

Ppp1r11 Cas9-CKO Strategy

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Project Overview

Project Name

Ppp1r1l

Project type

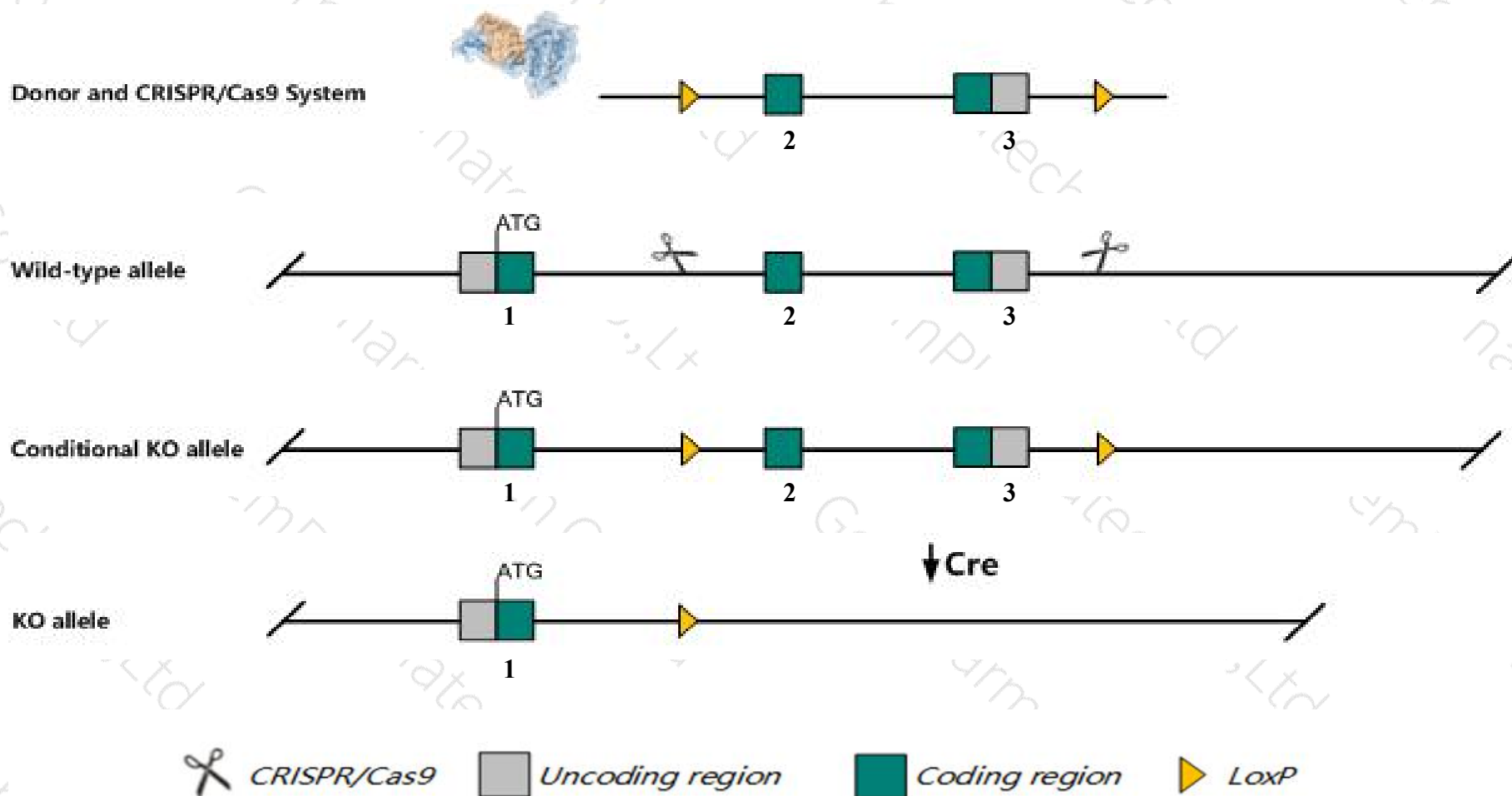
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ppp1r11* gene. The schematic diagram is as follows:



- The *Ppp1r11* gene has 3 transcripts. According to the structure of *Ppp1r11* gene, exon2-exon3 of *Ppp1r11-201* (ENSMUST00000040402.13) transcript is recommended as the knockout region. The region contains most 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 *Ppp1r11* gene. The brief process is as follows: CRISPR/Cas9 system and Donor were microinjected into the fertilized eggs of C57BL/6JGpt 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/6JGpt mice.
- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- The floxed region is near to the C-terminal of *Rnf39* gene, this strategy may influence the regulatory function of the C-terminal of *Rnf39* gene.
- The *Ppp1r11* gene is located on the Chr17. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Ppp1r11 protein phosphatase 1, regulatory inhibitor subunit 11 [*Mus musculus* (house mouse)]

