

Zfyve9 Cas9-KO Strategy

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Project Overview

Project Name

Zfyve9

Project type

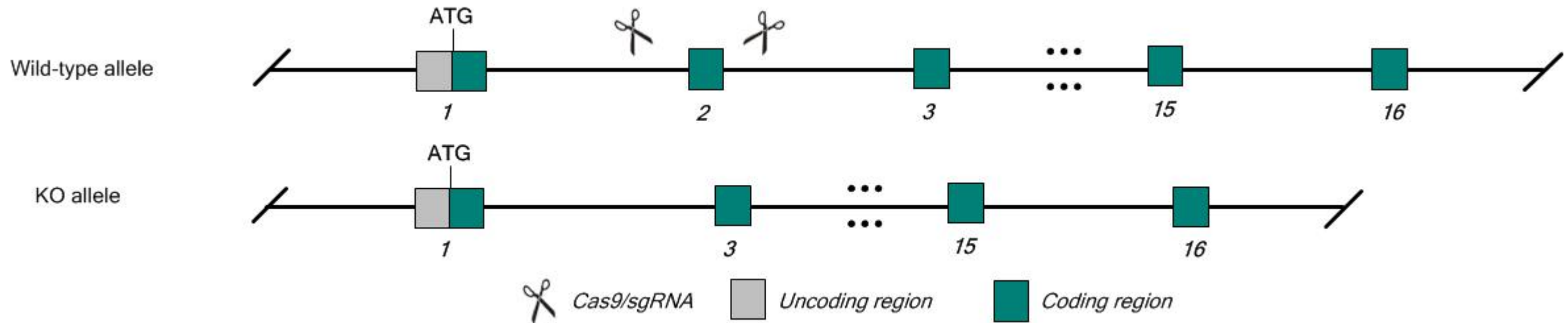
Cas9-KO

Strain background

C57BL/6J

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfyve9* gene. The schematic diagram is as follows:



- The *Zfyve9* gene has 3 transcripts. According to the structure of *Zfyve9* gene, exon2 of *Zfyve9-201* (ENSMUST00000042185.7) transcript is recommended as the knockout region. The region contains 100bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zfyve9* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6J 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/6J mice.

- The *Zfyve9* 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Zfyve9 zinc finger, FYVE domain containing 9 [Mus musculus (house mouse)]

Gene ID: 230597, updated on 31-Jan-2019

Summary

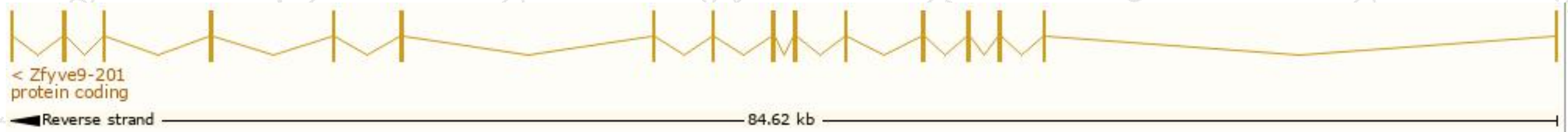
Official Symbol	Zfyve9 provided by MGI
Official Full Name	zinc finger, FYVE domain containing 9 provided by MGI
Primary source	MGI:MGI:2652838
See related	Ensembl:ENSMUSG000000034557
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Madhip, NSP, SARA, SMADIP
Expression	Broad expression in cerebellum adult (RPKM 7.6), cortex adult (RPKM 4.3) and 24 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

