

***Rab11b* Cas9-CKO Strategy**

Designer:

JiaYu

Reviewer:

Xiaojing Li

Design Date:

2020-1-17

Project Overview

Project Name

Rab11b

Project type

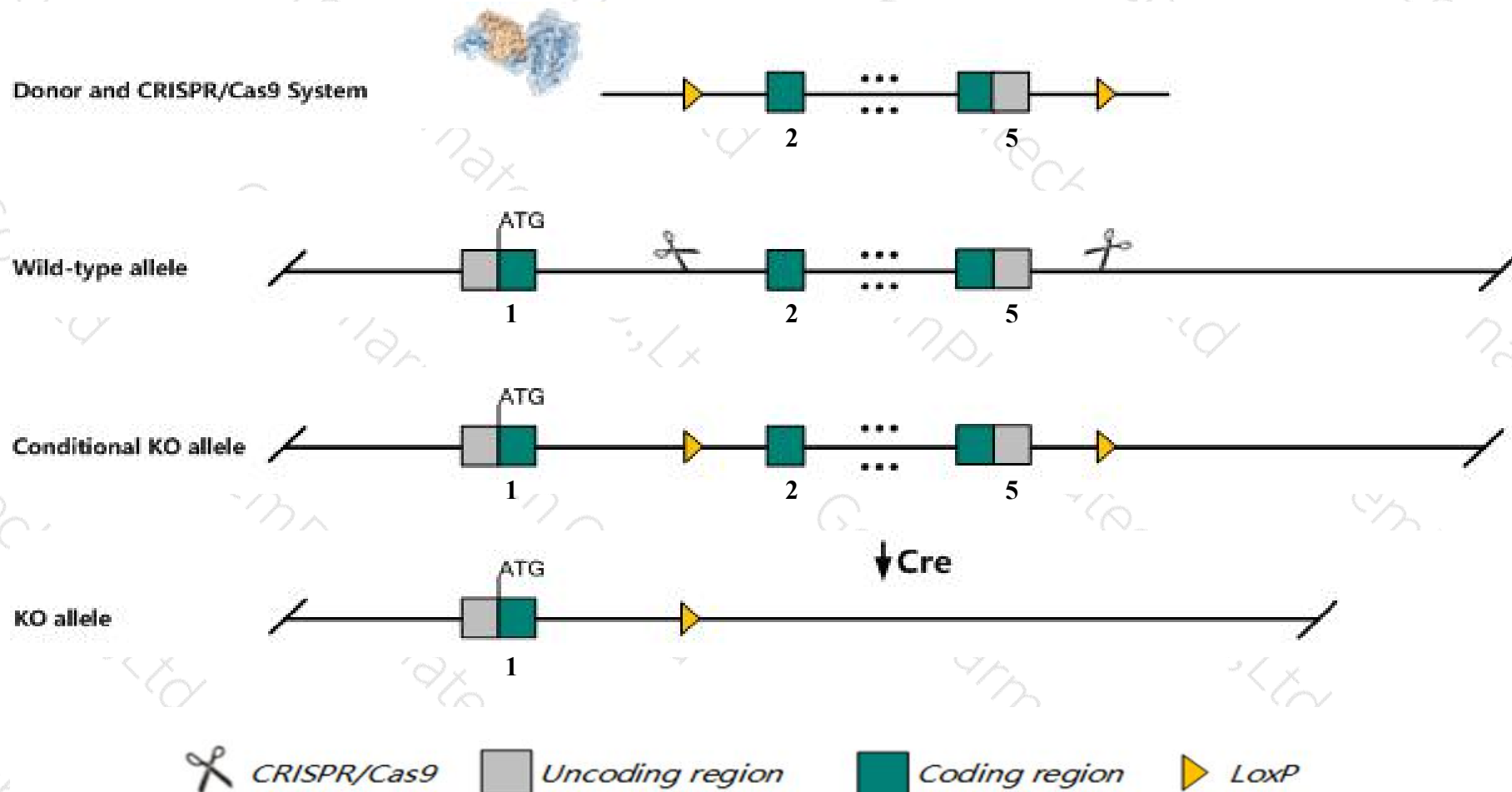
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rab11b* gene. The schematic diagram is as follows:



Technical routes

- The *Rab11b* gene has 6 transcripts. According to the structure of *Rab11b* gene, exon2-exon5 of *Rab11b-201* (ENSMUST00000057373.13) transcript is recommended as the knockout region. The region contains 617bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rab11b* 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 *Rab11b* 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)

Rab11b RAB11B, member RAS oncogene family [Mus musculus (house mouse)]

