

Zswim4 Cas9-CKO Strategy

Designer:

Project Overview

Project Name

Zswim4

Project type

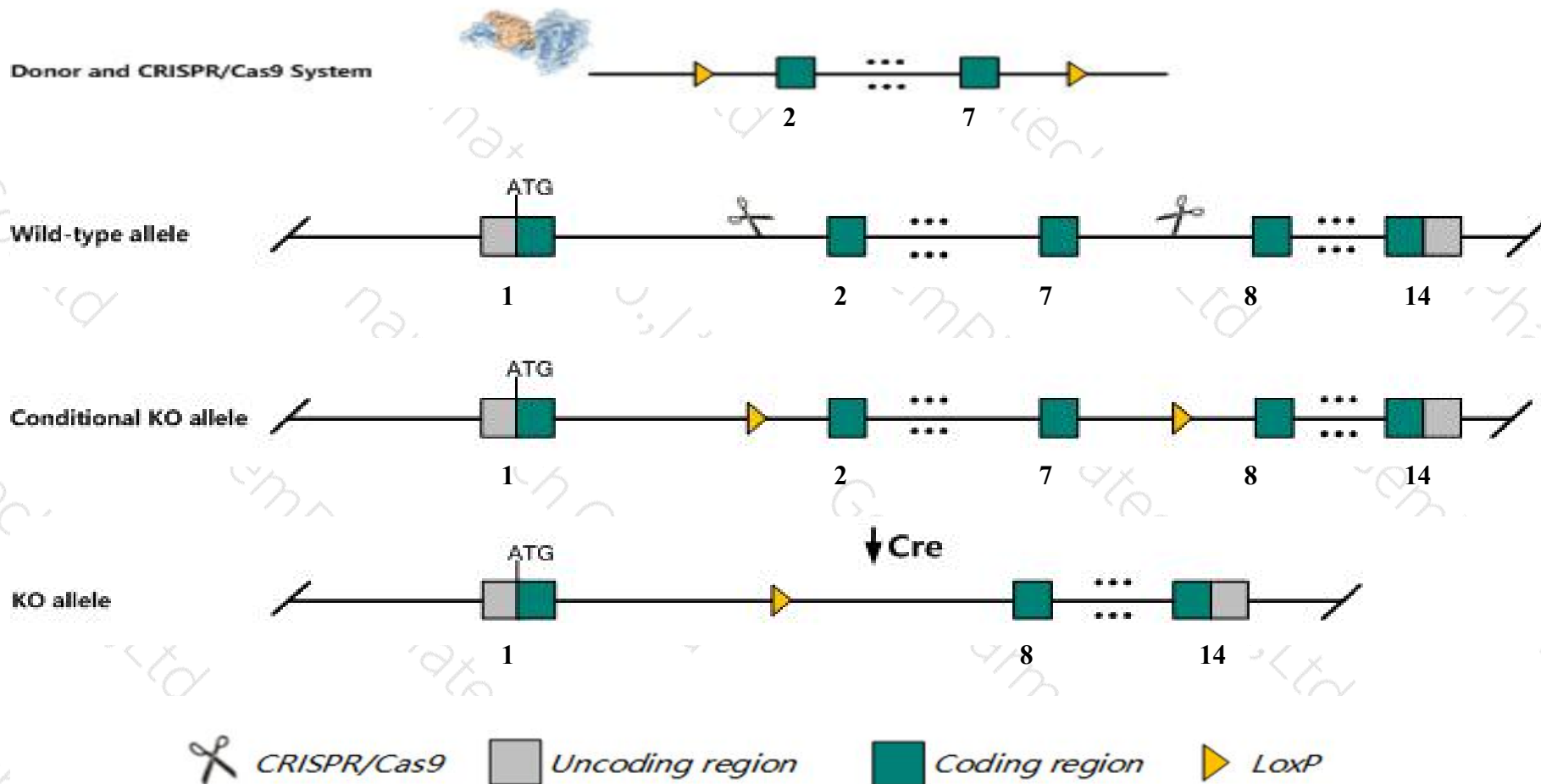
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zswim4* gene. The schematic diagram is as follows:



Technical routes

- The *Zswim4* gene has 1 transcript. According to the structure of *Zswim4* gene, exon2-exon7 of *Zswim4-201* (ENSMUST00000039480.6) transcript is recommended as the knockout region. The region contains 1378bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zswim4* gene. The brief process is as follows: gRNA was transcribed in vitro, donor was constructed. Cas9, gRNA 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 *Zswim4* gene is located on the Chr8. 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 gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information (NCBI)

Zswim4 zinc finger SWIM-type containing 4 [Mus musculus (house mouse)]

