

Pde6h Cas9-KO Strategy

Designer:

JiaYu

Reviewer:

Xiaojing Li

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Project Overview

Project Name

Pde6h

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Pde6h* gene. The schematic diagram is as follows:



- The *Pde6h* gene has 4 transcripts. According to the structure of *Pde6h* gene, exon2-exon4 of *Pde6h-202* (ENSMUST00000137768.1) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Pde6h* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Homozygous mutation of this gene does not affect the retina or photoreceptor function.
- The *Pde6h* gene is located on the Chr6. 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)

Pde6h phosphodiesterase 6H, cGMP-specific, cone, gamma [Mus musculus (house mouse)]

Gene ID: 78600, updated on 31-Jan-2019

Summary



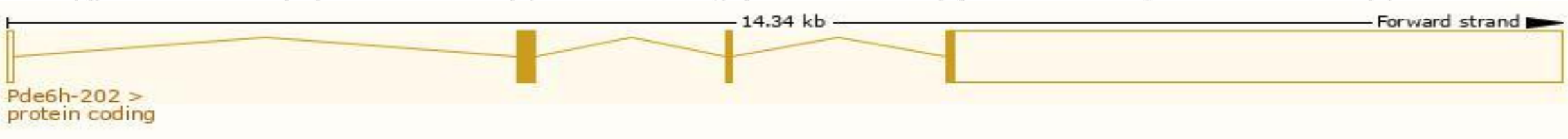
Official Symbol	Pde6h provided by MGI
Official Full Name	phosphodiesterase 6H, cGMP-specific, cone, gamma provided by MGI
Primary source	MGI:MGI:1925850
See related	Ensembl:ENSMUSG00000064330
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	A930033D18Rik, PDEgamma
Expression	Low expression observed in reference dataset See more
Orthologs	human all

Transcript information (Ensembl)

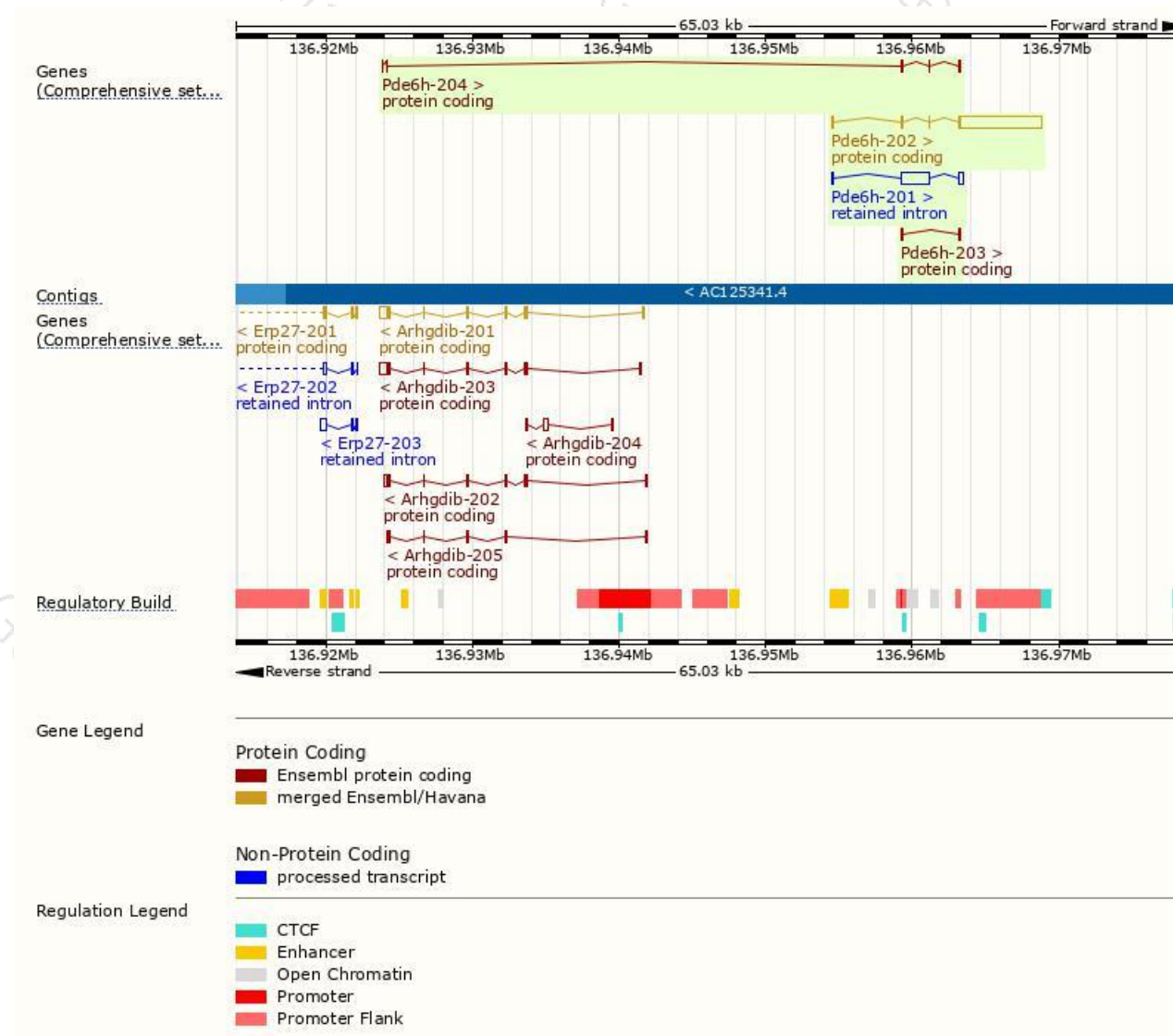
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Pde6h-202	ENSMUST00000137768.1	5940	83aa	Protein coding	CCDS39686	P61249	TSL:1 GENCODE basic APPRIS P1
Pde6h-204	ENSMUST00000204627.2	392	73aa	Protein coding	-	A0A0N4SVP6	CDS 3' incomplete TSL:3
Pde6h-203	ENSMUST00000204382.1	211	61aa	Protein coding	-	A0A0N4SVI4	TSL:1 GENCODE basic
Pde6h-201	ENSMUST00000057650.5	2318	No protein	Retained intron	-	-	TSL:1

