

***Zbtb8os* Cas9-CKO Strategy**

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Project Overview

Project Name

Zbtb8os

Project type

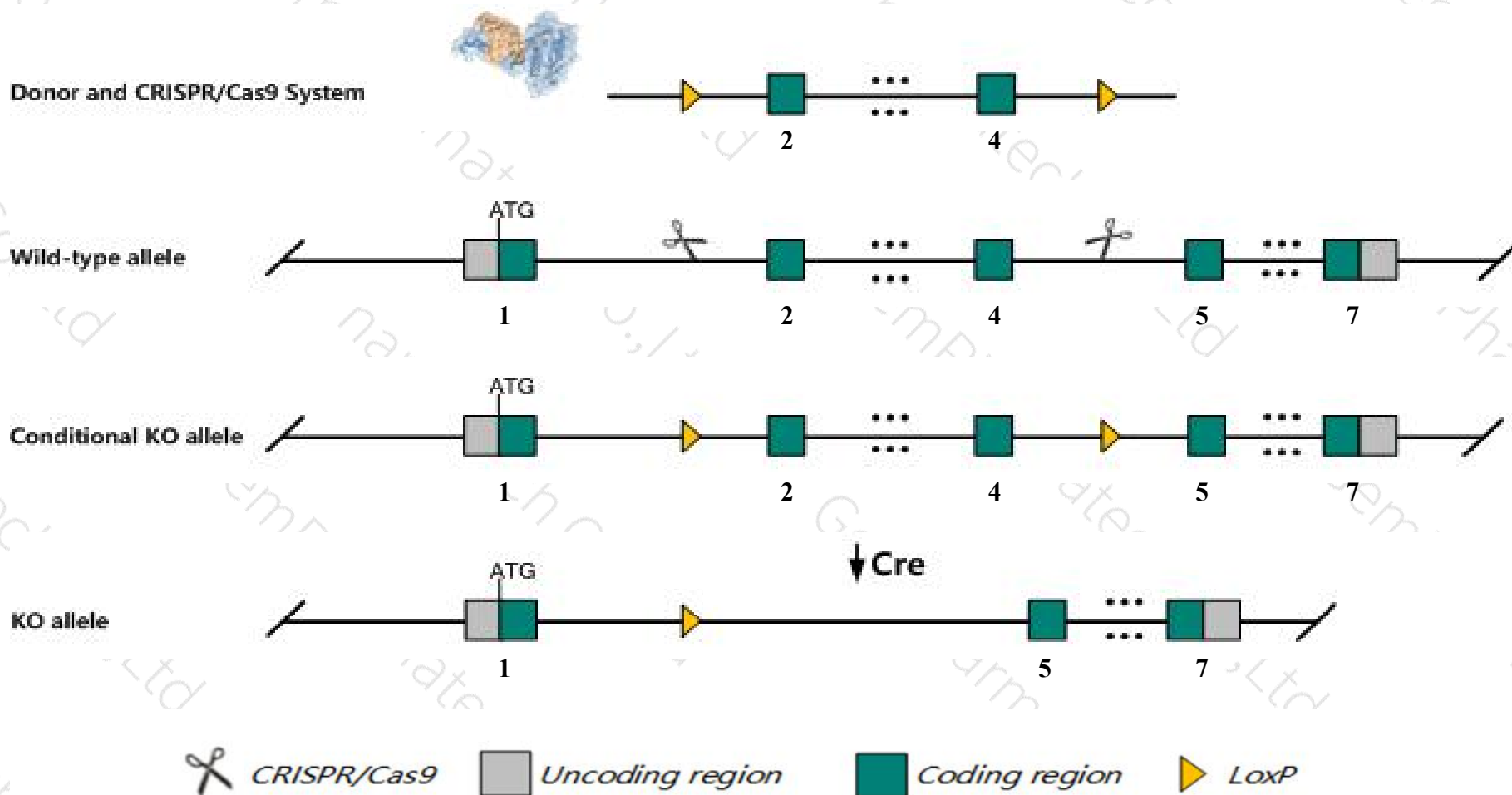
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zbtb8os* gene. The schematic diagram is as follows:



