

Prelid1 Cas9-CKO Strategy

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Overview

Target Gene Name

- *Prelid1*

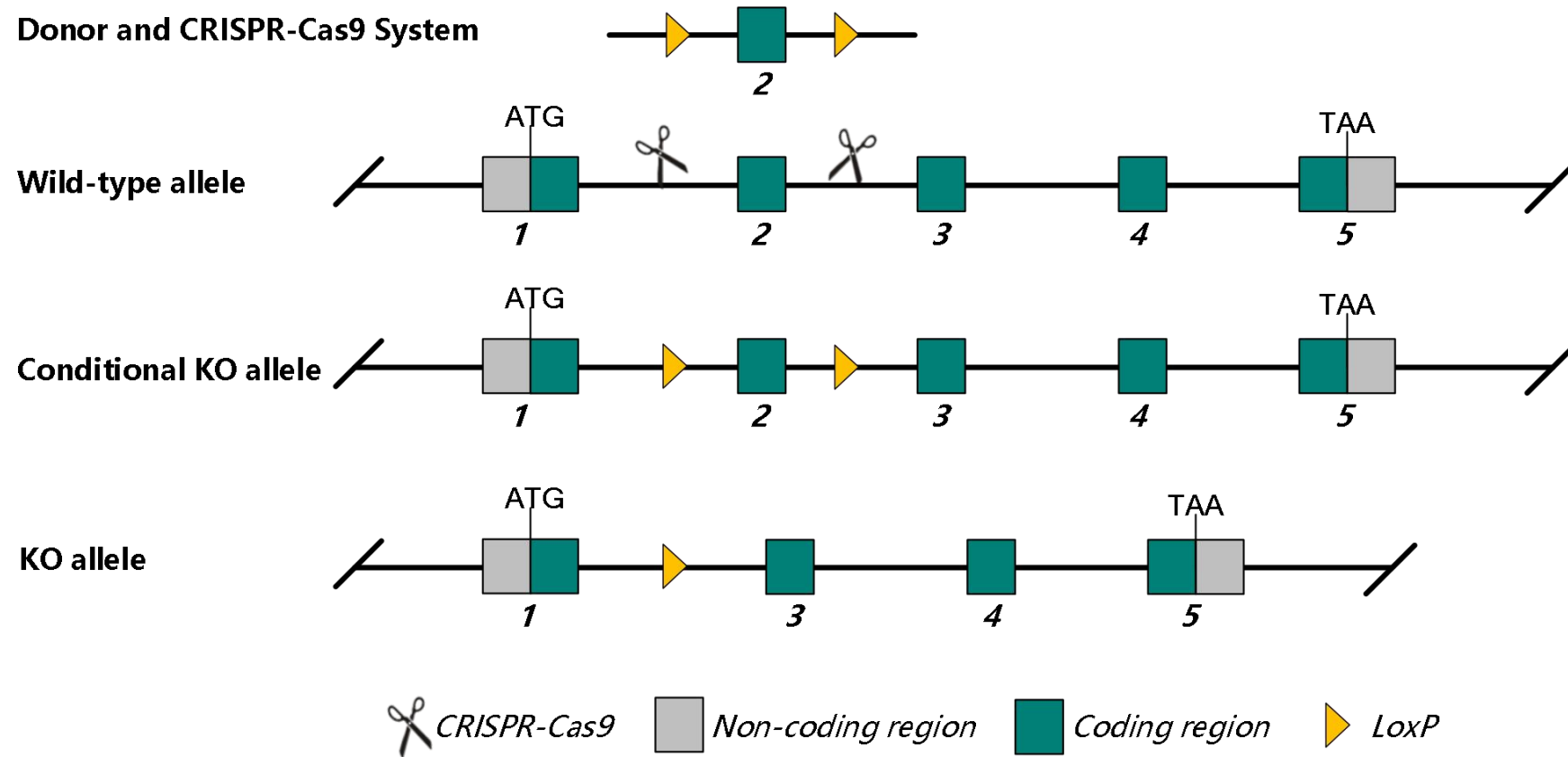
Project Type

- Cas9-CKO

Genetic Background

- C57BL/6JGpt

Strain Strategy



Schematic representation of CRISPR-Cas9 engineering used to edit the *Prelid1* gene.

