

Bnipl Cas9-CKO Strategy

Designer:

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Project Overview

Project Name

Bn1pl

Project type

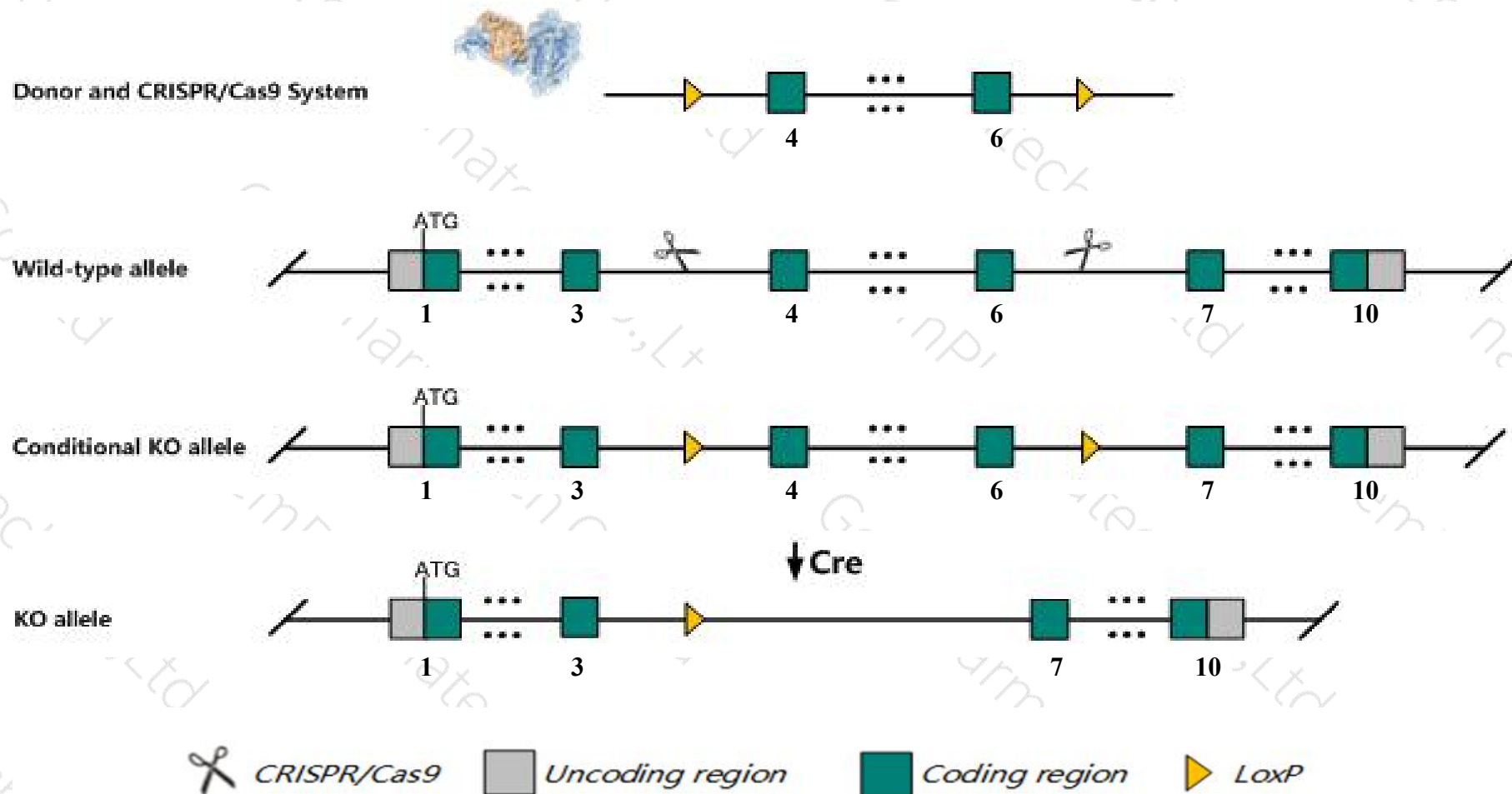
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



- The *Bnipl* gene has 5 transcripts. According to the structure of *Bnipl* gene, exon4-exon6 of *Bnipl-202* (ENSMUST00000107195.8) transcript is recommended as the knockout region. The region contains 511bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Bnipl* 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 *Bnpl* gene is located on the Chr3. 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)

Bn1pl BCL2/adenovirus E1B 19kD interacting protein like [Mus musculus (house mouse)]

