

Prelid3b Cas9-CKO Strategy

Designer: Rui Xiong

Reviewer: Longyun Hu

Design Date: 2021-6-9

Project Overview

Project Name

Prelid3b

Project type

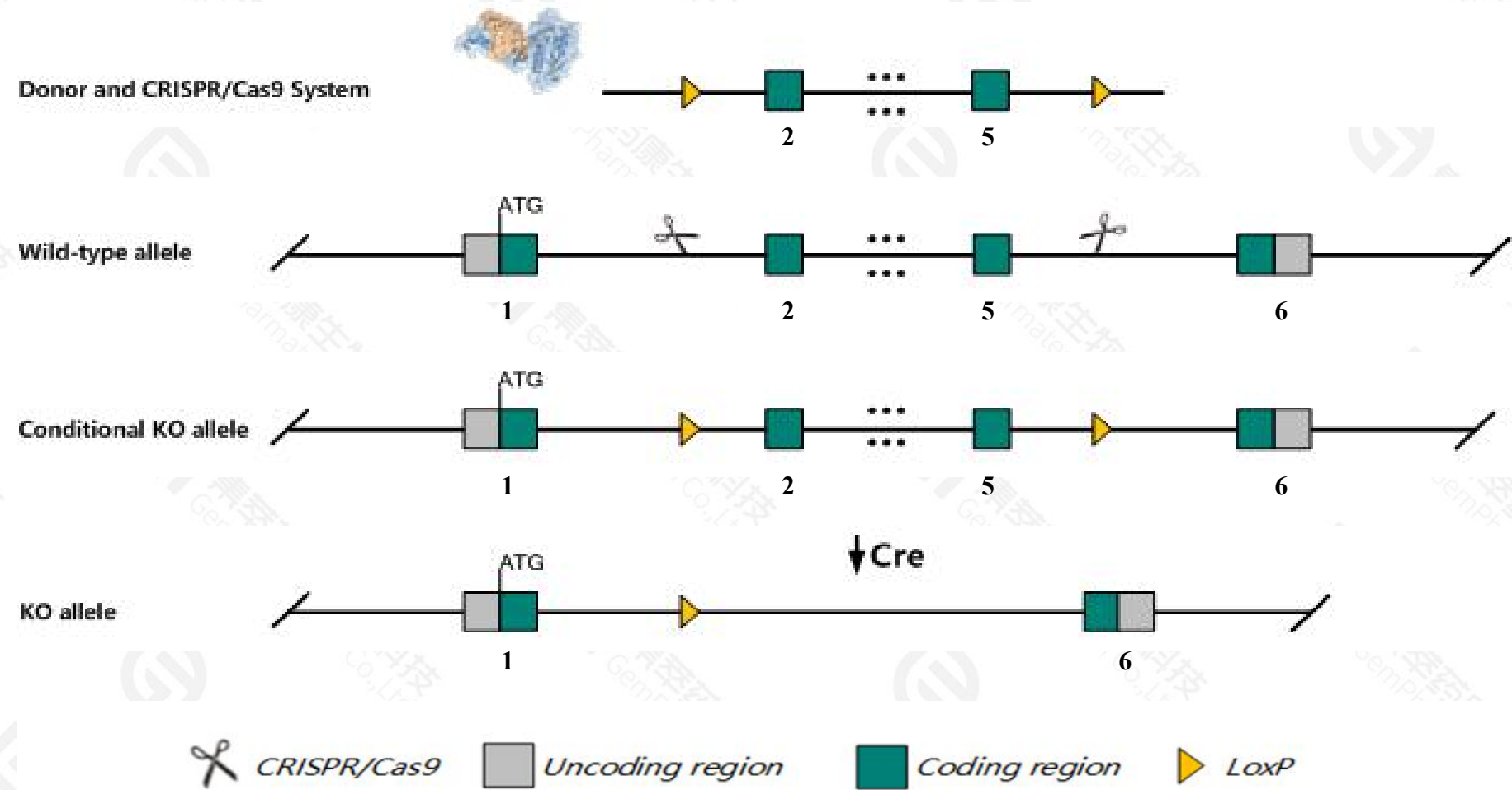
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Prelid3b* gene. The schematic diagram is as follows:



- The *Prelid3b* gene has 5 transcripts. According to the structure of *Prelid3b* gene, exon2-exon5 of *Prelid3b-201*(ENSMUST00000016401.15) transcript is recommended as the knockout region. The region contains 433bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Prelid3b* 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 flox region is about 2.5 kb away from the N-terminus of the *Atp5e* gene, this strategy may influence the regulatory function of the N-terminal of *Atp5e* gene.
- The *Prelid3b* gene is located on the Chr2. 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)

Prelid3b PRELI domain containing 3B [Mus musculus (house mouse)]

Gene ID: 66390, updated on 17-Nov-2020

Summary



Official Symbol Prelid3b provided by [MGI](#)

Official Full Name PRELI domain containing 3B provided by [MGI](#)

Primary source [MGI:MGI:1913640](#)

See related [Ensembl:ENSMUSG00000016257](#)

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

Also known as 2310042G06Rik, AA407013, Sl, Slmo2

Expression Ubiquitous expression in liver E14 (RPKM 35.0), liver E14.5 (RPKM 32.6) and 28 other tissues [See more](#)

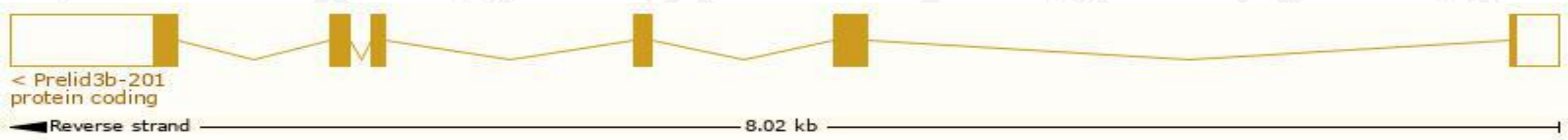
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

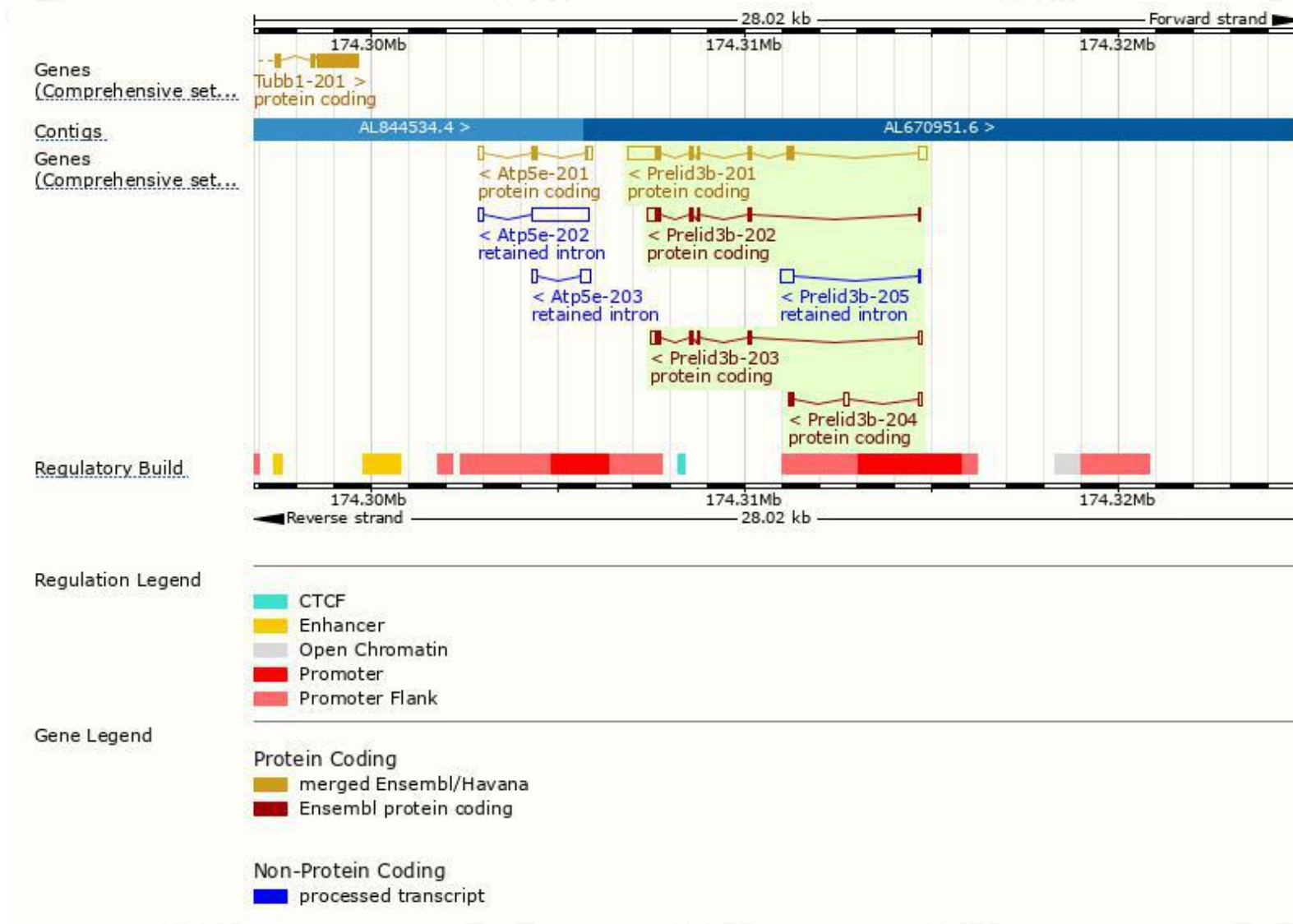
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Prelid3b-201	ENSMUST00000016401.15	1553	195aa	Protein coding	CCDS17155		TSL:1 , GENCODE basic , APPRIS P1 ,
Prelid3b-202	ENSMUST00000117442.8	683	105aa	Protein coding	-		TSL:3 , GENCODE basic ,
Prelid3b-203	ENSMUST00000120822.2	622	105aa	Protein coding	-		TSL:3 , GENCODE basic ,
Prelid3b-204	ENSMUST00000141100.2	355	31aa	Protein coding	-		CDS 3' incomplete , TSL:3 ,
Prelid3b-205	ENSMUST00000147944.2	394	No protein	Retained intron	-		TSL:2 ,