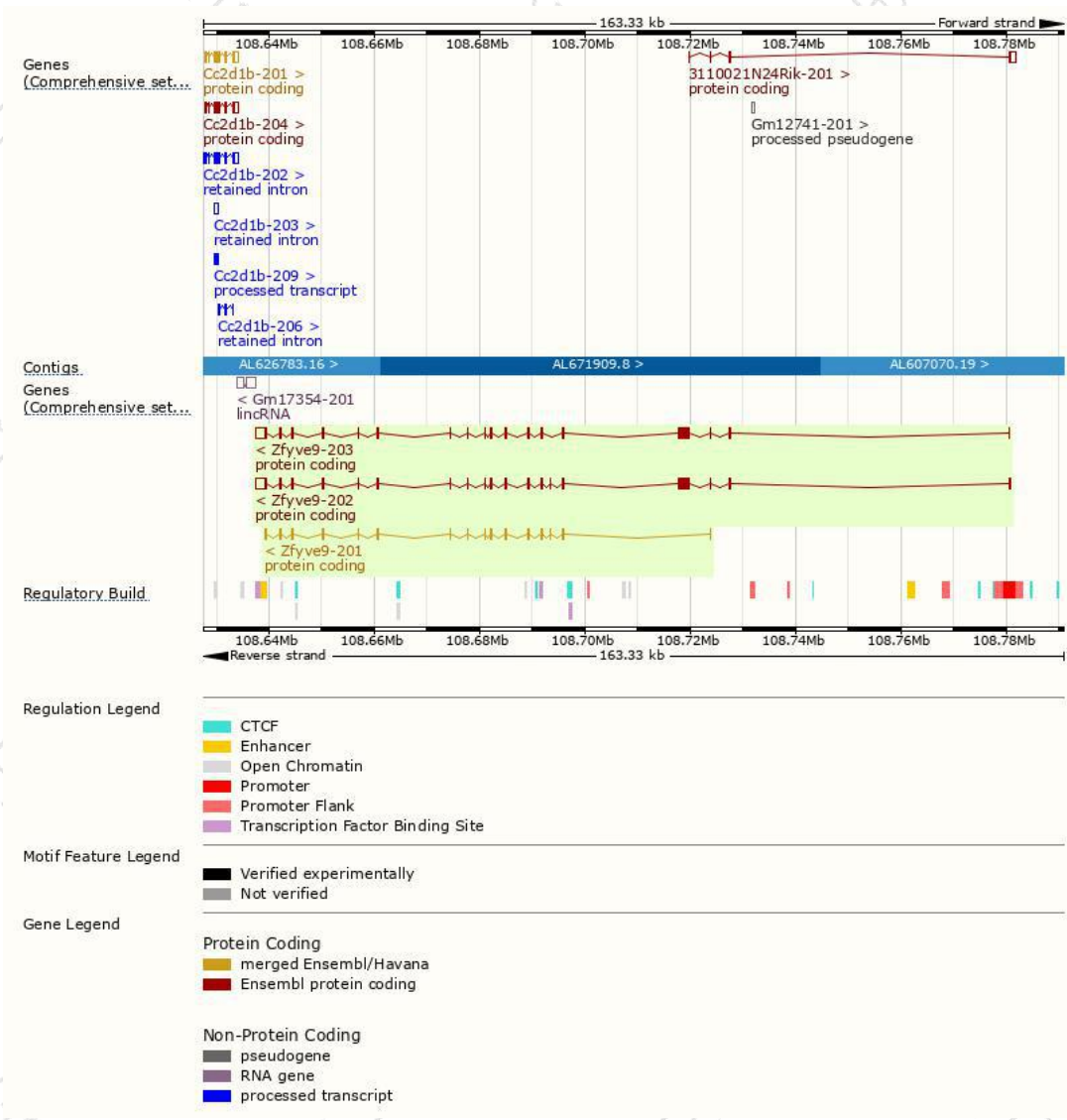
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfyve9-202	ENSMUST00000106657.7	6459	1397aa	Protein coding	CCDS84772	A2A8R0	TSL:5 GENCODE basic APPRIS P2
Zfyve9-201	ENSMUST00000042185.7	2170	706aa	Protein coding	CCDS38834	A0S860	TSL:1 GENCODE basic
Zfyve9-203	ENSMUST00000106658.7	5987	1338aa	Protein coding	-	A8Y5G5	TSL:5 GENCODE basic APPRIS ALT2

The strategy is based on the design of *Zfyve9-201* 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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