

***Zbtb38* Cas9-CKO Strategy**

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Project Overview

Project Name

Zbtb38

Project type

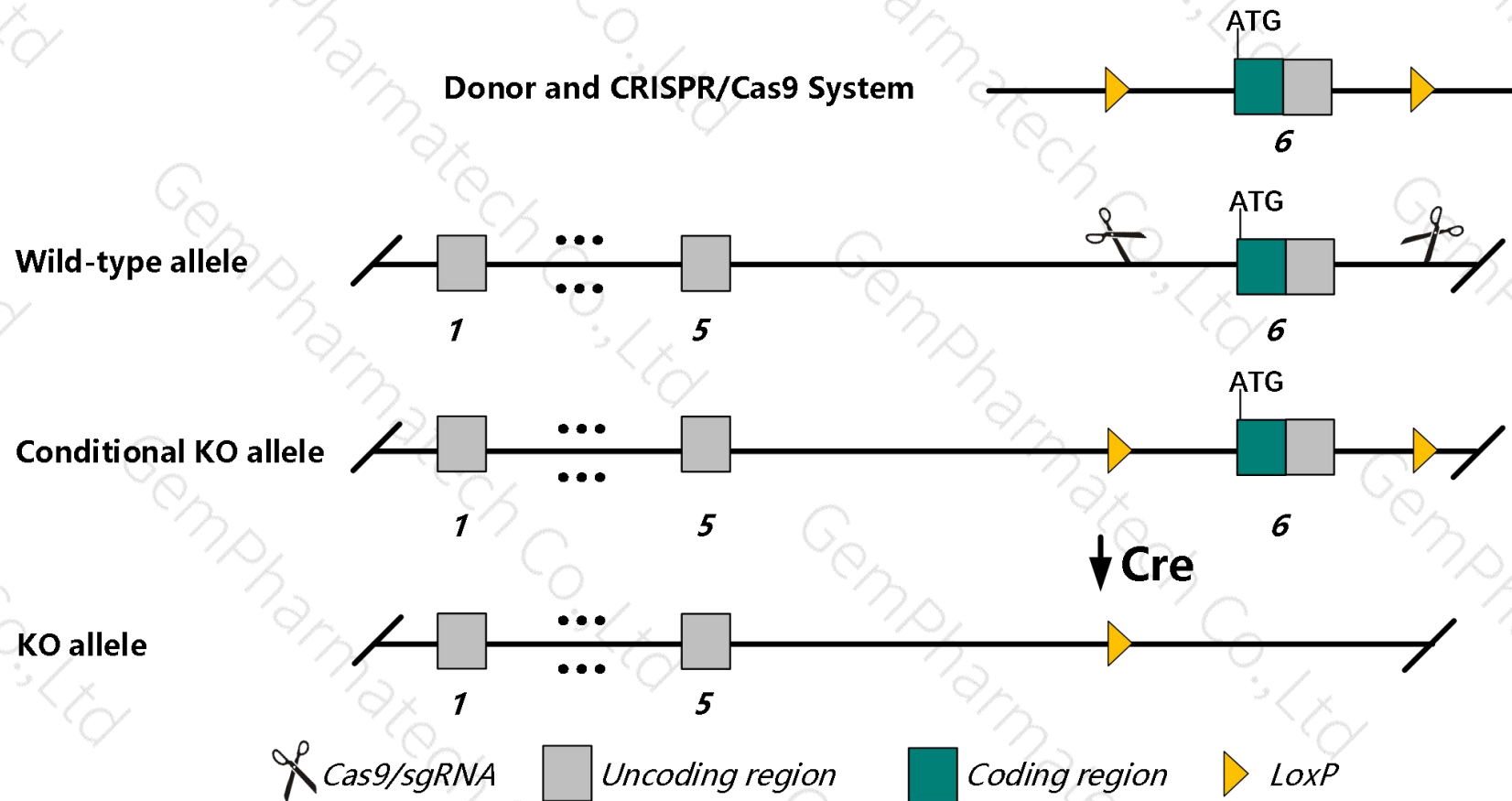
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zbtb38* gene. The schematic diagram is as follows:



- The *Zbtb38* gene has 12 transcripts. According to the structure of *Zbtb38* gene, exon6 of *Zbtb38-212* (ENSMUST00000152594.7) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zbtb38* 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

- Transcript *Zbtb38*-202&205&206&207&209&211 may not be affected.
- The effect on transcript *Zbtb38*-204&208 is unknown.
- The *Zbtb38* gene is located on the Chr9. 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)

Zbtb38 zinc finger and BTB domain containing 38 [Mus musculus (house mouse)]