Gene ID: 19326, updated on 31-Jan-2019

Summary



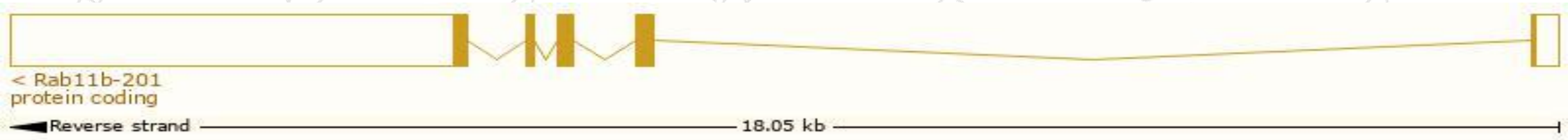
Official Symbol	Rab11b provided by MGI
Official Full Name	RAB11B, member RAS oncogene family provided by MGI
Primary source	MGI:MGI:99425
See related	Ensembl:ENSMUSG00000077450
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	A730055L17Rik
Expression	Ubiquitous expression in ovary adult (RPKM 49.8), adrenal adult (RPKM 49.3) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

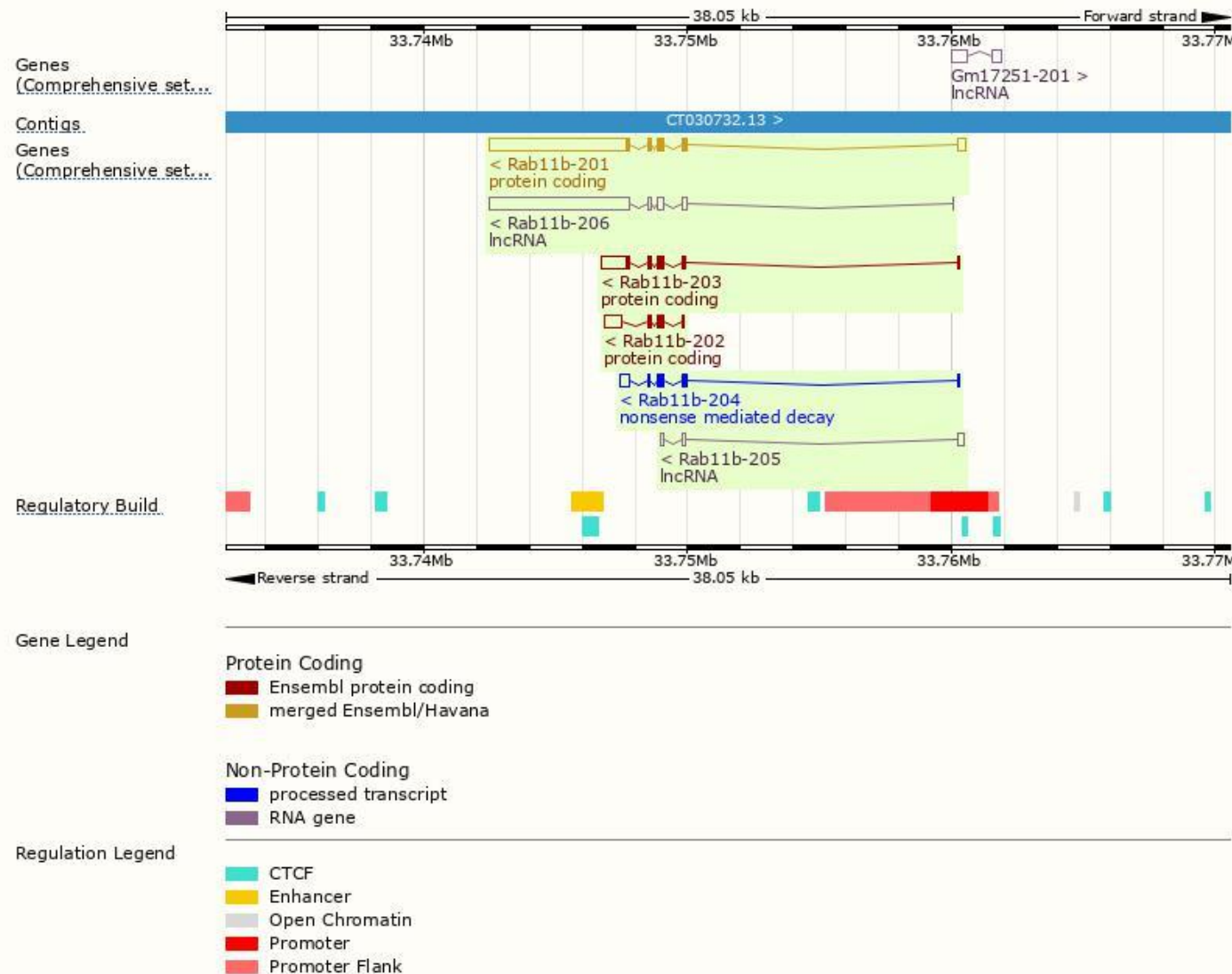
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rab11b-201	ENSMUST00000057373.13	6109	218aa	Protein coding	CCDS28628	P46638 Q78ZJ8	TSL:1 GENCODE basic APPRIS P1
Rab11b-203	ENSMUST00000173860.7	1544	193aa	Protein coding	-	G3UZD3	TSL:1 GENCODE basic
Rab11b-202	ENSMUST00000172894.7	1028	125aa	Protein coding	-	G3UZL4	CDS 5' incomplete TSL:5
Rab11b-204	ENSMUST00000173987.1	924	149aa	Nonsense mediated decay	-	G3UY29	TSL:3
Rab11b-206	ENSMUST00000235046.1	5822	No protein	lncRNA	-	-	
Rab11b-205	ENSMUST00000174744.1	503	No protein	lncRNA	-	-	TSL:2

