2 of *Peli2-201* (ENSMUST00000073150.5) transcript is recommended as the knockout region. The region contains 130bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Peli2* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6J mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6J mice.

- Transcript *Peli2*-202,208 may be unaffected.
- The *Peli2* gene is located on the Chr14. If the knockout mice are crossed with other mice strains to obtain double gene positive homozygous mouse offspring, please avoid the two genes on the same chromosome.
- This Strategy is designed based on genetic information in existing databases. Due to the complexity of biological processes, all risk of the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Peli2 pellino 2 [Mus musculus (house mouse)]

Gene ID: 93834, updated on 3-Feb-2019

Summary



Official Symbol	Peli2 provided by MGI
Official Full Name	pellino 2 provided by MGI
Primary source	MGI:MGI:1891445
See related	Ensembl:ENSMUSG00000021846
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AW047589, BB129927
Expression	Broad expression in testis adult (RPKM 16.4), ovary adult (RPKM 8.7) and 21 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

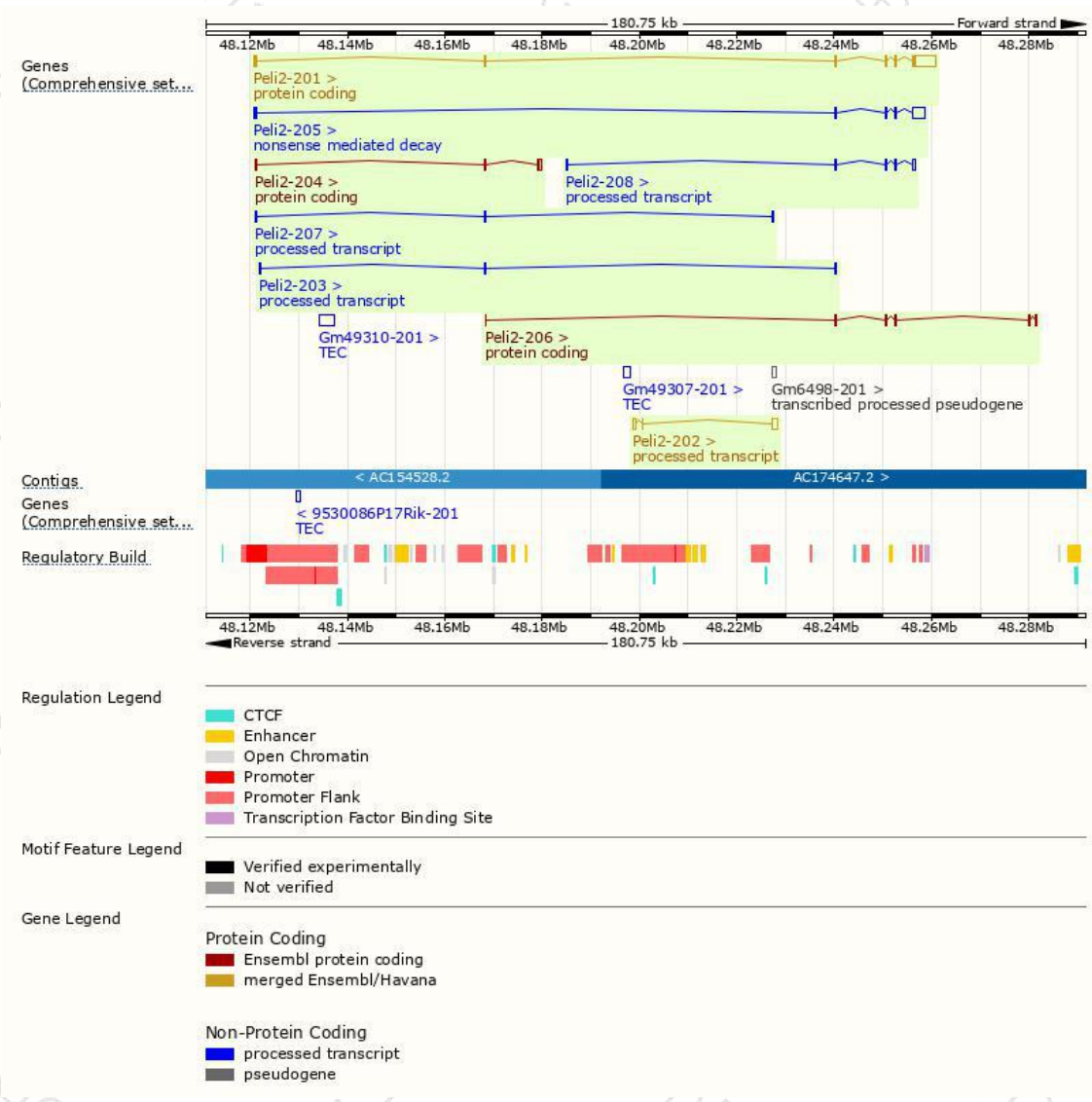
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Peli2-201	ENSMUST00000073150.5	5900	419aa	Protein coding	CCDS36901	E9QPQ6	TSL:1 GENCODE basic APPRIS P1
Peli2-204	ENSMUST00000226513.1	1320	155aa	Protein coding	-	A0A2I3BQT4	GENCODE basic
Peli2-206	ENSMUST00000227362.1	779	225aa	Protein coding	-	A0A2I3BRM8	CDS 5' incomplete
Peli2-205	ENSMUST00000226828.1	3527	45aa	Nonsense mediated decay	-	A0A2I3BRM2	
Peli2-208	ENSMUST00000228519.1	1629	No protein	Processed transcript	-	-	
Peli2-202	ENSMUST00000081029.2	1599	No protein	Processed transcript	-	-	TSL:1
Peli2-207	ENSMUST00000228456.1	587	No protein	Processed transcript	-	-	
Peli2-203	ENSMUST00000226260.1	363	No protein	Processed transcript	-	-	