Gene ID: 171388, updated on 31-Jan-2019

Summary



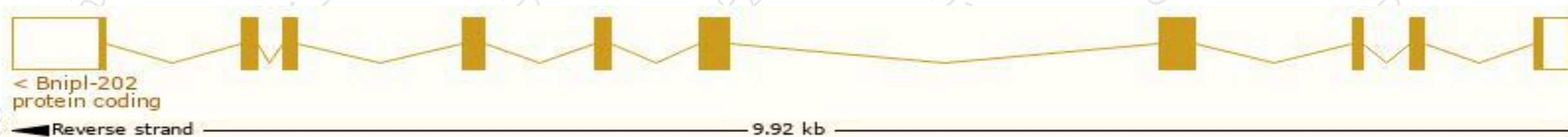
Official Symbol	Bn1pl provided by MGI
Official Full Name	BCL2/adenovirus E1B 19kD interacting protein like provided by MGI
Primary source	MGI:MGI:2384749
See related	Ensembl:ENSMUSG00000028115
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1700128A13Rik, BNIP-S, BNIPL1, BNIPL2, PP73, PP753
Expression	Biased expression in stomach adult (RPKM 4.7), bladder adult (RPKM 4.5) and 11 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

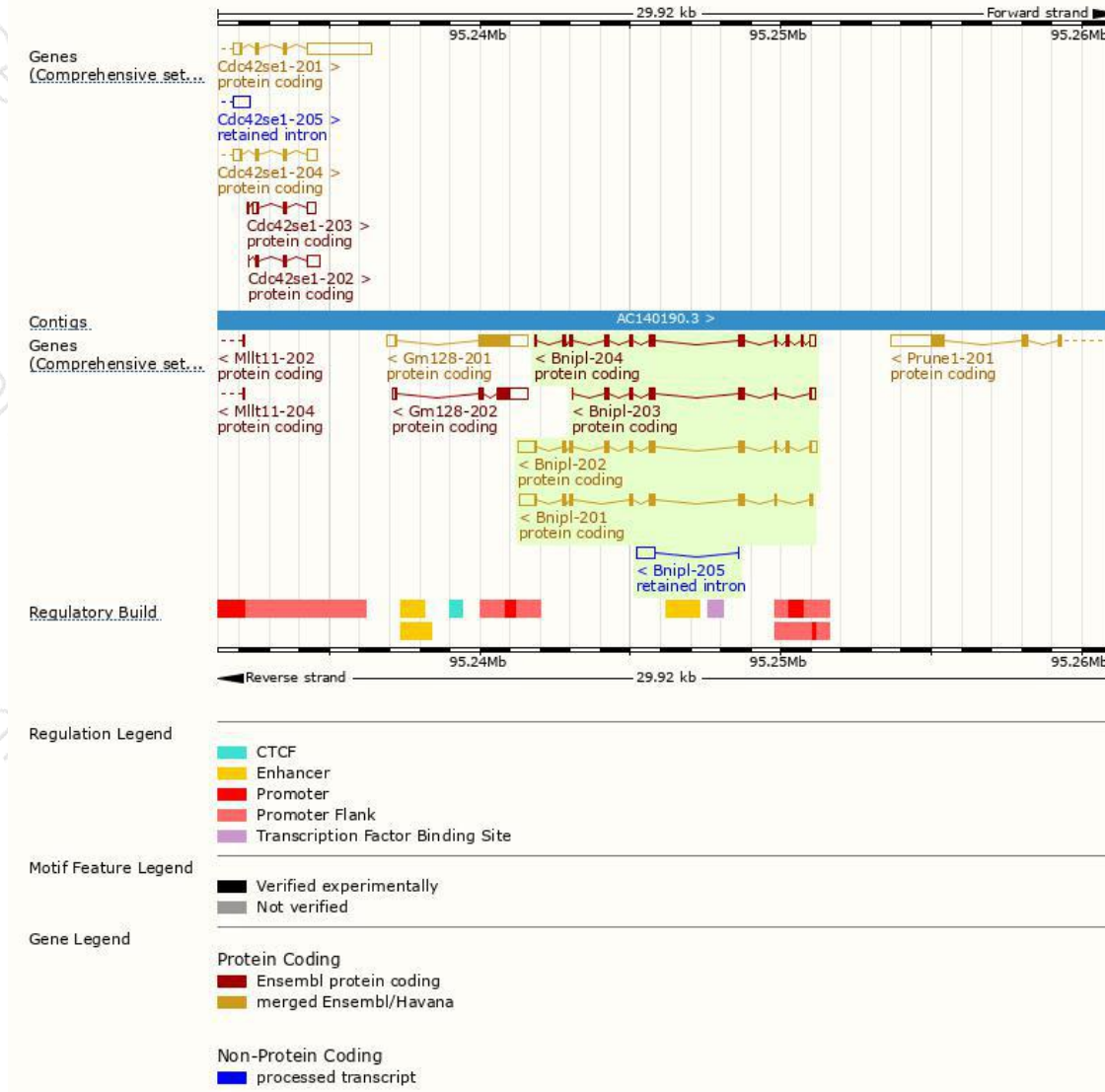
The gene has 5 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Bn1pl-202	ENSMUST00000107195.8	1810	356aa	Protein coding	CCDS17609	E9QME1	TSL:1 GENCODE basic APPRIS P1
Bn1pl-201	ENSMUST00000098871.10	1414	280aa	Protein coding	CCDS50988	E9Q8I3	TSL:1 GENCODE basic
Bn1pl-204	ENSMUST00000137250.8	1251	328aa	Protein coding	-	Q99JU7	TSL:5 GENCODE basic
Bn1pl-203	ENSMUST00000125515.2	917	259aa	Protein coding	-	D3YY90	CDS 3' incomplete TSL:5
Bn1pl-205	ENSMUST00000176070.1	622	No protein	Retained intron	-	-	TSL:5