Gene ID: 245007, updated on 31-Jan-2019

Summary



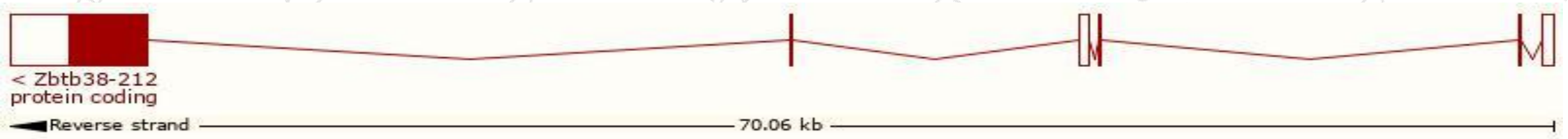
Official Symbol	Zbtb38 provided by MGI
Official Full Name	zinc finger and BTB domain containing 38 provided by MGI
Primary source	MGI:MGI:2442866
See related	Ensembl:ENSMUSG00000040433
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	A930014K01Rik, CIBZ
Expression	Ubiquitous expression in adrenal adult (RPKM 2.7), ovary adult (RPKM 2.1) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

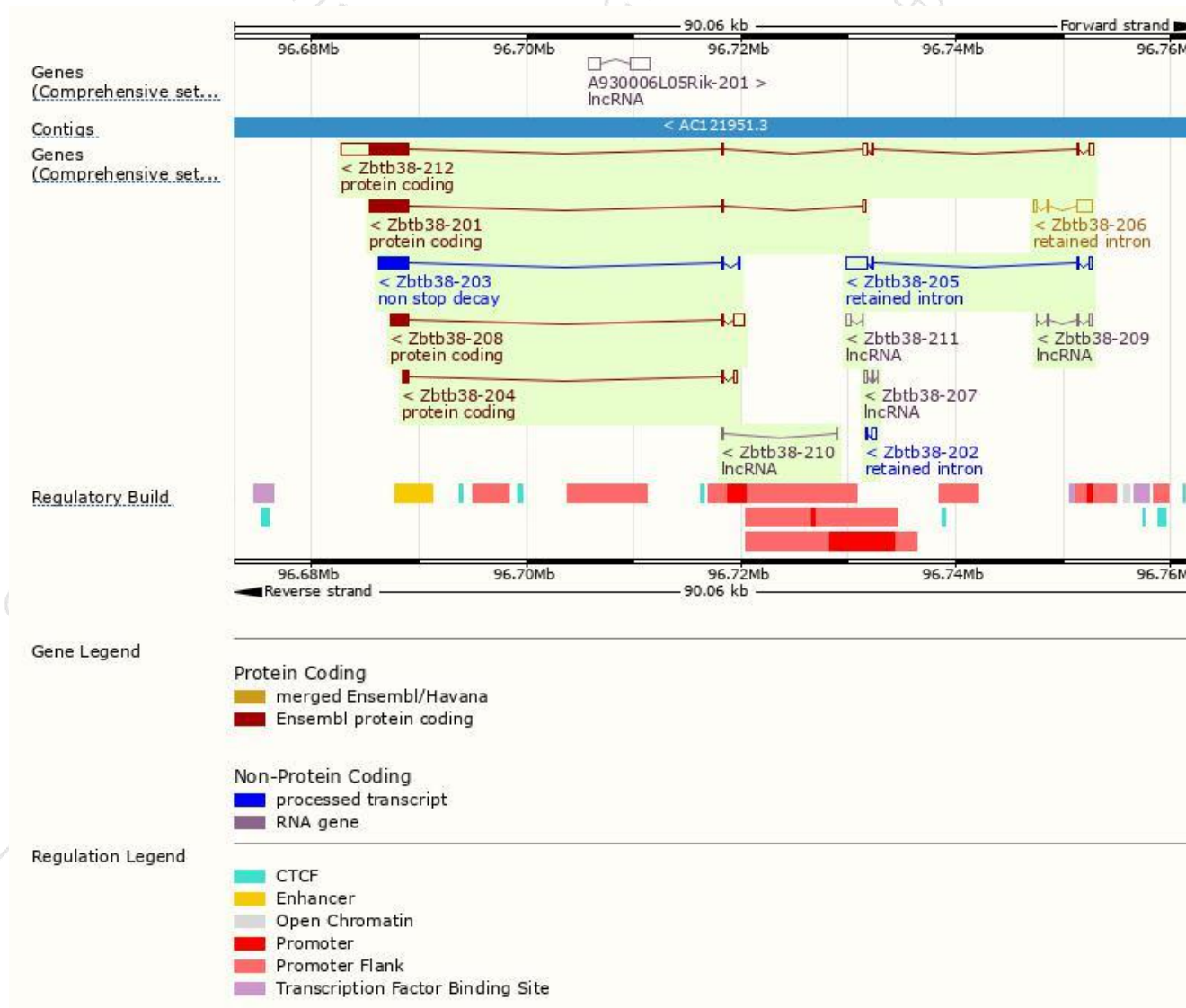
The gene has 12 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zbtb38-212	ENSMUST00000152594.7	7406	1197aa	Protein coding	CCDS40731	Q3LR78	TSL:2 GENCODE basic APPRIS P1
Zbtb38-201	ENSMUST00000093798.8	4091	1197aa	Protein coding	CCDS40731	Q3LR78	TSL:2 GENCODE basic APPRIS P1
Zbtb38-208	ENSMUST00000140121.7	2673	544aa	Protein coding	-	Q8BW24	CDS 3' incomplete TSL:1
Zbtb38-204	ENSMUST00000128269.7	929	184aa	Protein coding	-	D3Z1Y7	CDS 3' incomplete TSL:3
Zbtb38-203	ENSMUST00000126066.7	2937	924aa	Non stop decay	-	F6Z595	TSL:1
Zbtb38-205	ENSMUST00000130078.7	2341	No protein	Retained intron	-	-	TSL:1
Zbtb38-206	ENSMUST00000132060.7	1799	No protein	Retained intron	-	-	TSL:1
Zbtb38-202	ENSMUST00000124186.1	609	No protein	Retained intron	-	-	TSL:2
Zbtb38-209	ENSMUST00000143403.1	566	No protein	lncRNA	-	-	TSL:3
Zbtb38-211	ENSMUST00000147314.1	469	No protein	lncRNA	-	-	TSL:3
Zbtb38-207	ENSMUST00000137858.1	440	No protein	lncRNA	-	-	TSL:3
Zbtb38-210	ENSMUST00000143906.1	155	No protein	lncRNA	-	-	TSL:5

