

***Rnf11* Cas9-CKO Strategy**

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Project Overview

Project Name

Rnf11

Project type

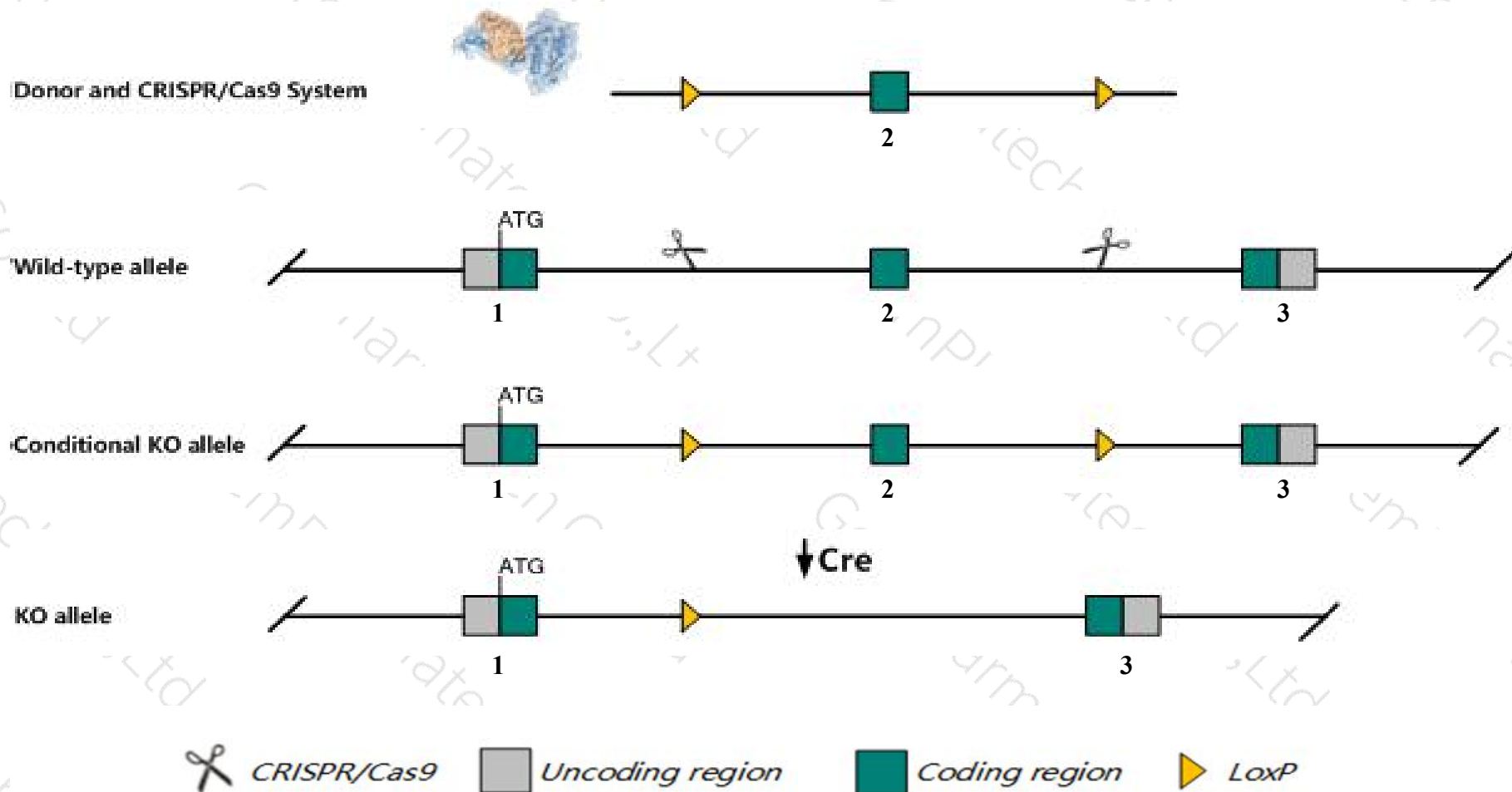
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rnf11* gene. The schematic diagram is as follows:



Technical routes

- The *Rnf11* gene has 3 transcripts. According to the structure of *Rnf11* gene, exon2 of *Rnf11-201* (ENSMUST00000030284.9) transcript is recommended as the knockout region. The region contains 170bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rnf11* 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.