Technical routes

- The *Zbtb8os* gene has 5 transcripts. According to the structure of *Zbtb8os* gene, exon2-exon4 of *Zbtb8os*-204 (ENSMUST00000141235.7) transcript is recommended as the knockout region. The region contains 230bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zbtb8os* 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 *Zbtb8os* gene is located on the Chr4. 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)

Zbtb8os zinc finger and BTB domain containing 8 opposite strand [*Mus musculus* (house mouse)]

Gene ID: 67106, updated on 13-Mar-2020

Summary



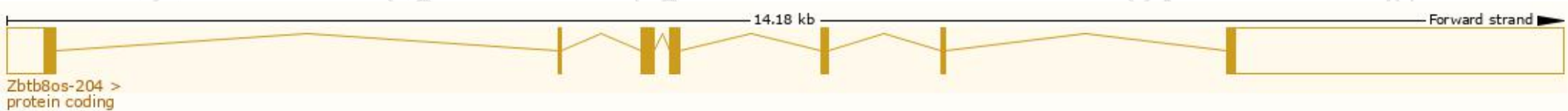
Official Symbol	Zbtb8os provided by MGI
Official Full Name	zinc finger and BTB domain containing 8 opposite strand provided by MGI
Primary source	MGI:MGI:1914356
See related	Ensembl:ENSMUSG00000057572
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Arch; Archm; AI851226; 2010001H09Rik; 2310028N13Rik
Expression	Ubiquitous expression in placenta adult (RPKM 10.5), CNS E11.5 (RPKM 8.2) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

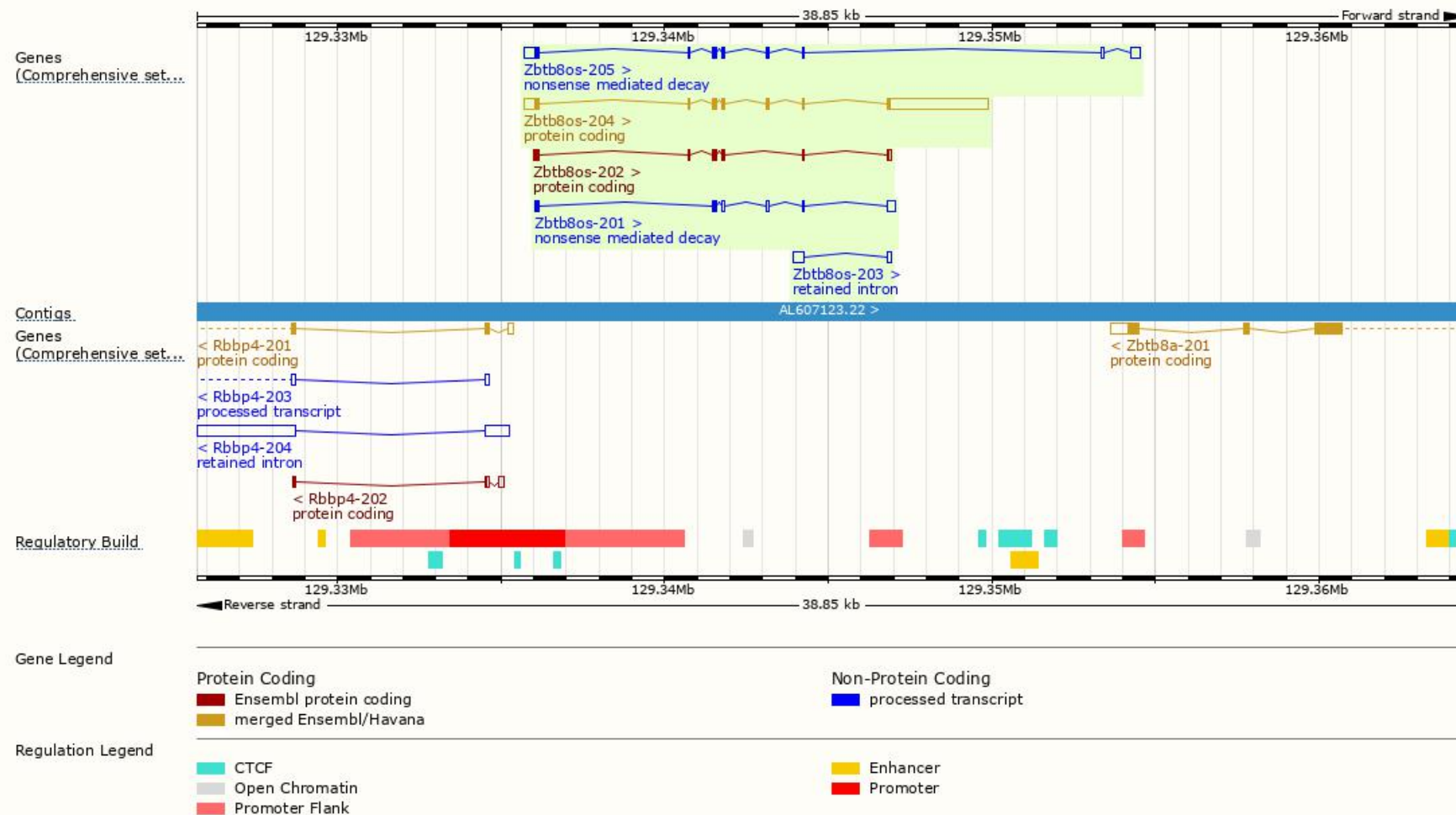
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zbtb8os-204	ENSMUST00000141235.7	3833	167aa	Protein coding	CCDS18689	B2KGA7	TSL:1 GENCODE basic APPRIS P1
Zbtb8os-202	ENSMUST00000119480.1	527	136aa	Protein coding	-	A8Y5E9	TSL:5 GENCODE basic
Zbtb8os-205	ENSMUST00000146767.7	1160	146aa	Nonsense mediated decay	-	Q505B7	TSL:1
Zbtb8os-201	ENSMUST00000106047.3	618	54aa	Nonsense mediated decay	-	F7BCB7	CDS 5' incomplete TSL:3
Zbtb8os-203	ENSMUST00000140272.1	436	No protein	Retained intron	-	-	TSL:2

