

Pitpnc1 Cas9-KO Strategy

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Project Overview

Project Name

Pitpnc1

Project type

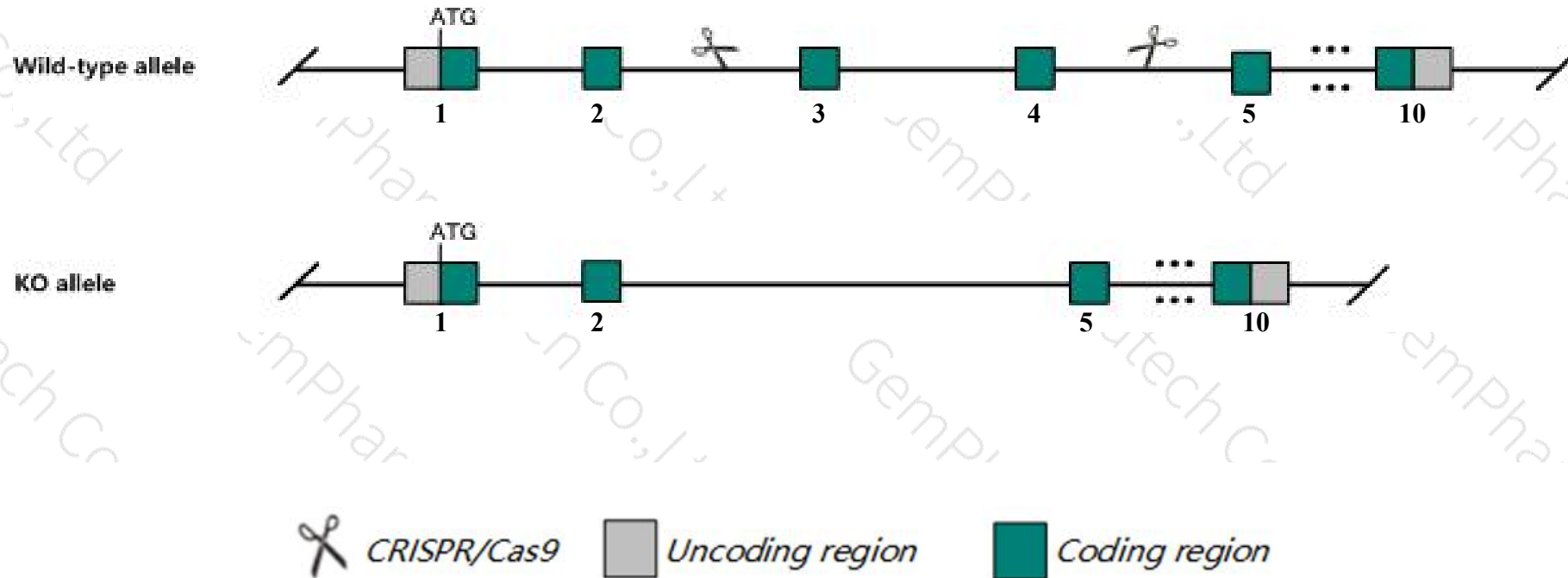
Cas9-KO

Strain background

C57BL/6JGpt

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

- The knockout 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology 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:ENSMUSG000000040430](#)
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

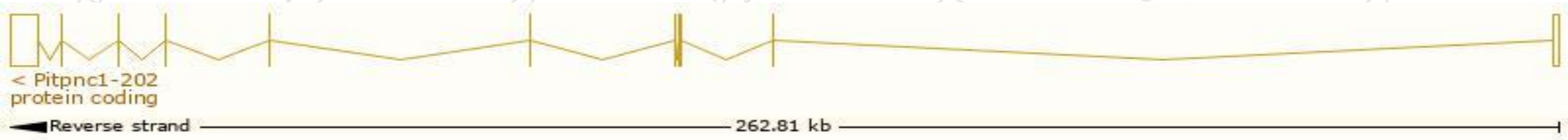
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	11	NC_000077.6 (107207892..107470720, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	11	NC_000077.5 (107069206..107332034, complement)

Transcript information (Ensembl)

