

Pitpnc1 Cas9-CKO Strategy

Designer: Xueting Zhang
Reviewer: Yanhua Shen
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Project Overview

Project Name

Pitpnc1

Project type

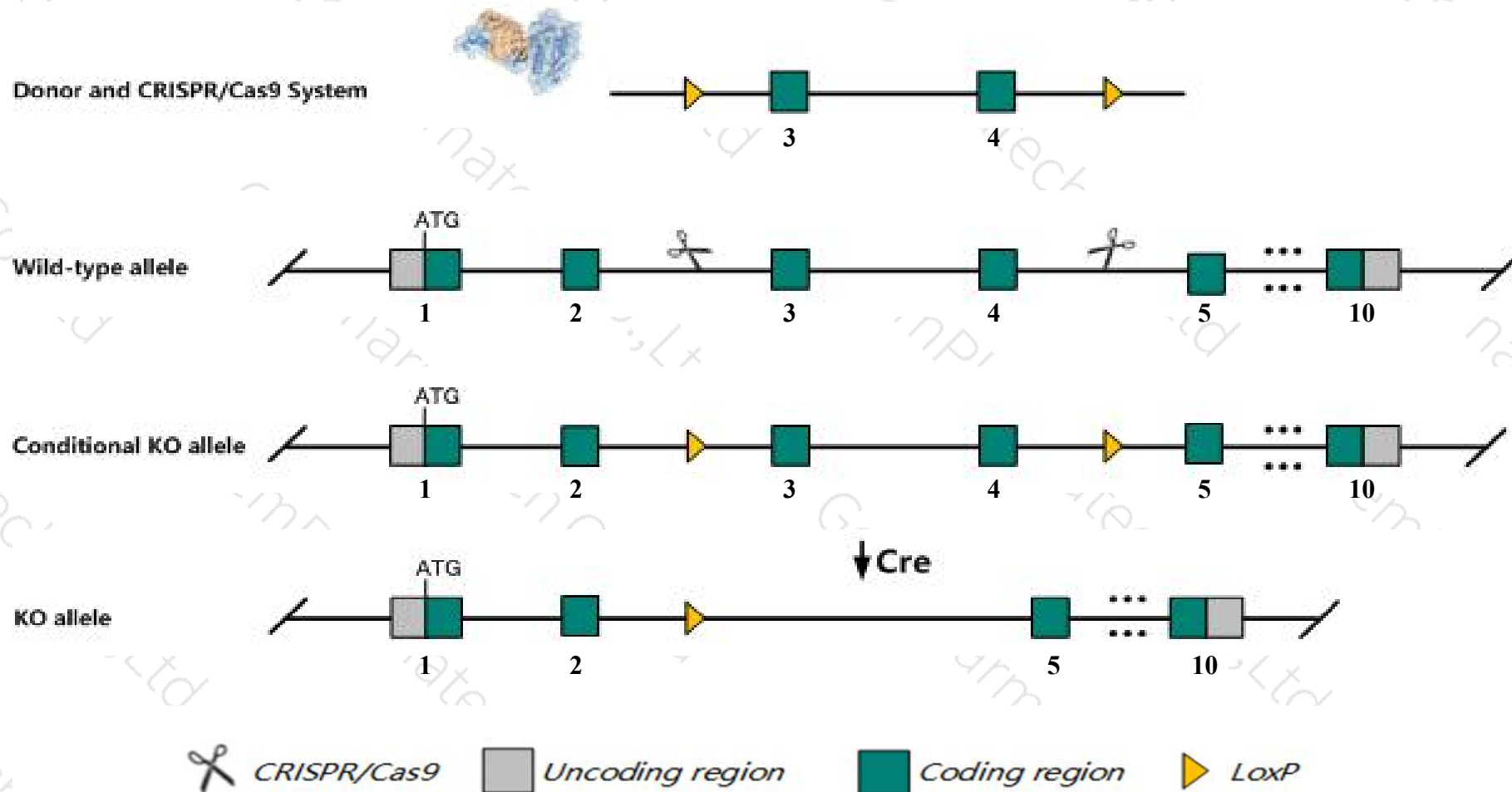
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Pitpnc1* gene. The schematic diagram is as follows:



- The *Pitpnc1* gene has 4 transcripts. According to the structure of *Pitpnc1* gene, exon3-exon4 of *Pitpnc1*-202 (ENSMUST00000103064.9) transcript is recommended as the knockout region. The region contains 97bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Pitpnc1* 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 N-terminal of *Gm11719* gene, this strategy may influence the regulatory function of the N-terminal of *Gm11719* gene.
- The *Pitpnc1* gene is located on the Chr11. 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)

