

***Btln2* Cas9-KO Strategy**

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Project Overview

Project Name

Btnl2

Project type

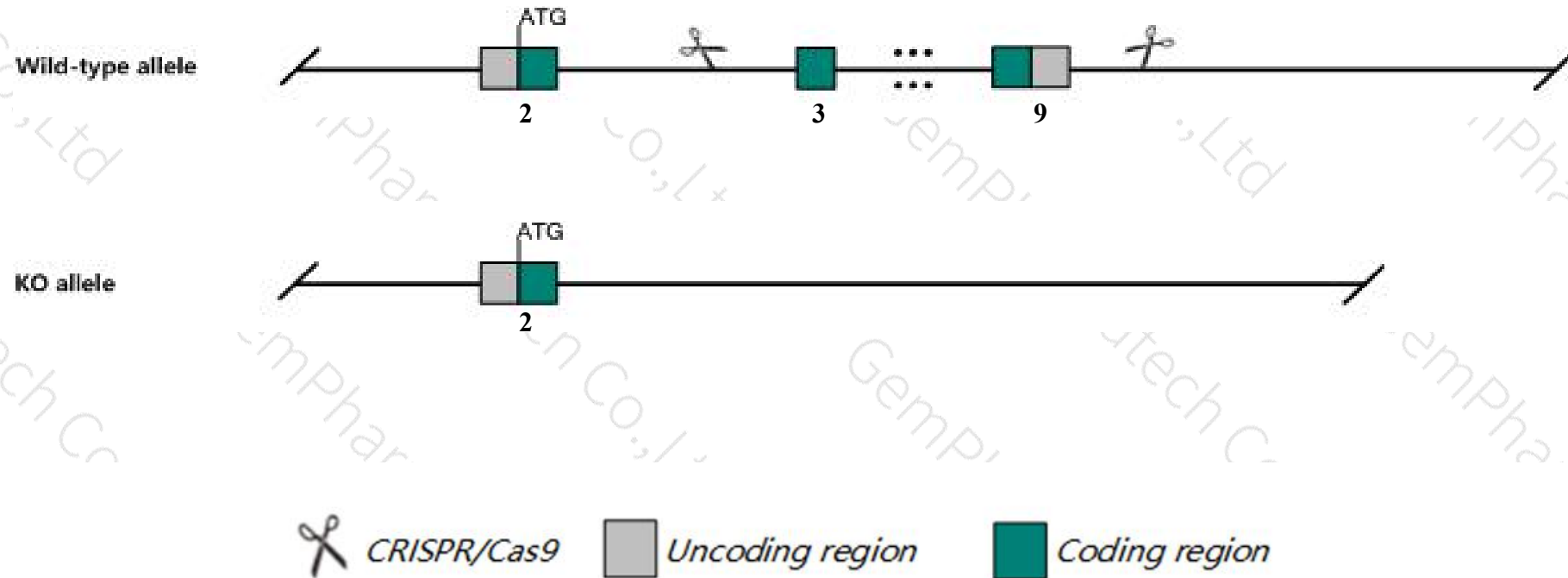
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Btnl2* gene. The schematic diagram is as follows:



- The *Btnl2* gene has 2 transcripts. According to the structure of *Btnl2* gene, exon3-exon9 of *Btnl2-201* (ENSMUST00000025198.14) transcript is recommended as the knockout region. The region contains most coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Btnl2* gene. The brief process is as follows: CRISPR/Cas9 system w

- The *Btnl2* gene is located on the Chr17. 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)

Btnl2 butyrophilin-like 2 [*Mus musculus* (house mouse)]

Gene ID: 547431, updated on 5-Nov-2019

Summary

Official Symbol	Btnl2 provided by MGI
Official Full Name	butyrophilin-like 2 provided by MGI
Primary source	MGI:MGI:1859549
See related	Ensembl:ENSMUSG000000024340
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	NG9; Btl2; BTLN2; Gm315; BTL-II
Expression	Biased expression in large intestine adult (RPKM 31.7), duodenum adult (RPKM 31.5) and 2 other tissues See more
Orthologs	human all