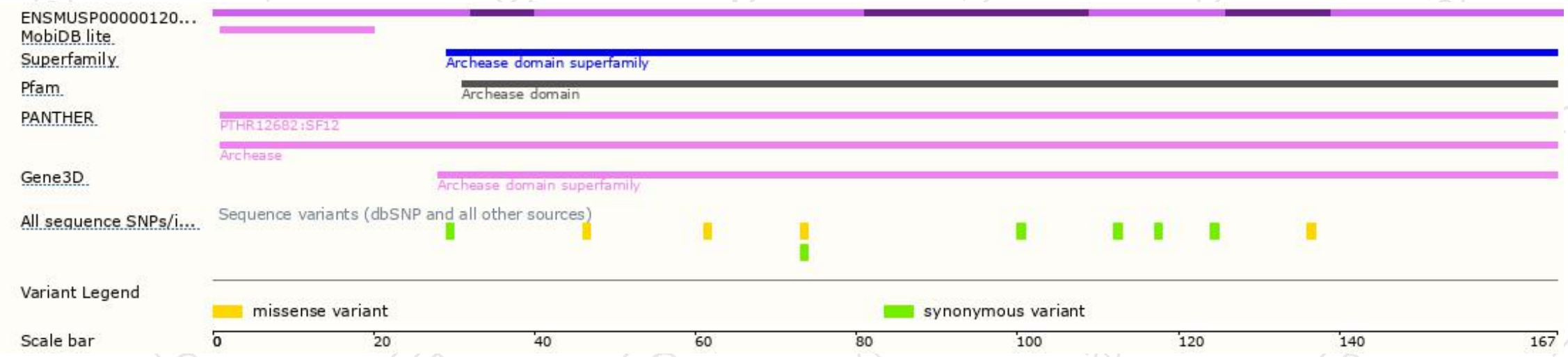
The strategy is based on the design of *Zbtb8os-204* transcript, the transcription is shown below



Genomic location distribution



Protein domain



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

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