Pitpnc1 phosphatidylinositol transfer protein, cytoplasmic 1 [*Mus musculus* (house mouse)]

Gene ID: 71795, updated on 14-Aug-2019

Summary

Official Symbol	Pitpnc1 provided by MGI
Official Full Name	phosphatidylinositol transfer protein, cytoplasmic 1 provided by MGI
Primary source	MGI:MGI:1919045
See related	Ensembl:ENSMUSG00000040430
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	RDGBB; Dnr411; RDGBB1; AI662802; AI851387; mrdgBbeta; rdgB-beta; 1110020B03Rik; 5830436L09Rik; C330017I21Rik
Expression	Ubiquitous expression in lung adult (RPKM 13.5), CNS E18 (RPKM 9.7) and 24 other tissues See more
Orthologs	human all

Genomic context

Location: 11; 11 E1

See Pitpnc1 in [Genome Data Viewer](#)

Exon count: 11

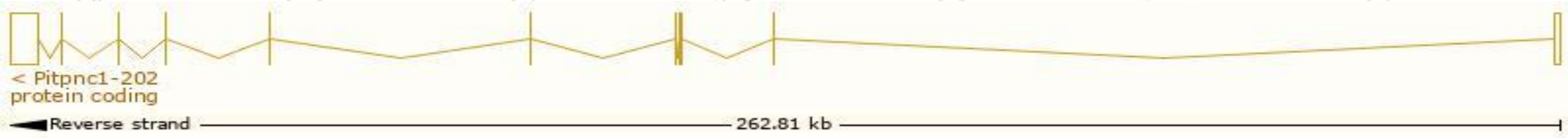
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	11	NC_000077.6 (107207892..107470720, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	11	NC_000077.5 (107069206..107332034, complement)

Transcript information (Ensembl)

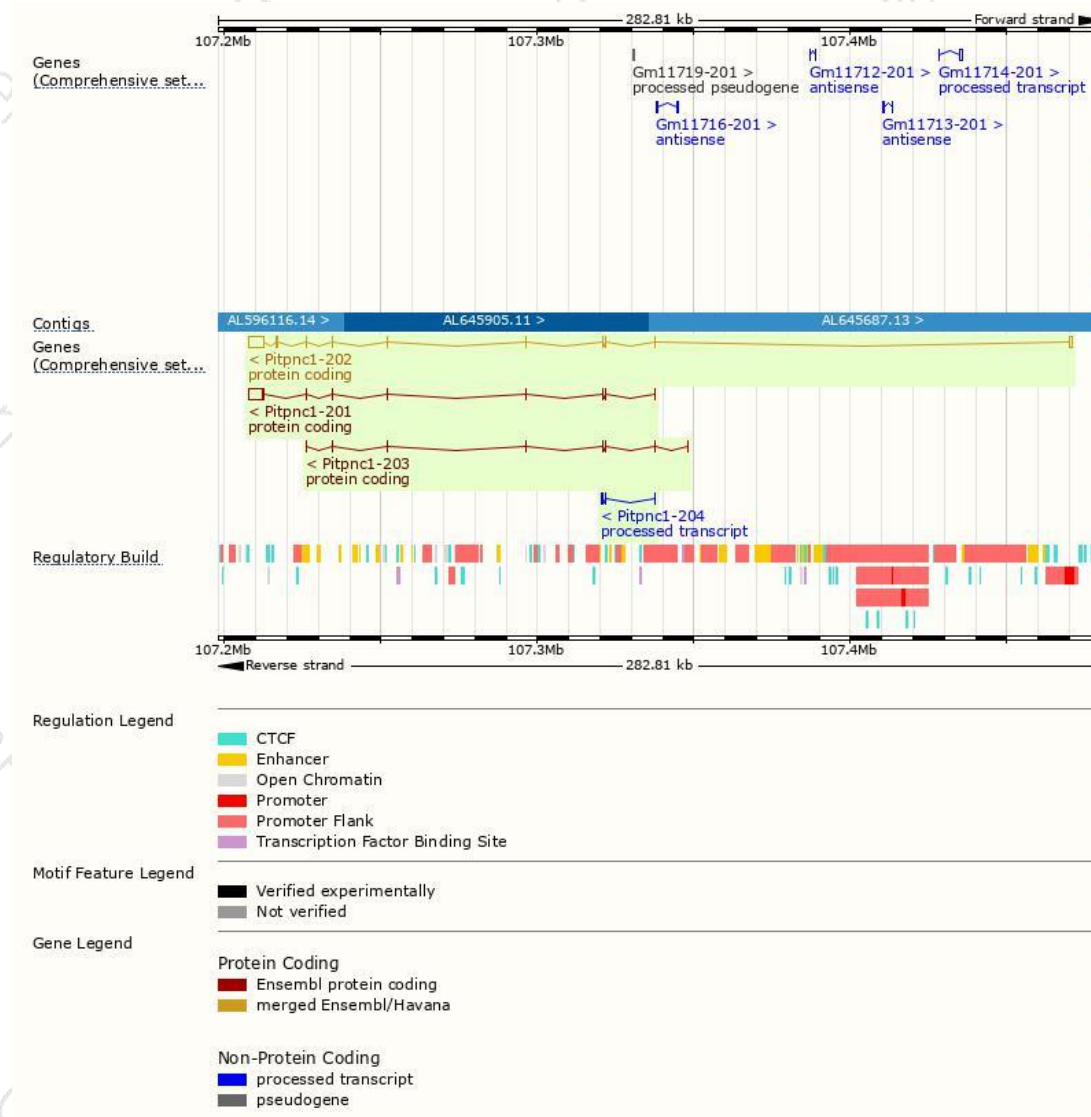
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Pitpnc1-202	ENSMUST00000103064.9	6329	268aa	Protein coding	CCDS25567	Q8K4R4	TSL:1 GENCODE basic APPRIS P1
Pitpnc1-201	ENSMUST00000040380.12	5478	309aa	Protein coding	-	A0A0A0MQ88	TSL:1 GENCODE basic
Pitpnc1-203	ENSMUST00000134763.1	650	195aa	Protein coding	-	X1WI19	CDS 3' incomplete TSL:5
Pitpnc1-204	ENSMUST00000146680.1	376	No protein	Processed transcript	-	-	TSL:3