Technical Information

- The *Prelid1* gene has 2 transcripts. According to the structure of *Prelid1* gene, exon 2 of *Prelid1*-201 (ENSMUST00000021942.8) is recommended as the knockout region. The region contains 226 bp of coding sequence. Knockout the region will result in disruption of gene function.
- In this project we use CRISPR-Cas9 technology to modify *Prelid1* 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 on-target amplicon sequencing. A stable F1-generation mouse strain was obtained by mating positive F0-generation mice with C57BL/6JGpt mice and confirmation of the desired mutant allele was carried out by PCR and on-target amplicon sequencing.
- 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.

Gene Information

Preli1 PRELI domain containing 1 [*Mus musculus* (house mouse)]

Gene ID: 66494, updated on 31-May-2023

[Download Datasets](#)

Summary

Official Symbol	Preli1 provided by MGI
Official Full Name	PRELI domain containing 1 provided by MGI
Primary source	MGI:MGI:1913744
See related	Ensembl:ENSMUSG000000021486 AllianceGenome:MGI:1913744
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	Preli; 2610524G07Rik
Summary	Predicted to enable phosphatidic acid transfer activity. Involved in negative regulation of apoptotic process. Located in mitochondrion. Is expressed in several structures, including brain; gonad; immune system; liver; and stomach. Orthologous to human PRELID1 (PRELI domain containing 1). [provided by Alliance of Genome Resources, Apr 2022]
Expression	Ubiquitous expression in duodenum adult (RPKM 465.5), large intestine adult (RPKM 374.9) and 27 other tissues See more
Orthologs	human all
NEW	Try the new Gene table Try the new Transcript table

Genomic context

Location: 13; 13 B1

Exon count: 5

See Preli1 in [Genome Data Viewer](#)

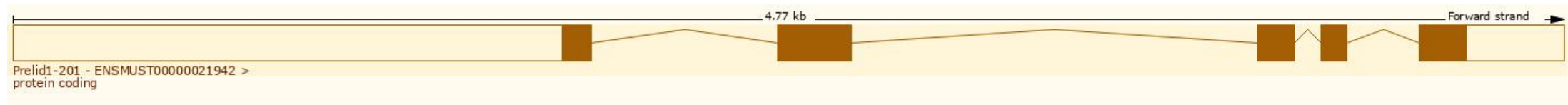
<https://www.ncbi.nlm.nih.gov/gene/66494>

Transcript Information

The gene has 2 transcripts, all transcripts are shown below:

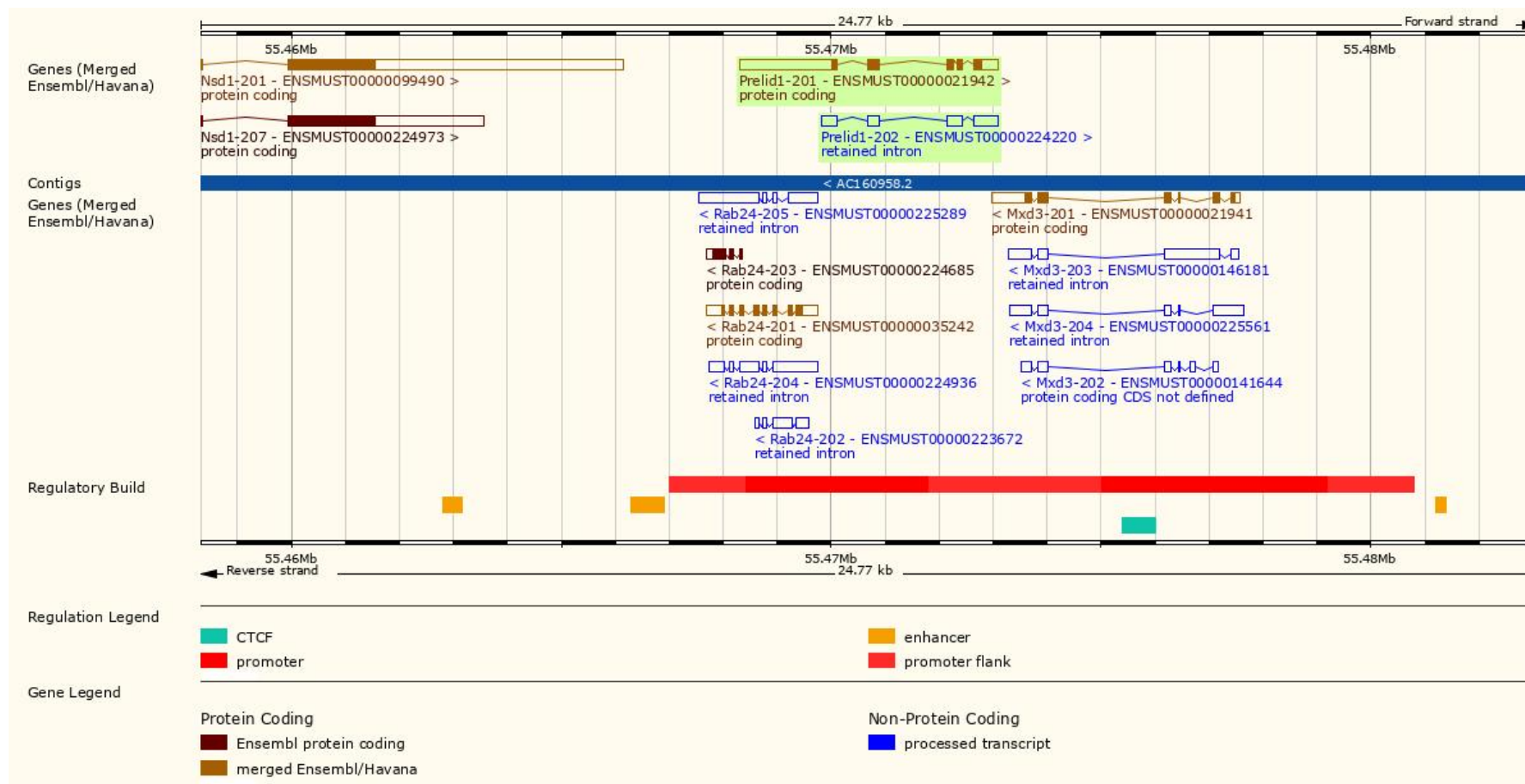
Show/hide columns (1 hidden)							Filter	
Transcript ID	Name	bp	Protein	Biotype	CCDS	UniProt Match	Flags	
ENSMUST00000021942.8	Prelid1-201	2644	217aa	Protein coding	CCDS26542	Q8R107	Ensembl Canonical	GENCODE basic APPRIS P1 TSL:1
ENSMUST00000224220.2	Prelid1-202	1204	No protein	Retained intron				

The strategy is based on the design of *Prelid1*-201 transcript, the transcription is shown below:

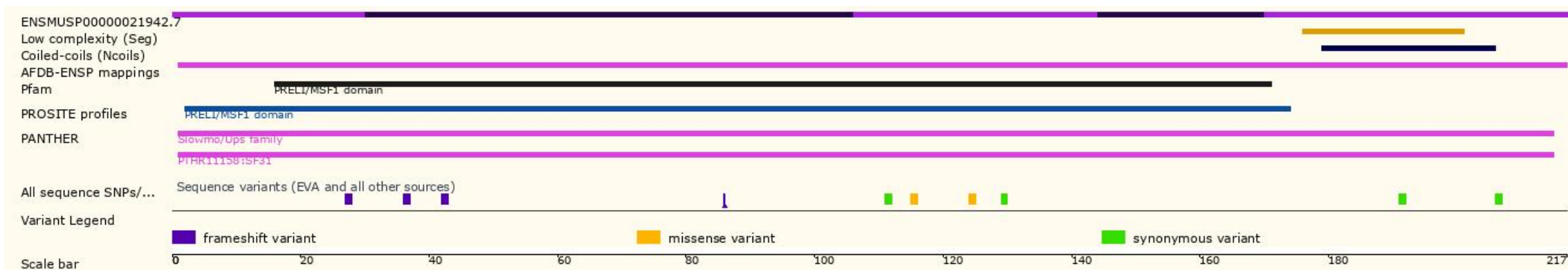


Source: <http://asia.ensembl.org/>

Genomic Information



Protein Information



Important Information

- According to the existing MGI data, mice homozygous for a B cell specific deletion of this gene are viable and fertile with no discernible B cell abnormalities.
- The knockout region is about 0.5 kb away from the 5' of the *Rab24* gene, which may affect the regulation of this gene.
- The knockout region is about 1.5 kb away from the 3' of the *Mxd3* gene, which may affect the regulation of this gene.
- *Prelid1* is located on Chr 13. If the knockout mice are crossed with other mouse strains to obtain double homozygous mutant offspring, please avoid the situation that the second gene is 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 the existing technology level.