Gene ID: 76497, updated on 27-Jan-2020

Summary

- Official Symbol** Ppp1r11 provided by [MGI](#)
- Official Full Name** protein phosphatase 1, regulatory inhibitor subunit 11 provided by [MGI](#)
- Primary source** [MGI:MGI:1923747](#)
- See related** [Ensembl:ENSMUSG00000036398](#)
- 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** Hcgv; Tcte5; Tctex5; Tctex-5; AV117883; 1500041B02Rik
- Expression** Broad expression in testis adult (RPKM 131.5), CNS E14 (RPKM 20.0) and 23 other tissues [See more](#)
- Orthologs** [human](#) [all](#)

Genomic context

Location: 17 B1; 17 19.16 cM See Ppp1r11 in [Genome Data Viewer](#)

Exon count: 3

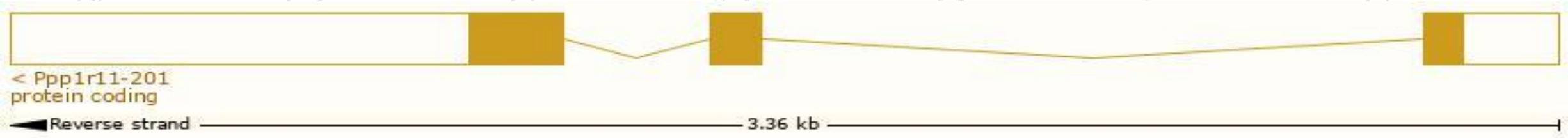
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	17	NC_000083.6 (36948355..36951792, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	17	NC_000083.5 (37085300..37088737, complement)

Transcript information (Ensembl)

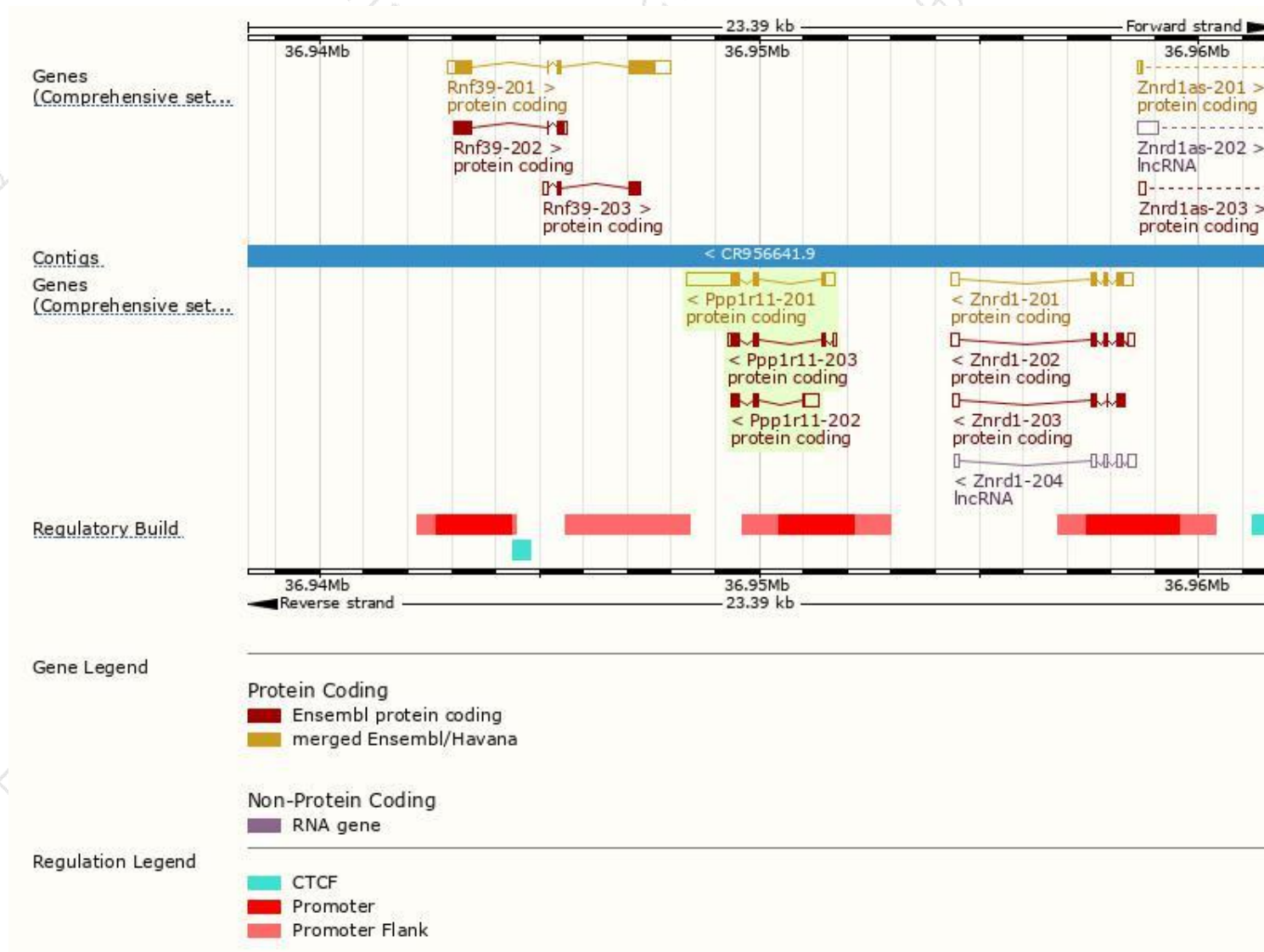
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ppp1r11-201	ENSMUST00000040402.13	1599	131aa	Protein coding	CCDS28729	A5A4Y9	TSL:1 GENCODE basic APPRIS P1
Ppp1r11-203	ENSMUST00000174711.7	520	131aa	Protein coding	CCDS28729	A5A4Y9	TSL:3 GENCODE basic APPRIS P1
Ppp1r11-202	ENSMUST00000173540.1	657	120aa	Protein coding	-	G3UZ30	CDS 3' incomplete TSL:2