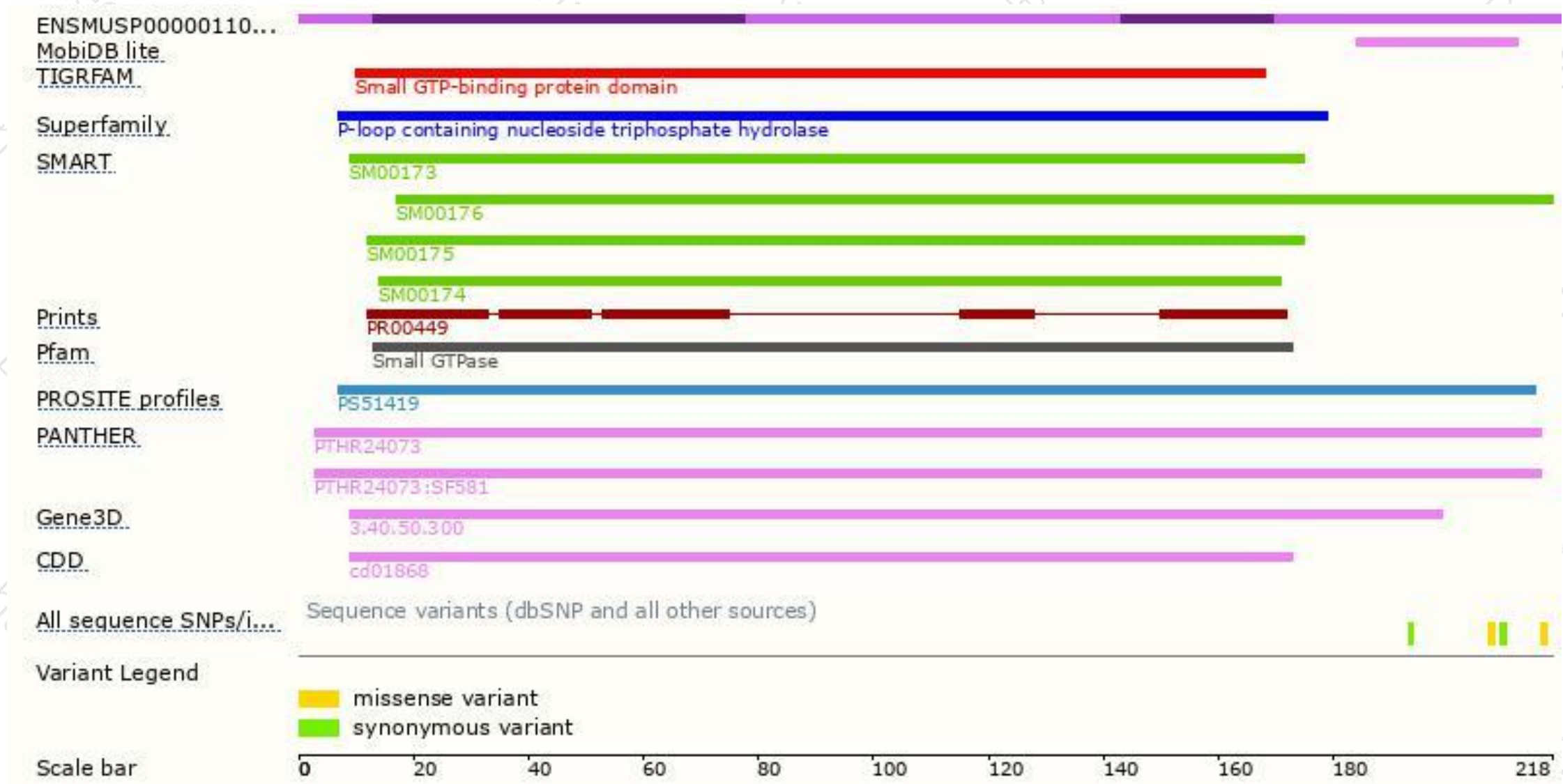
The strategy is based on the design of *Rab11b-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