Gene ID: 212168, updated on 31-Jan-2019

Summary



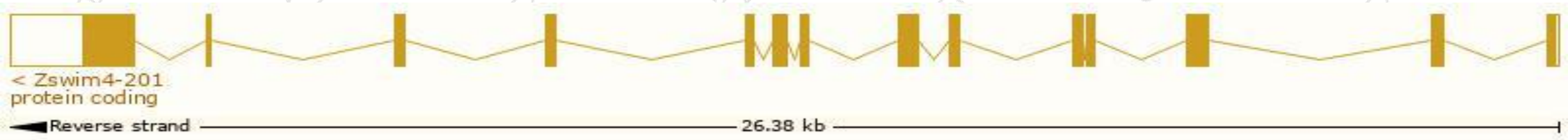
Official Symbol	Zswim4 provided by MGI
Official Full Name	zinc finger SWIM-type containing 4 provided by MGI
Primary source	MGI:MGI:2443726
See related	Ensembl:ENSMUSG00000035671
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	D330002I24, E130119J17Rik
Expression	Ubiquitous expression in adrenal adult (RPKM 36.0), whole brain E14.5 (RPKM 21.2) and 26 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

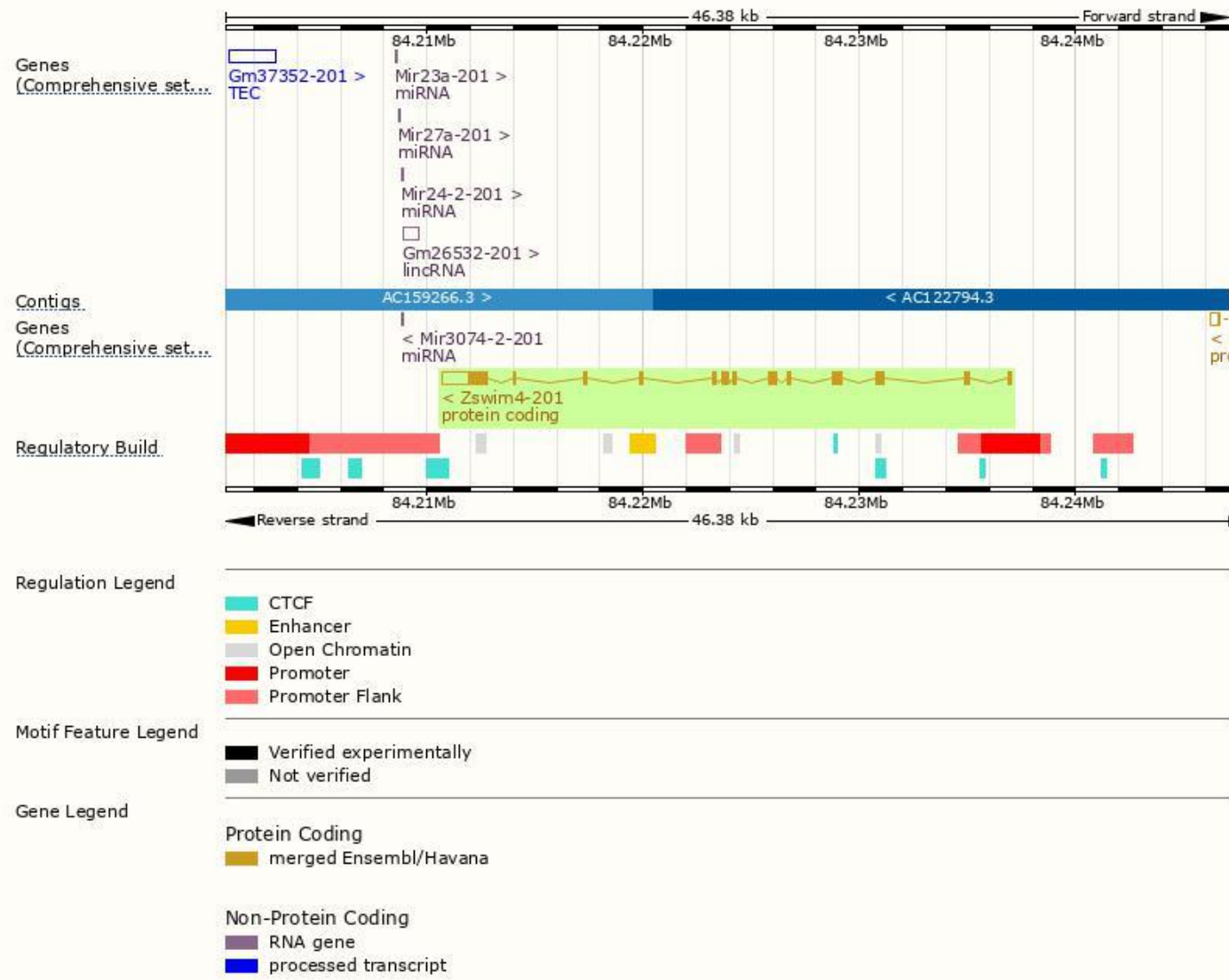
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zswim4-201	ENSMUST00000039480.6	4625	1101aa	Protein coding	CCDS22471	Q8C7B8	TSL:1 GENCODE basic APPRIS P1

The strategy is based on the design of Zswim4-201 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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