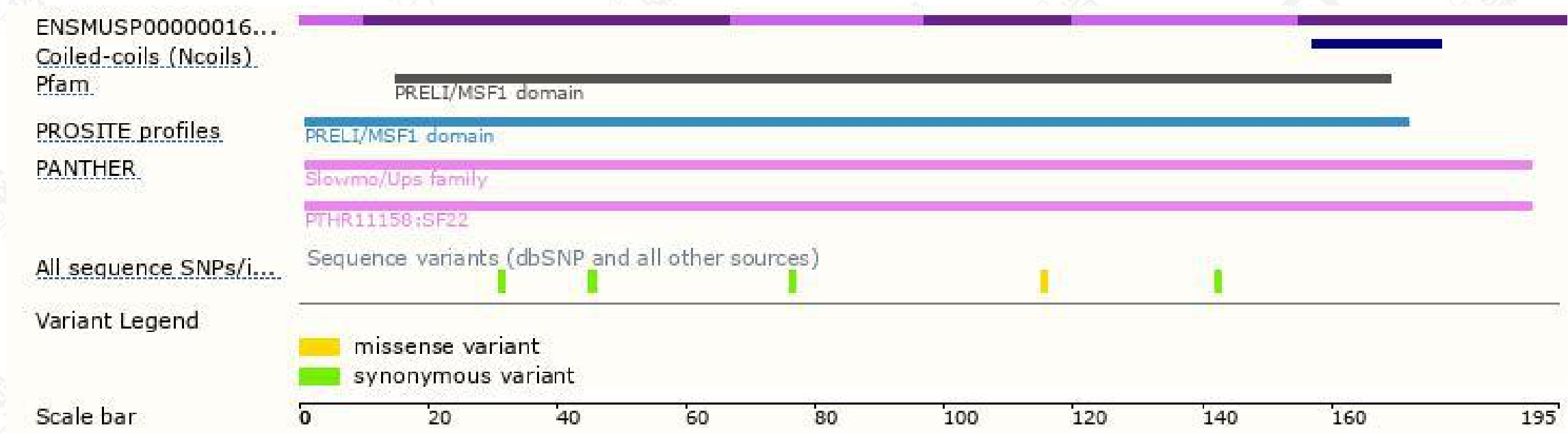
The strategy is based on the design of *Prelid3b-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



If you have any questions, you are welcome to inquire.
Tel: 400-9660890