Notice

- The *Rnfl1* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Rnf11 ring finger protein 11 [*Mus musculus* (house mouse)]

Gene ID: 29864, updated on 12-Aug-2019

Summary

- Official Symbol

Rnf11 provided by [MGI](#)
- Official Full Name

ring finger protein 11 provided by [MGI](#)
- Primary source

[MGI:MGI:1352759](#)
- See related

[Ensembl:ENSMUSG00000028557](#)
- Gene type

protein coding
- RefSeq status

PROVISIONAL
- Organism

[Mus musculus](#)
- Lineage

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
- Expression

Ubiquitous expression in adrenal adult (RPKM 155.5), ovary adult (RPKM 53.5) and 28 other tissues [See more](#)
- Orthologs

[human](#) [all](#)

Genomic context

Location: 4; 4 C7

See Rnf11 in [Genome Data Viewer](#)

Exon count: 3

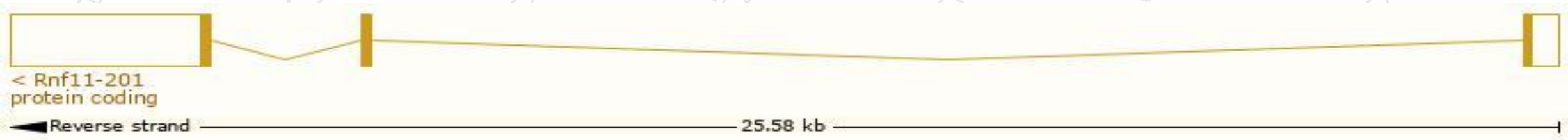
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	4	NC_000070.6 (109452857..109476505, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	4	NC_000070.5 (109125462..109149110, complement)

Transcript information (Ensembl)

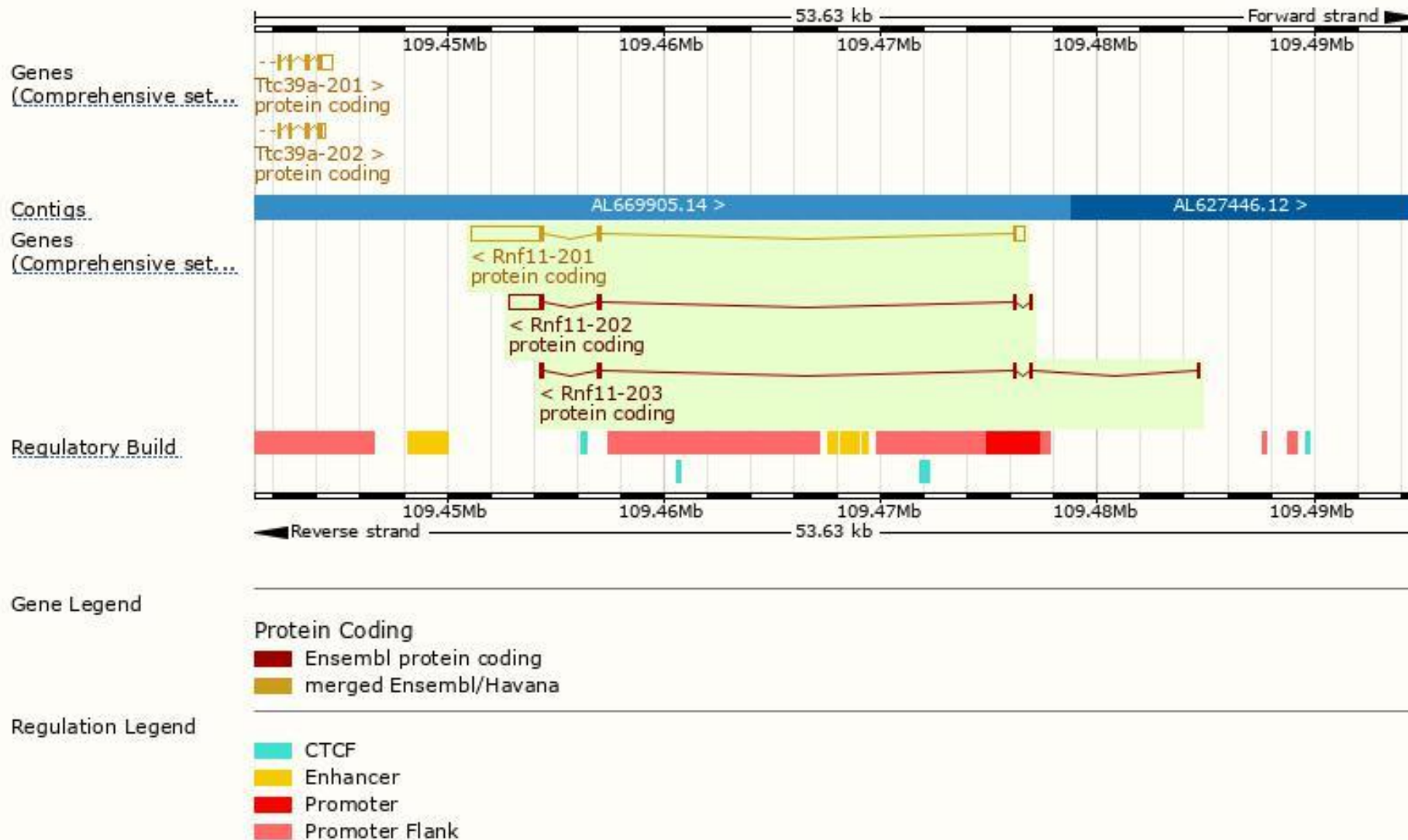
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rnf11-201	ENSMUST00000030284.9	4061	154aa	Protein coding	CCDS18464	Q9QYK7	TSL:1 GENCODE basic APPRIS P1
Rnf11-202	ENSMUST00000064167.7	1955	154aa	Protein coding	CCDS18464	Q9QYK7	TSL:1 GENCODE basic APPRIS P1
Rnf11-203	ENSMUST00000145980.1	663	144aa	Protein coding	-	Z4YLT8	CDS 3' incomplete TSL:3