Genomic context

Location: 17 B1; 17 17.98 cM

Exon count: 11

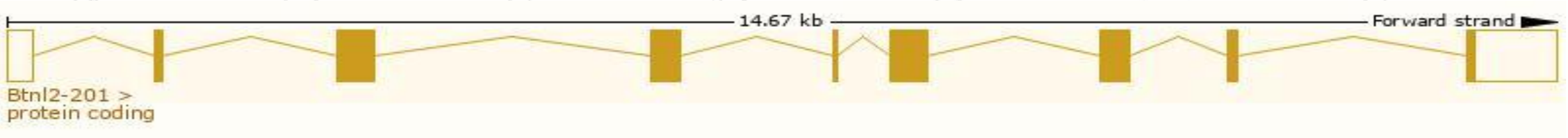
See Btnl2 in [Genome Data Viewer](#)

Transcript information (Ensembl)

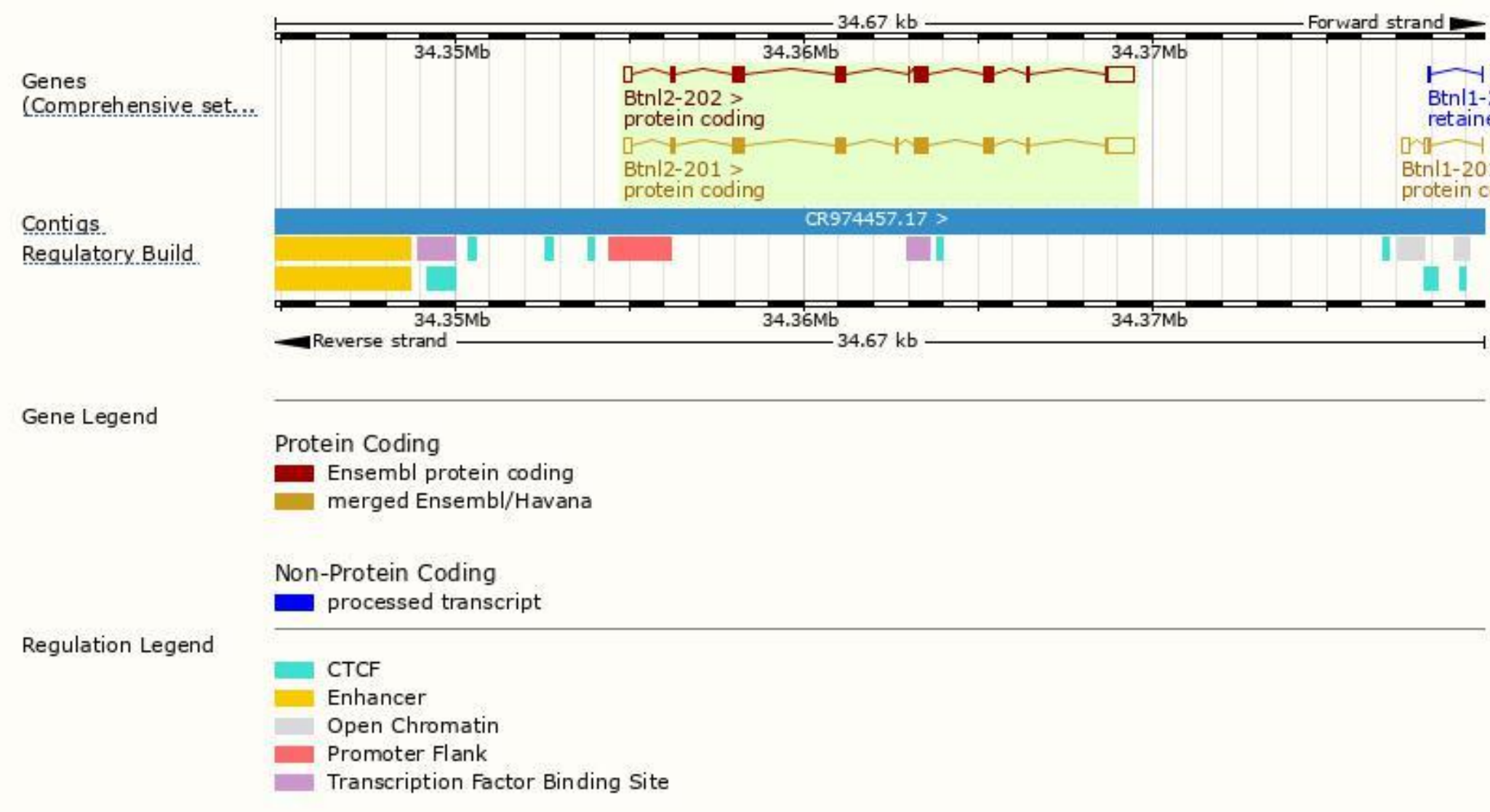
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Btnl2-201	ENSMUST00000025198.14	2566	514aa	Protein coding	CCDS37585	O70355	TSL:1 GENCODE basic APPRIS P2
Btnl2-202	ENSMUST00000178562.1	2563	514aa	Protein coding	-	J3QP12	TSL:5 GENCODE basic APPRIS ALT2