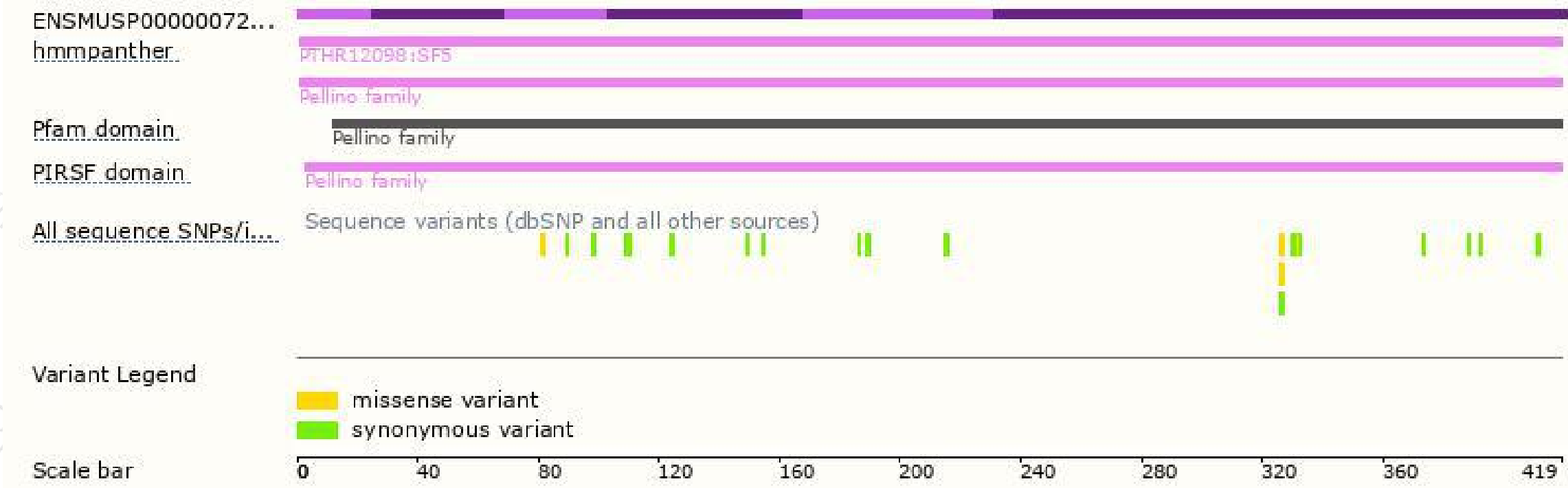
The strategy is based on the design of *Peli2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



If you have any questions, you are welcome to inquire.

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