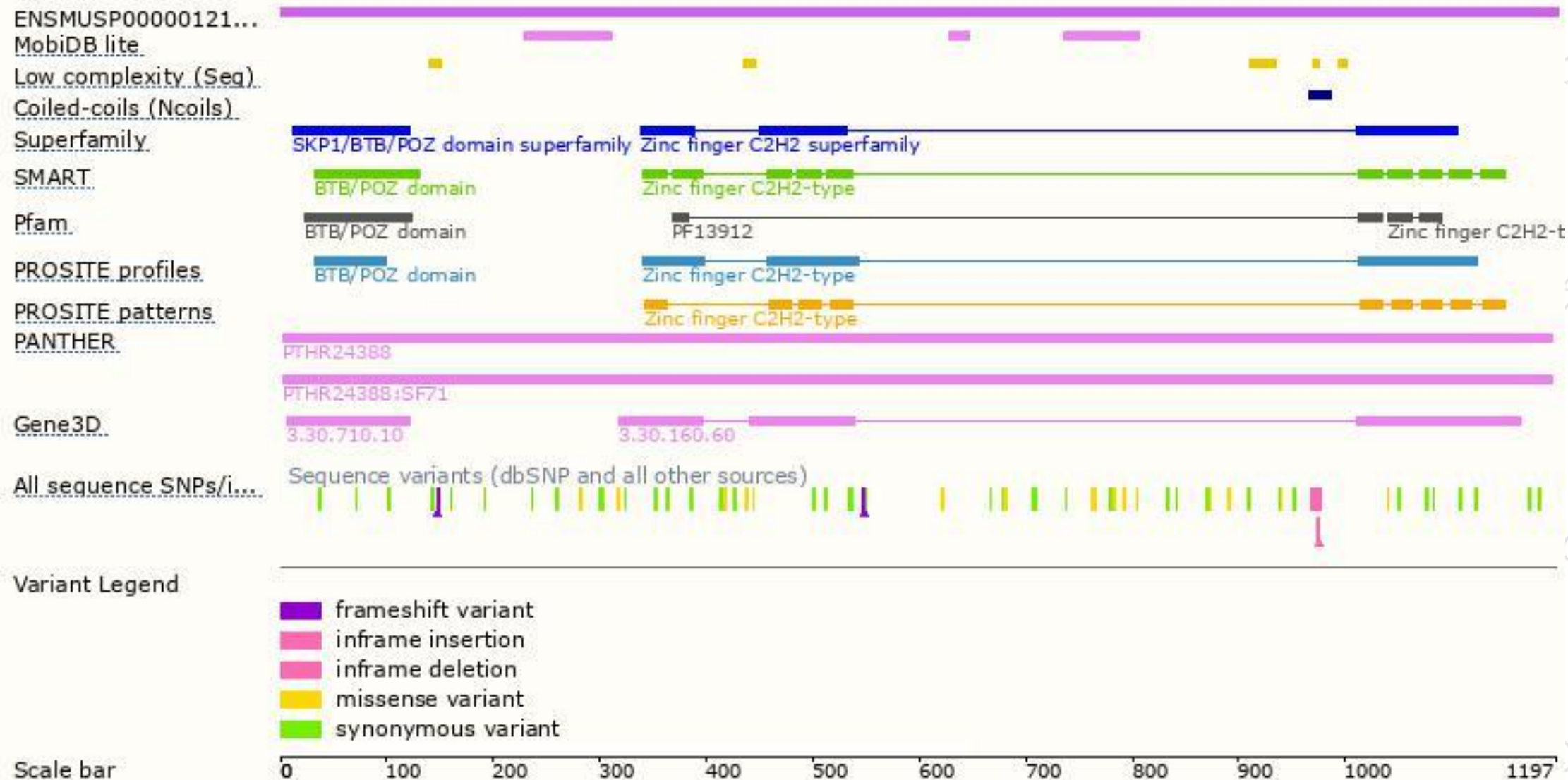
The strategy is based on the design of *Zbtb38-212* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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