

Zfp382 Cas9-KO Strategy

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Project Overview

Project Name

Zfp382

Project type

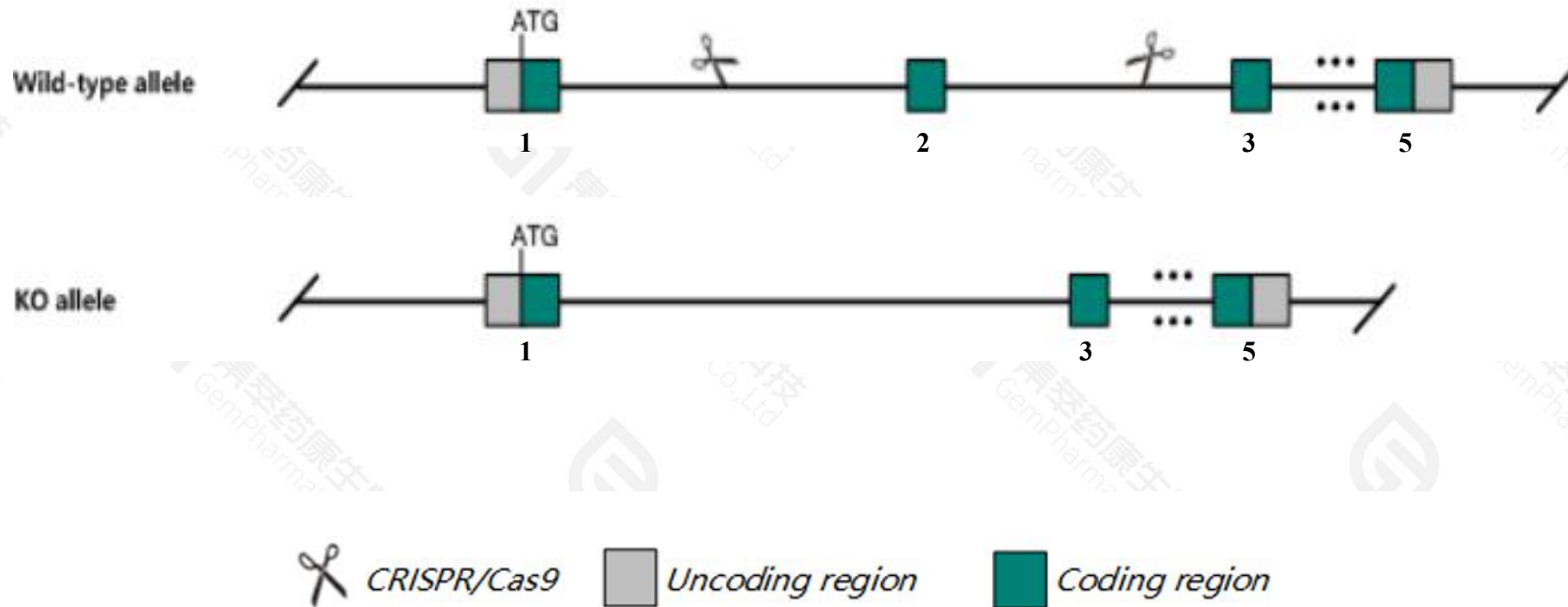
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfp382* gene. The schematic diagram is as follows:



- The *Zfp382* gene has 3 transcripts. According to the structure of *Zfp382* gene, exon2 of *Zfp382-201*(ENSMUST00000098596.11) transcript is recommended as the knockout region. The region contains 74bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zfp382* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Zfp382* 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.
- 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)

Zfp382 zinc finger protein 382 [Mus musculus (house mouse)]

Gene ID: 233060, updated on 13-Mar-2021

Summary



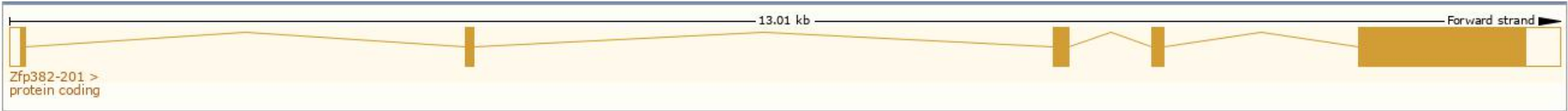
Official Symbol	Zfp382 provided by MGI
Official Full Name	zinc finger protein 382 provided by MGI
Primary source	MGI:MGI:3588204
See related	Ensembl:ENSMUSG00000074220
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4930428B01R, 4930428B01Rik, 5930415A09Rik, KS1, Znf382
Expression	Broad expression in CNS E18 (RPKM 2.8), testis adult (RPKM 2.3) and 24 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