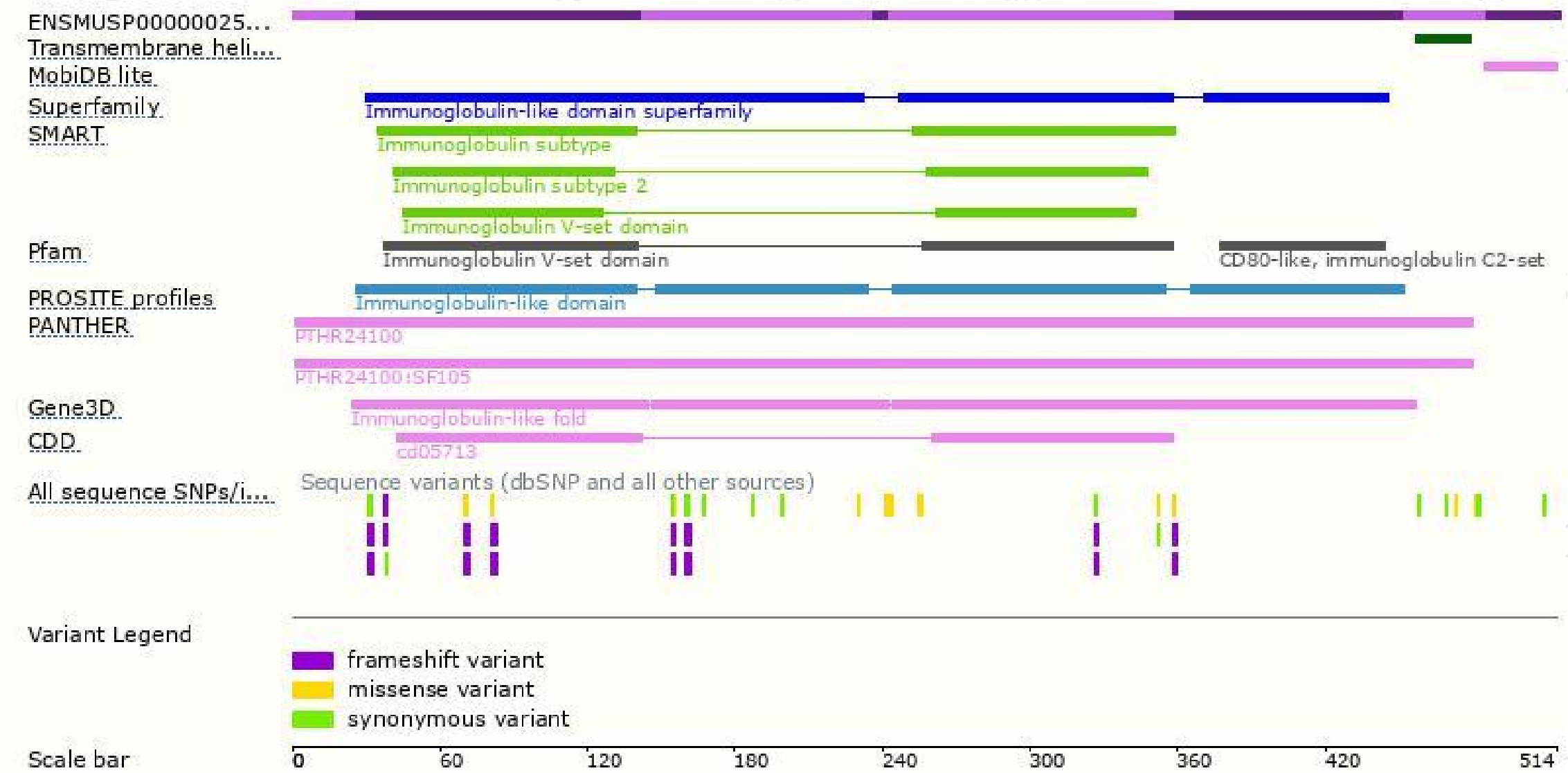
The strategy is based on the design of *Btnl2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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