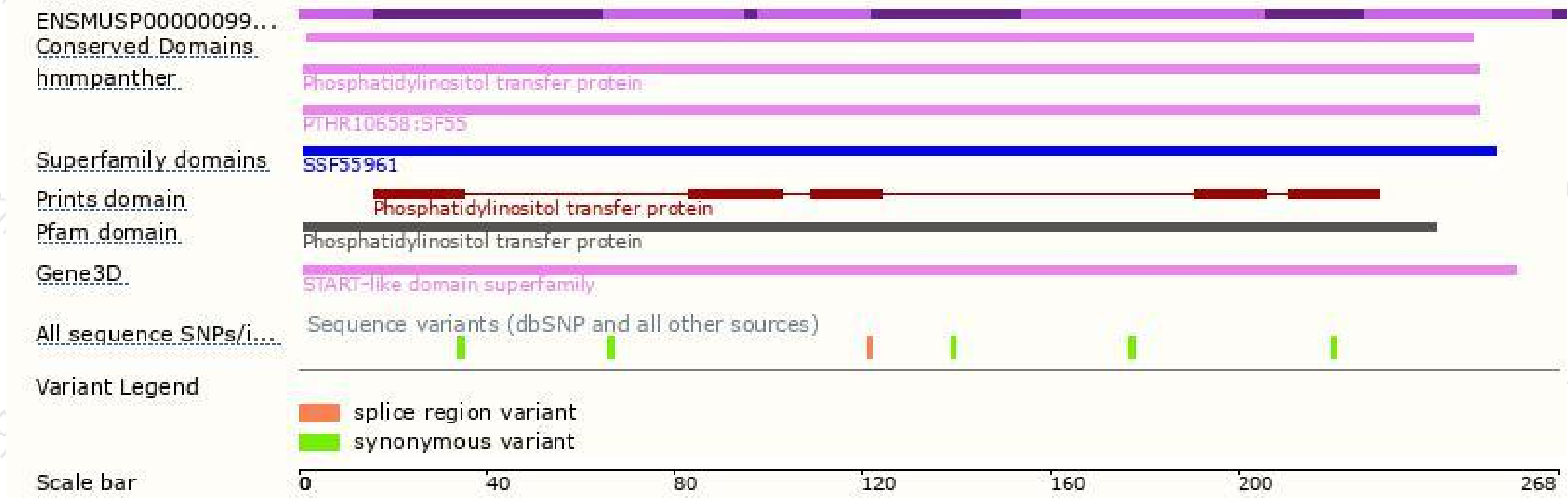
The strategy is based on the design of *Pitpnc1-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

