

Fiz1 Cas9-CKO Strategy

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Project Overview

Project Name

Fiz1

Project type

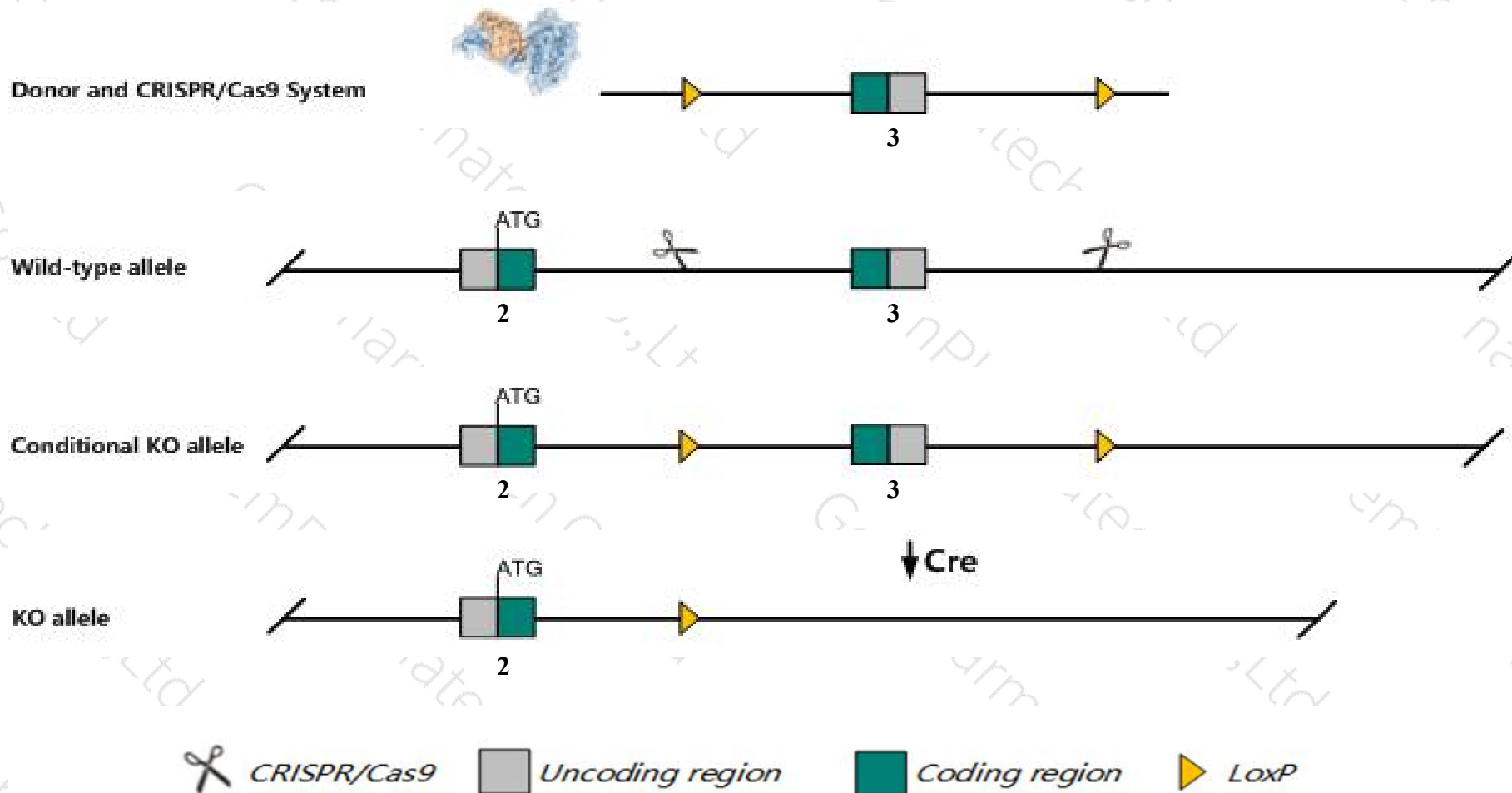
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fiz1* gene. The schematic diagram is as follows:



- The *Fiz1* gene has 9 transcripts. According to the structure of *Fiz1* gene, exon3 of *Fiz1*-202 (ENSMUST00000165320.2) transcript is recommended as the knockout region. The region contains most 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 *Fiz1* 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 *Fiz1* gene is located on the Chr7. 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.
- Transcript 205,207,209 CDS 3' incomplete the influences is unknown.
- 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)

Fiz1 Flt3 interacting zinc finger protein 1 [Mus musculus (house mouse)]