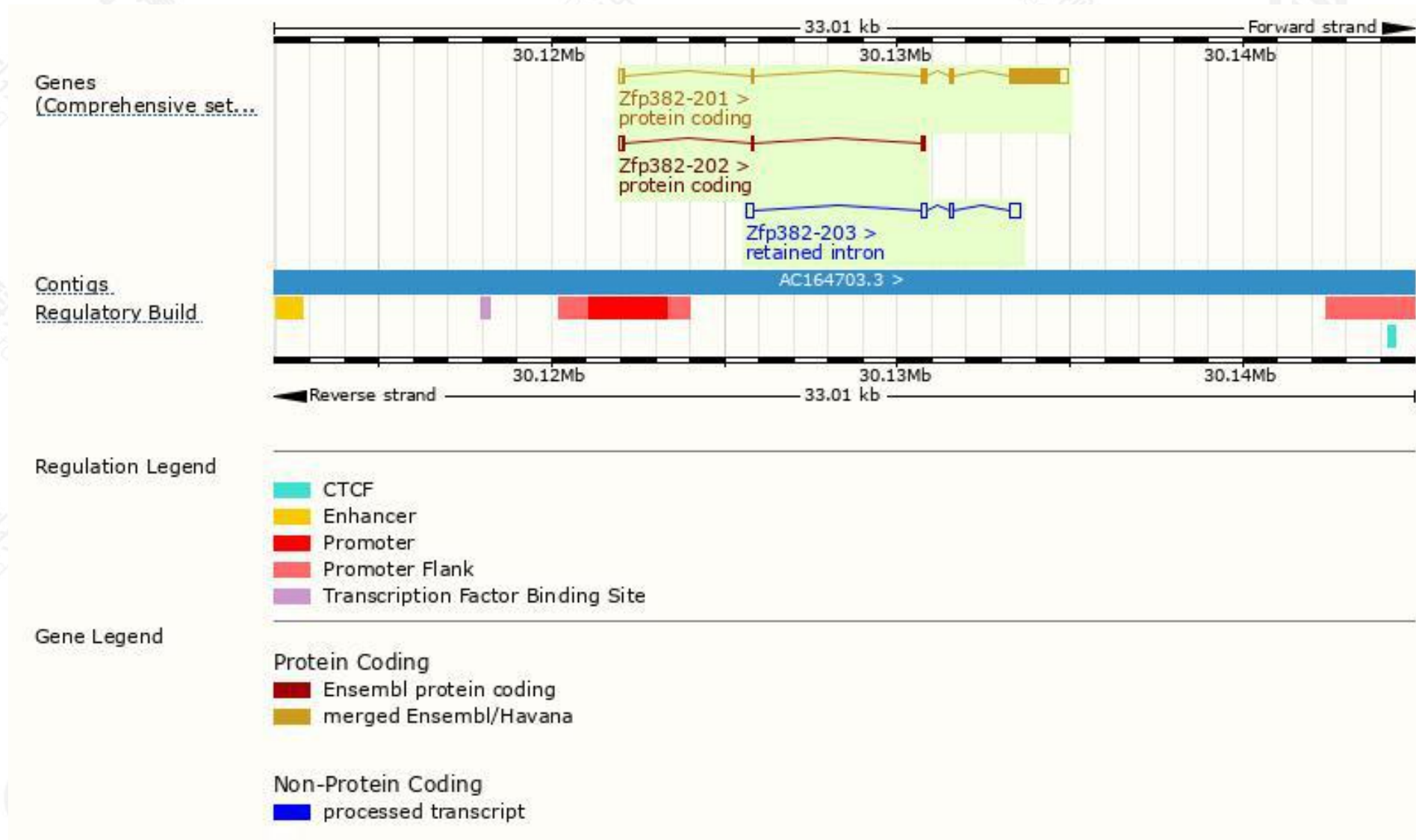
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfp382-201	ENSMUST00000098596.11	2117	579aa	Protein coding	CCDS39877		TSL:1 , GENCODE basic , APPRIS P1 ,
Zfp382-202	ENSMUST00000153792.2	325	87aa	Protein coding	-		CDS 3' incomplete , TSL:2 ,
Zfp382-203	ENSMUST00000156543.2	730	No protein	Retained intron	-		TSL:3 ,