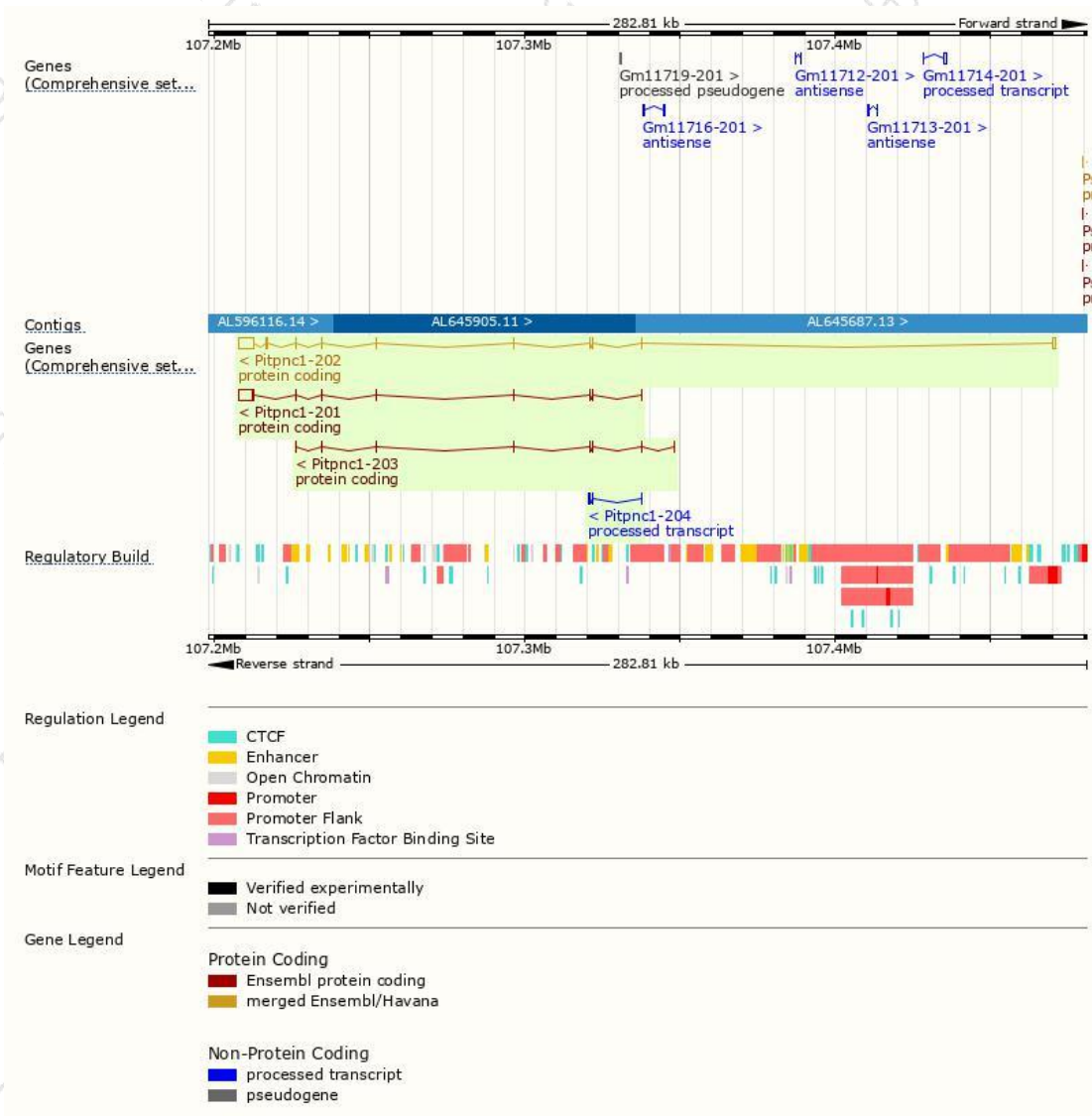
The gene has 4 transcripts,all transcripts are shown below:

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

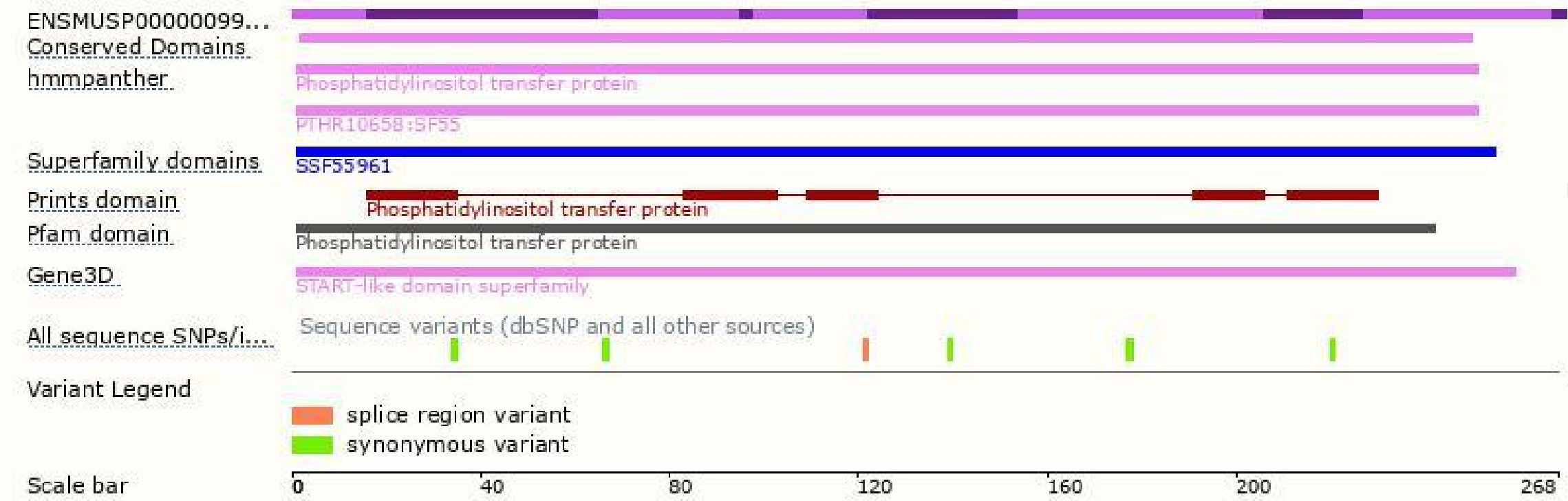
The strategy is based on the design of *Pitpnc1-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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