Gene ID: 23877, updated on 31-Jan-2019

Summary



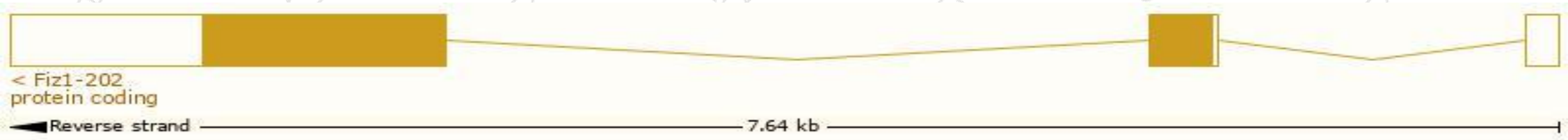
Official Symbol	Fiz1 provided by MGI
Official Full Name	Flt3 interacting zinc finger protein 1 provided by MGI
Primary source	MGI:MGI:1344336
See related	Ensembl:ENSMUSG00000061374
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI790204, mFLJ00416
Expression	Ubiquitous expression in thymus adult (RPKM 19.0), ovary adult (RPKM 16.5) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

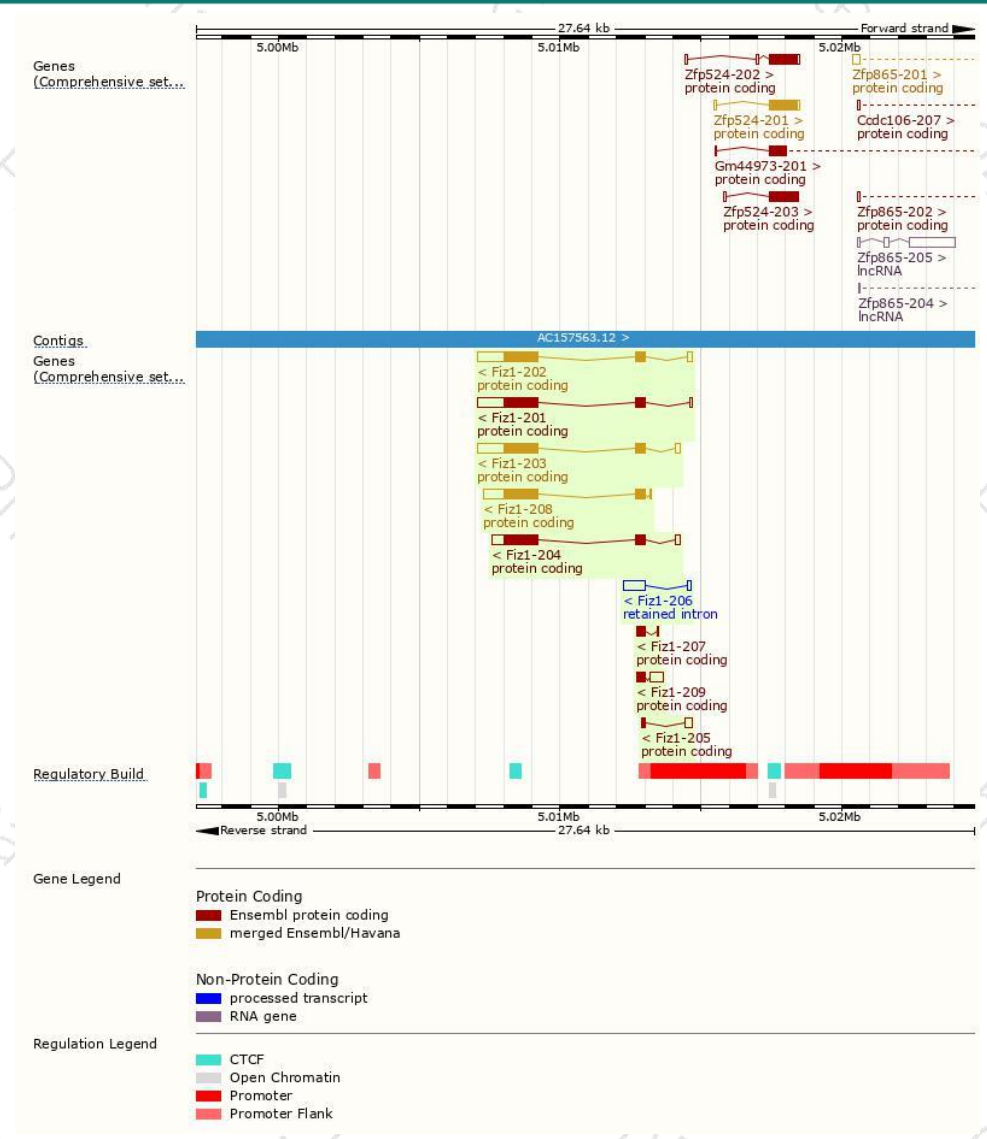
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fiz1-202	ENSMUST00000165320.2	2653	500aa	Protein coding	CCDS20751	Q3TRV0 Q9WTJ4	TSL:1 GENCODE basic APPRIS P1
Fiz1-203	ENSMUST00000167804.8	2637	500aa	Protein coding	CCDS20751	Q3TRV0 Q9WTJ4	TSL:1 GENCODE basic APPRIS P1
Fiz1-201	ENSMUST00000077385.14	2546	500aa	Protein coding	CCDS20751	Q3TRV0 Q9WTJ4	TSL:1 GENCODE basic APPRIS P1
Fiz1-208	ENSMUST00000208944.1	2306	500aa	Protein coding	CCDS20751	Q3TRV0 Q9WTJ4	TSL:1 GENCODE basic APPRIS P1
Fiz1-204	ENSMUST00000207030.1	2178	500aa	Protein coding	CCDS20751	Q3TRV0 Q9WTJ4	TSL:1 GENCODE basic APPRIS P1
Fiz1-209	ENSMUST00000209060.1	741	90aa	Protein coding	-	A0A140LI81	CDS 3' incomplete TSL:3
Fiz1-207	ENSMUST00000207946.1	368	95aa	Protein coding	-	A0A140LIY3	CDS 3' incomplete TSL:2
Fiz1-205	ENSMUST00000207412.1	361	36aa	Protein coding	-	A0A140LJ12	CDS 3' incomplete TSL:2
Fiz1-206	ENSMUST00000207691.1	889	No protein	Retained intron	-	-	TSL:2