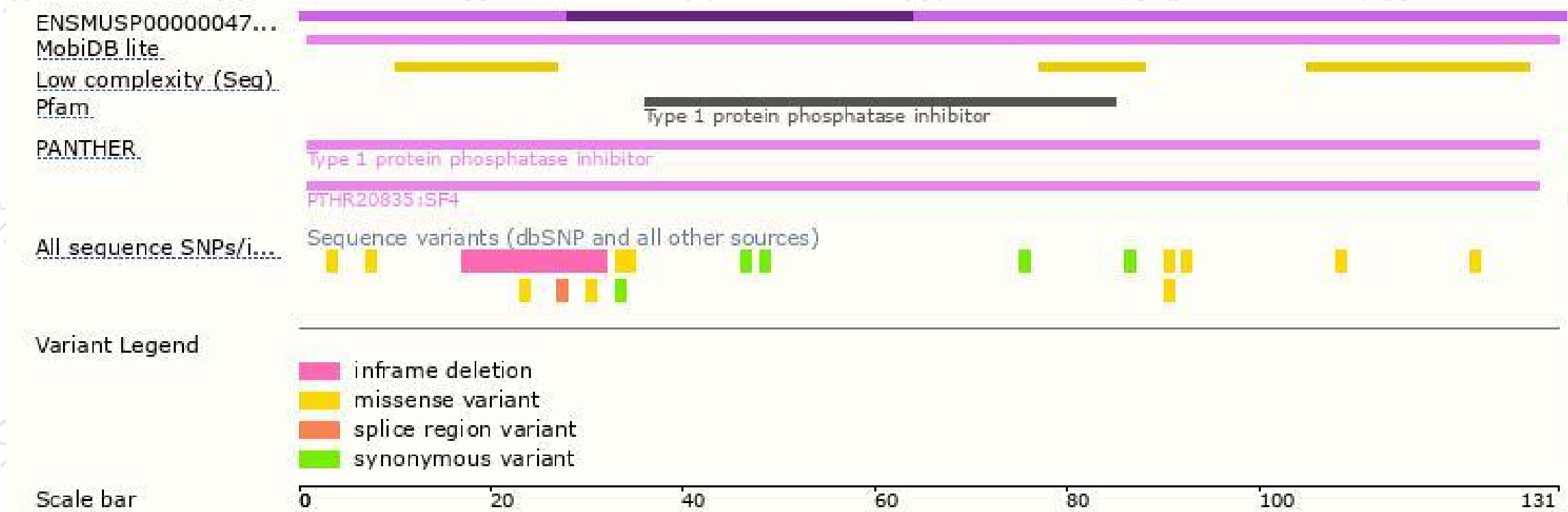
The strategy is based on the design of *Ppp1r11-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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