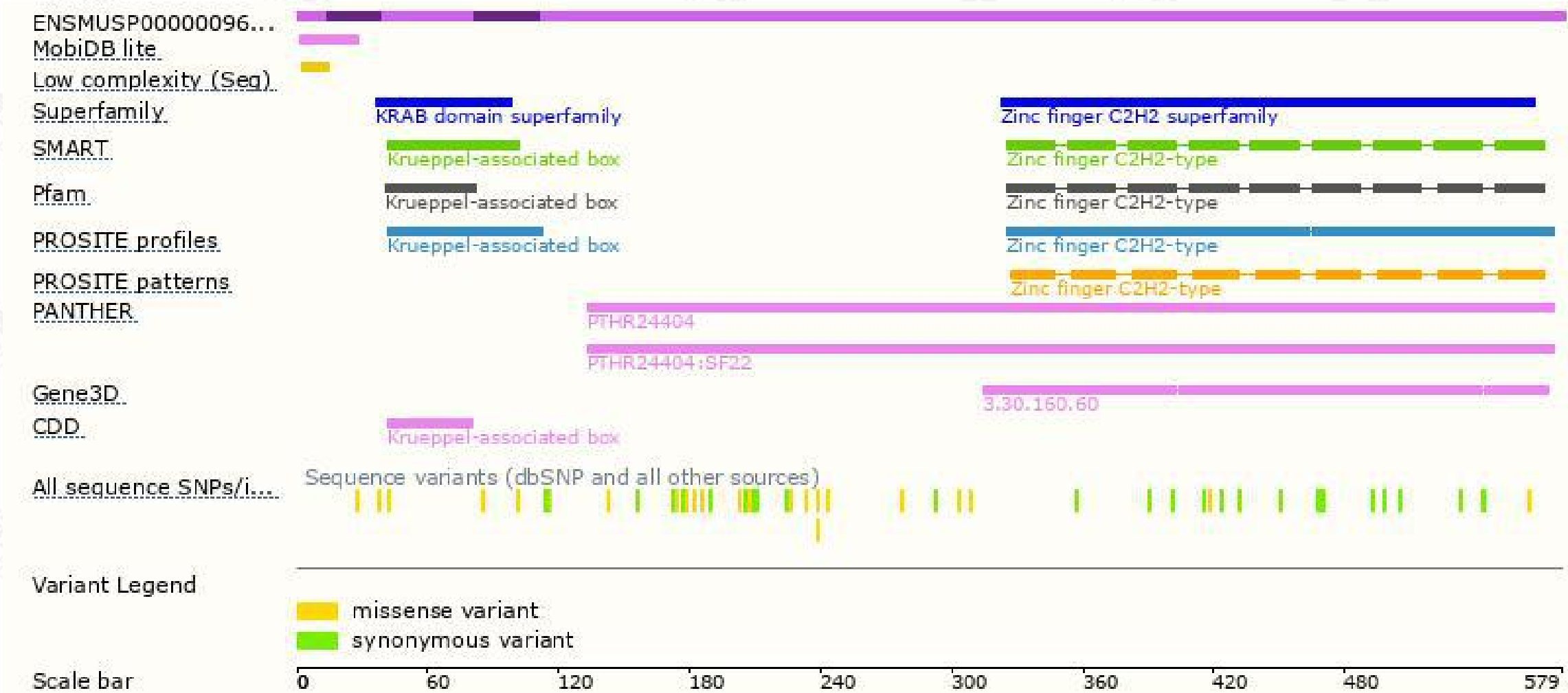
The strategy is based on the design of *Zfp382-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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