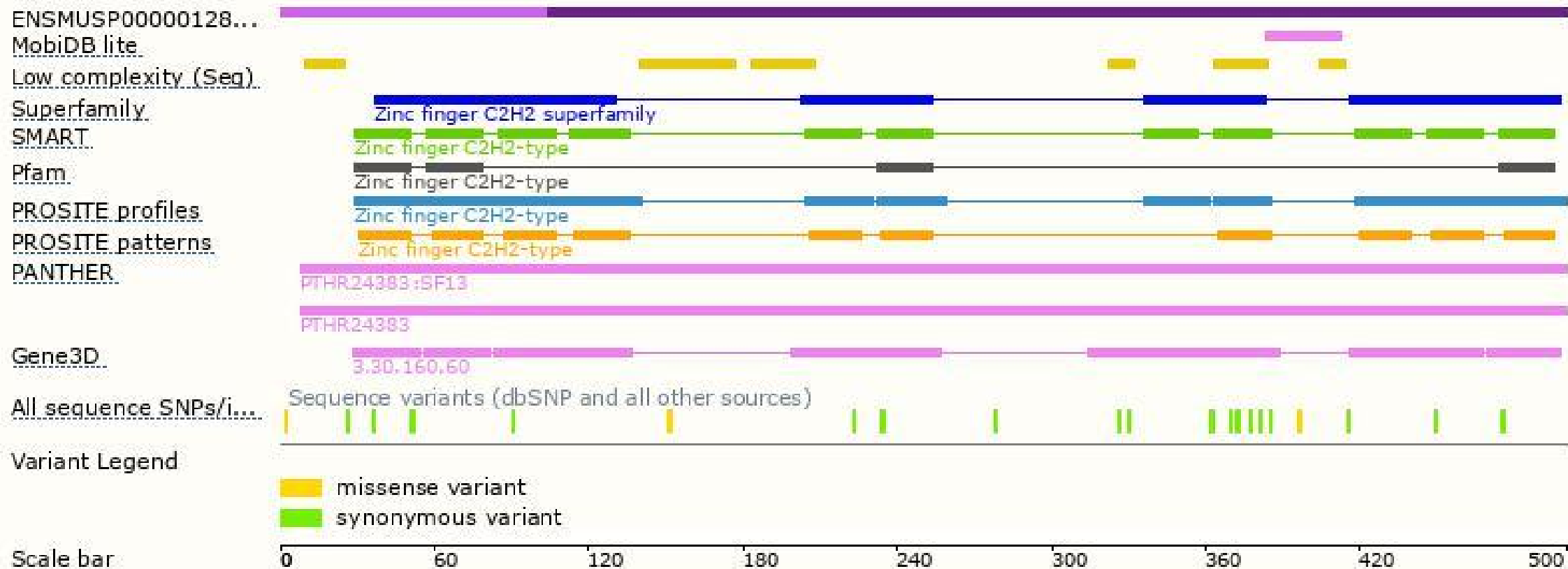
The strategy is based on the design of *Fiz1-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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