

Prpf38a Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Prpf38a

Project type

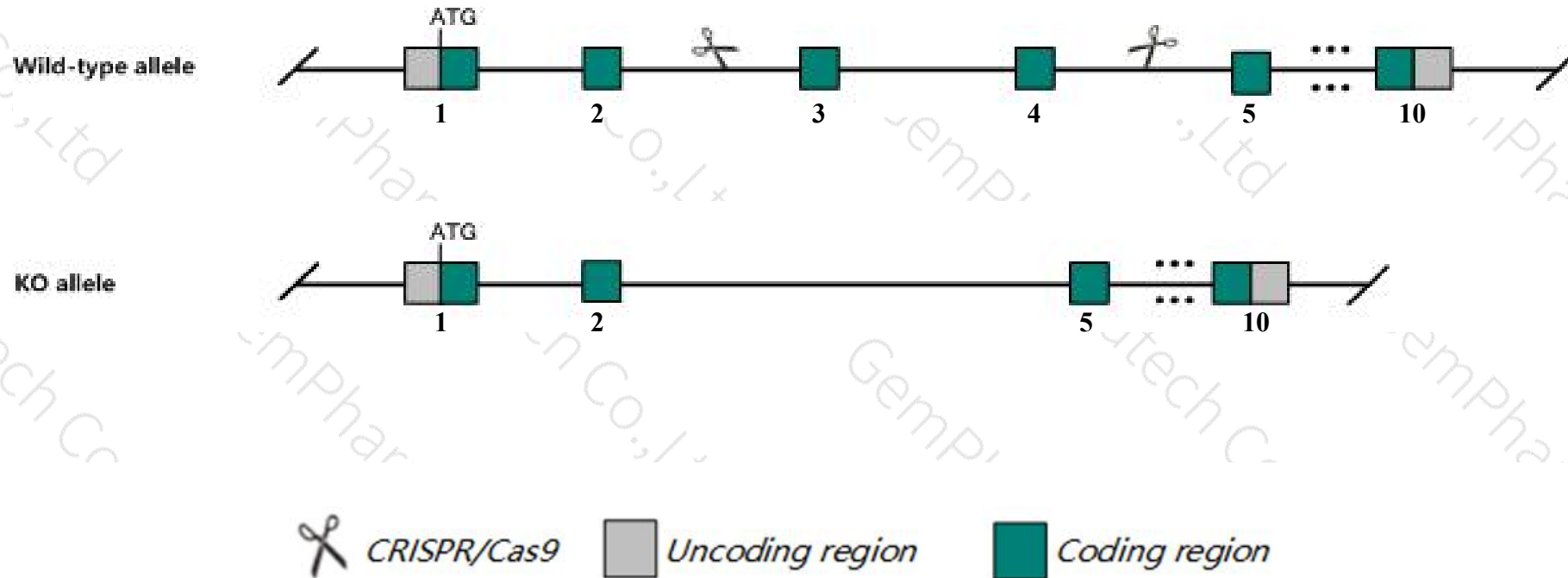
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Prpf38a* gene. The schematic diagram is as follows:



- The *Prpf38a* gene has 3 transcripts. According to the structure of *Prpf38a* gene, exon3-exon4 of *Prpf38a-201* (ENSMUST00000079213.5) transcript is recommended as the knockout region. The region contains 208bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Prpf38a* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Prpf38a* gene is located on the Chr4. 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)

Prpf38a PRP38 pre-mRNA processing factor 38 (yeast) domain containing A [Mus musculus (house mouse)]

Gene ID: 230596, updated on 31-Jan-2019

Summary



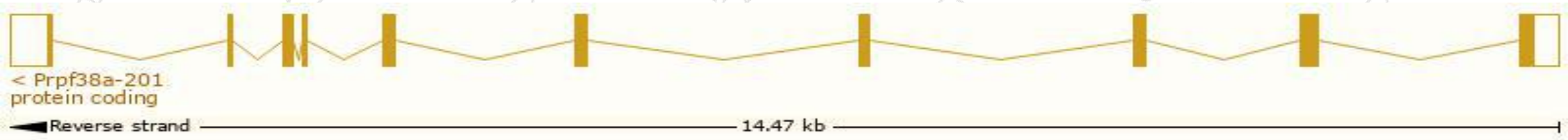
Official Symbol	Prpf38a provided by MGI
Official Full Name	PRP38 pre-mRNA processing factor 38 (yeast) domain containing A provided by MGI
Primary source	MGI:MGI:1916962
See related	Ensembl:ENSMUSG00000063800
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2410002M20Rik
Expression	Broad expression in CNS E11.5 (RPKM 34.5), CNS E14 (RPKM 17.5) and 16 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