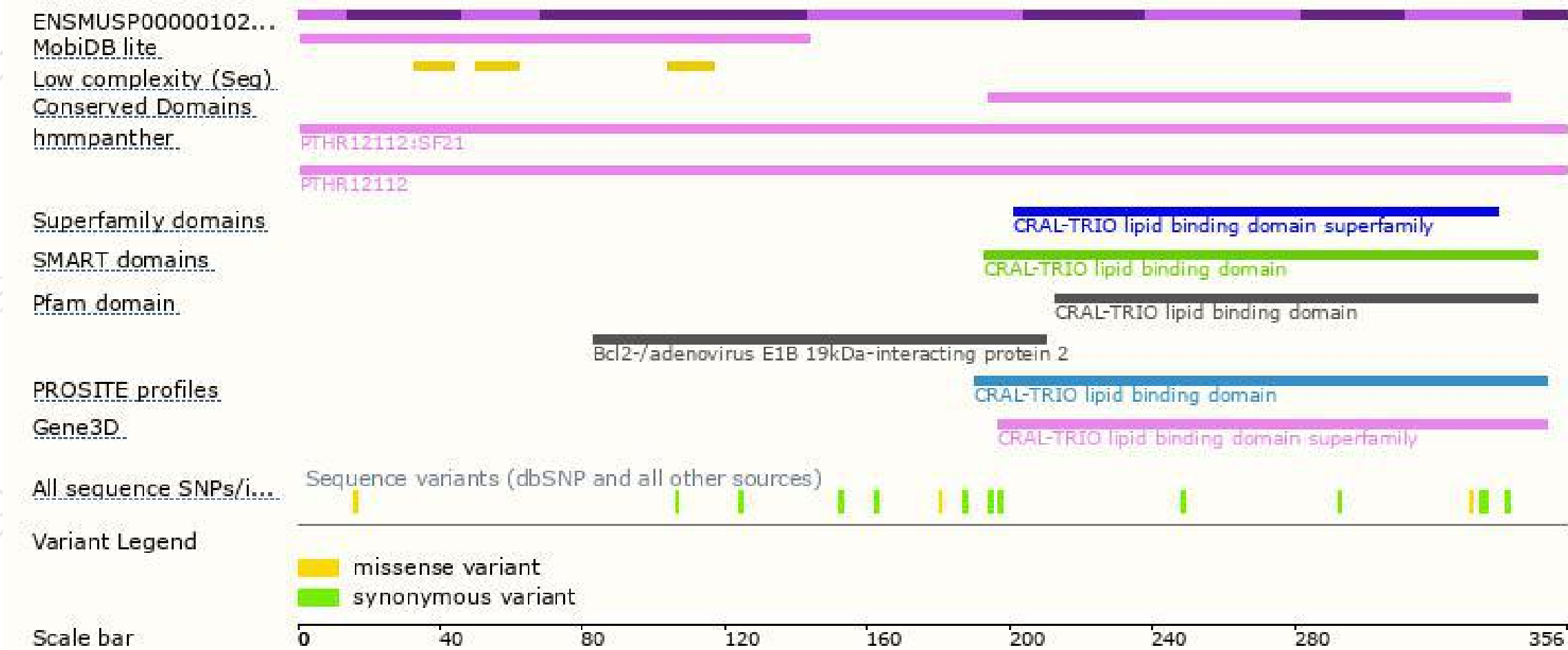
The strategy is based on the design of *Bn1pl-202* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

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