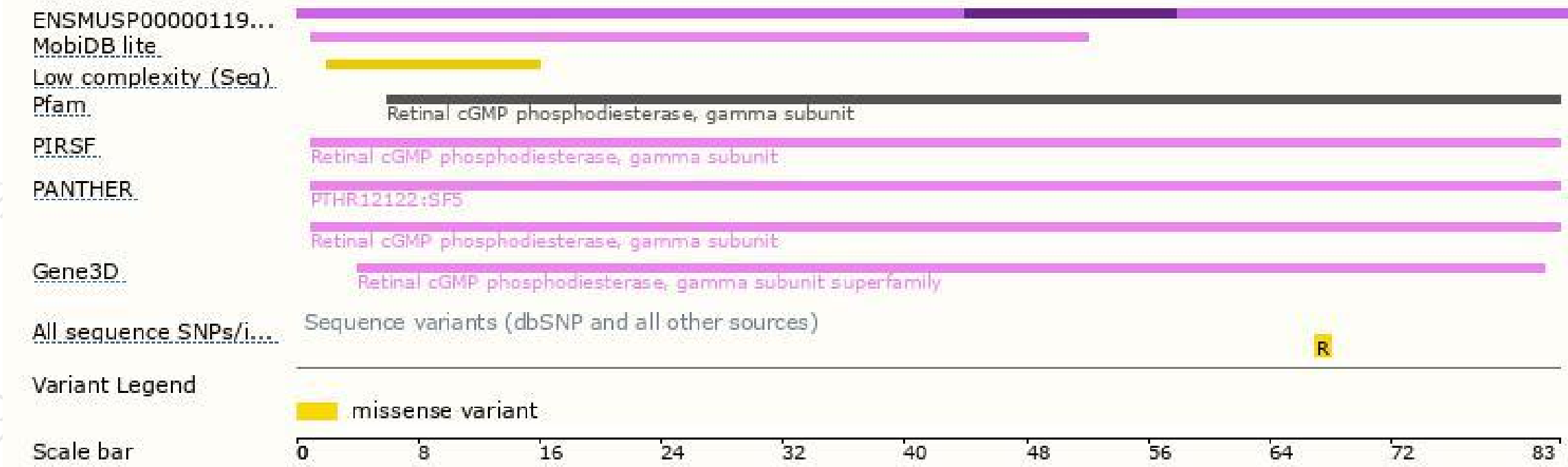
The strategy is based on the design of *Pde6h-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