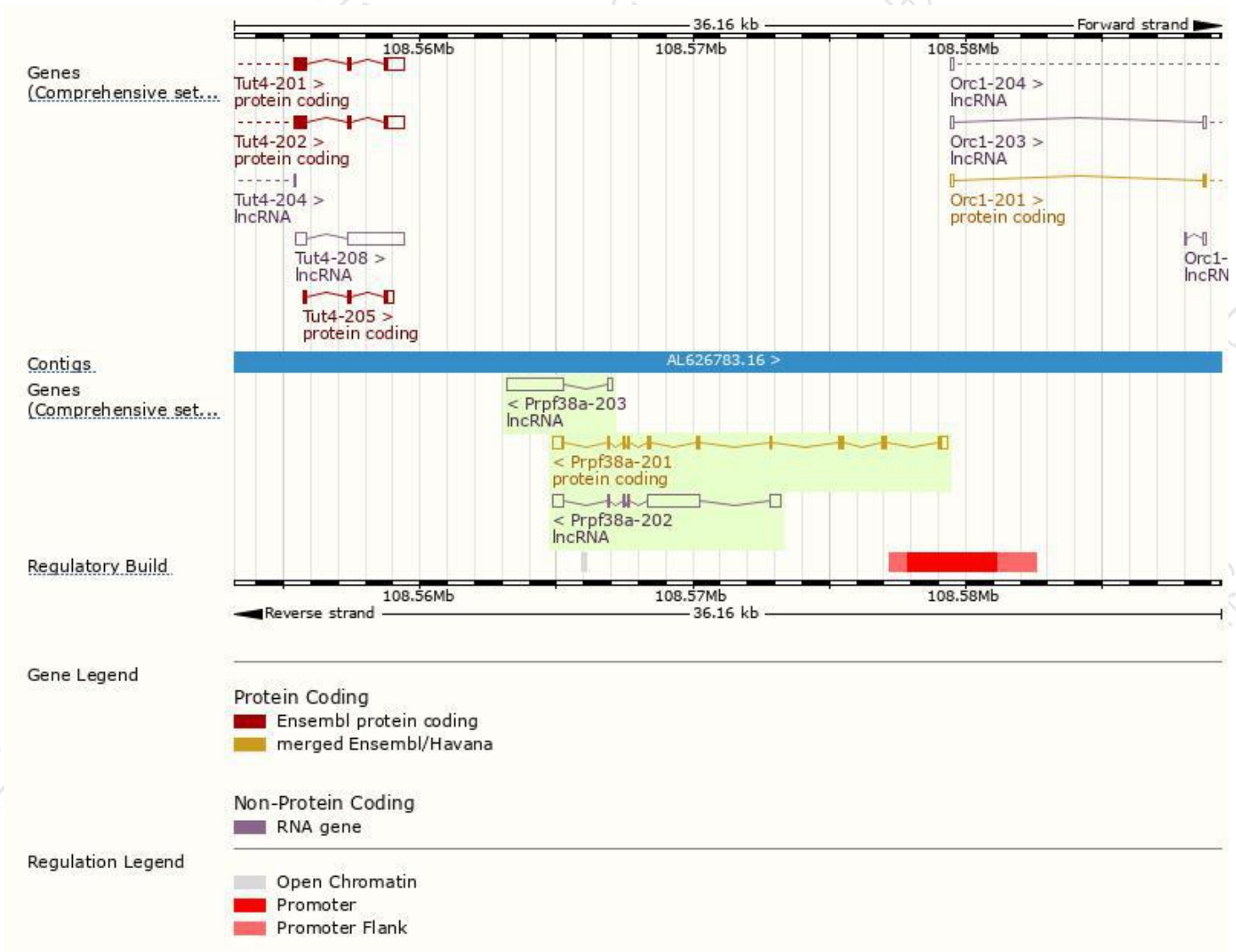
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Prpf38a-201	ENSMUST00000079213.5	1516	312aa	Protein coding	CCDS18452	B2RTE3 Q4FK66	TSL:1 GENCODE basic APPRIS P1
Prpf38a-202	ENSMUST00000125106.1	2889	No protein	lncRNA	-	-	TSL:2
Prpf38a-203	ENSMUST00000132951.1	2219	No protein	lncRNA	-	-	TSL:1

The strategy is based on the design of *Prpf38a-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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