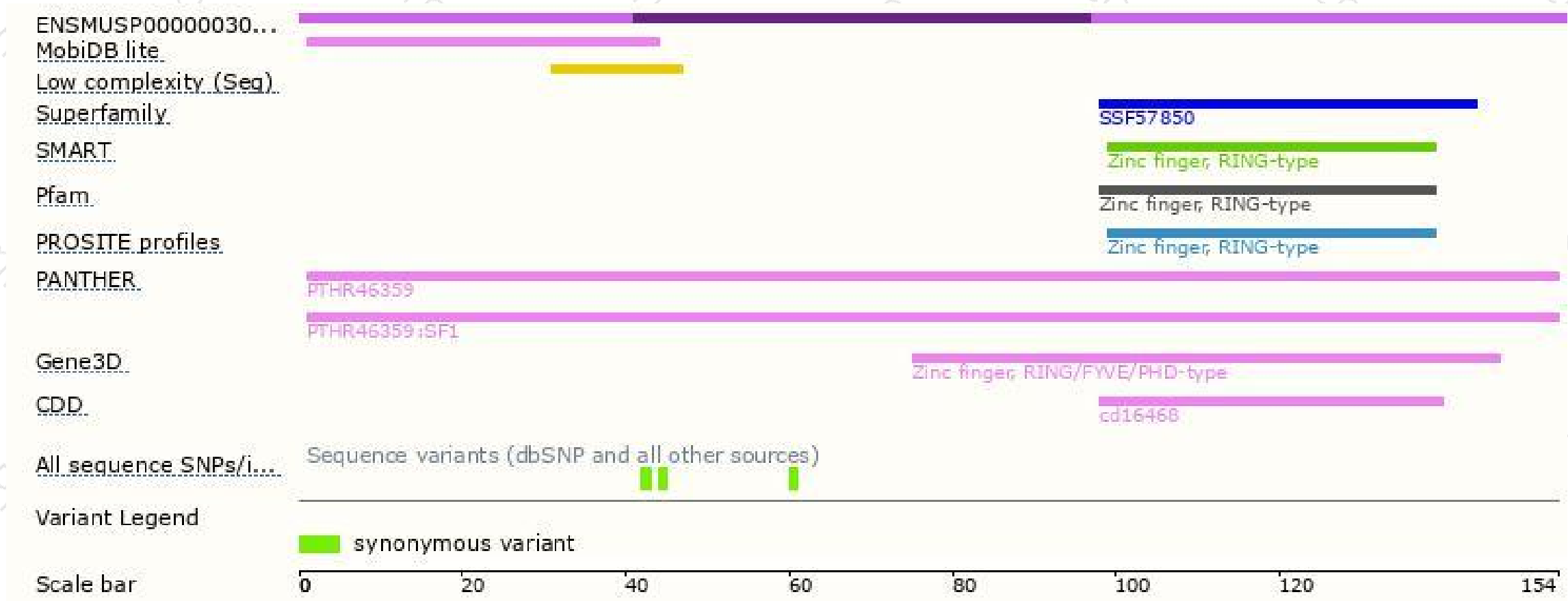
The strategy is based on the design of *Rnf11-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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