

Zfp251 Cas9-KO Strategy

Designer: Jia Yu

Reviewer: Xiaojing Li

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Project Overview

Project Name

Zfp251

Project type

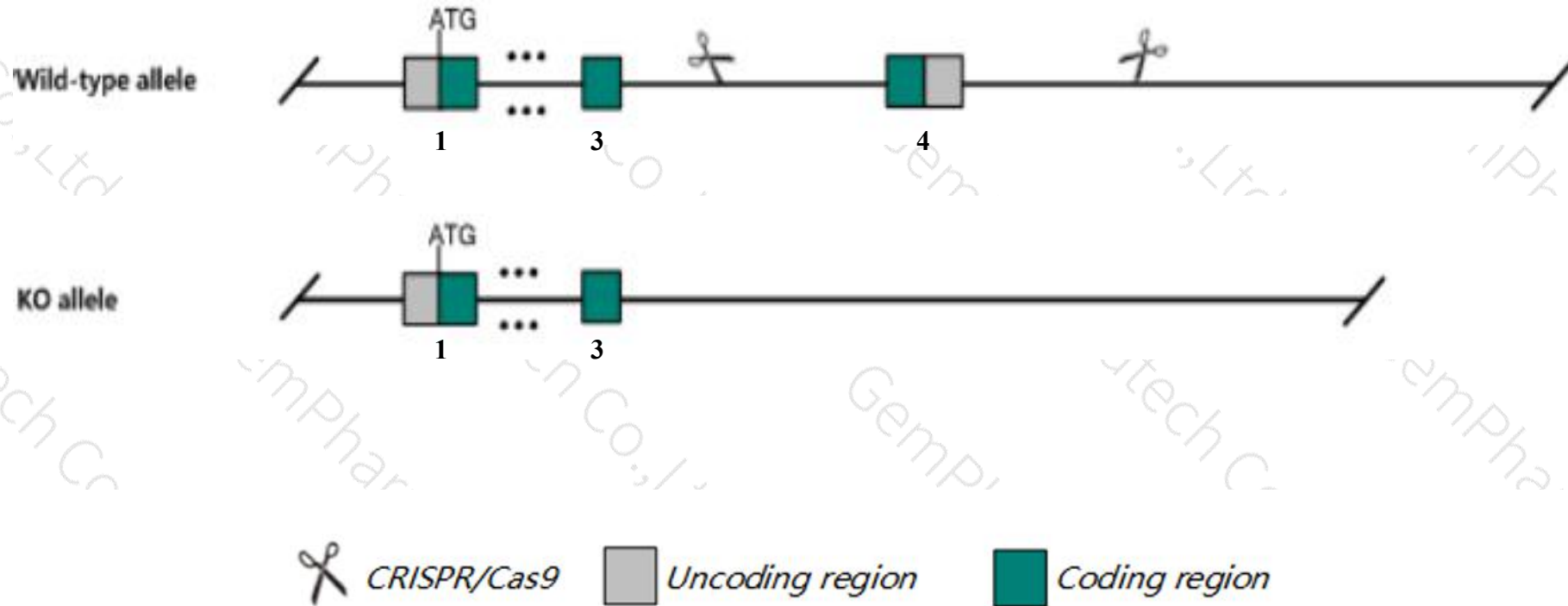
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfp251* gene. The schematic diagram is as follows:



- The *Zfp251* gene has 4 transcripts. According to the structure of *Zfp251* gene, exon4 of *Zfp251*-201(ENSMUST00000080406.6) transcript is recommended as the knockout region. The region contains 1622bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zfp251* 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 *Zfp251* gene is located on the Chr15. 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)

Zfp251 zinc finger protein 251 [Mus musculus (house mouse)]

Gene ID: 71591, updated on 13-Mar-2020

Summary



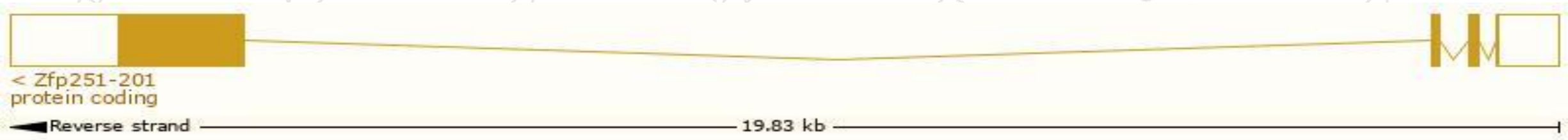
Official Symbol	Zfp251 provided by MGI
Official Full Name	zinc finger protein 251 provided by MGI
Primary source	MGI:MGI:1918841
See related	Ensembl:ENSMUSG00000022526
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	9130001M19Rik, AV339307
Expression	Ubiquitous expression in CNS E18 (RPKM 8.2), whole brain E14.5 (RPKM 7.9) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

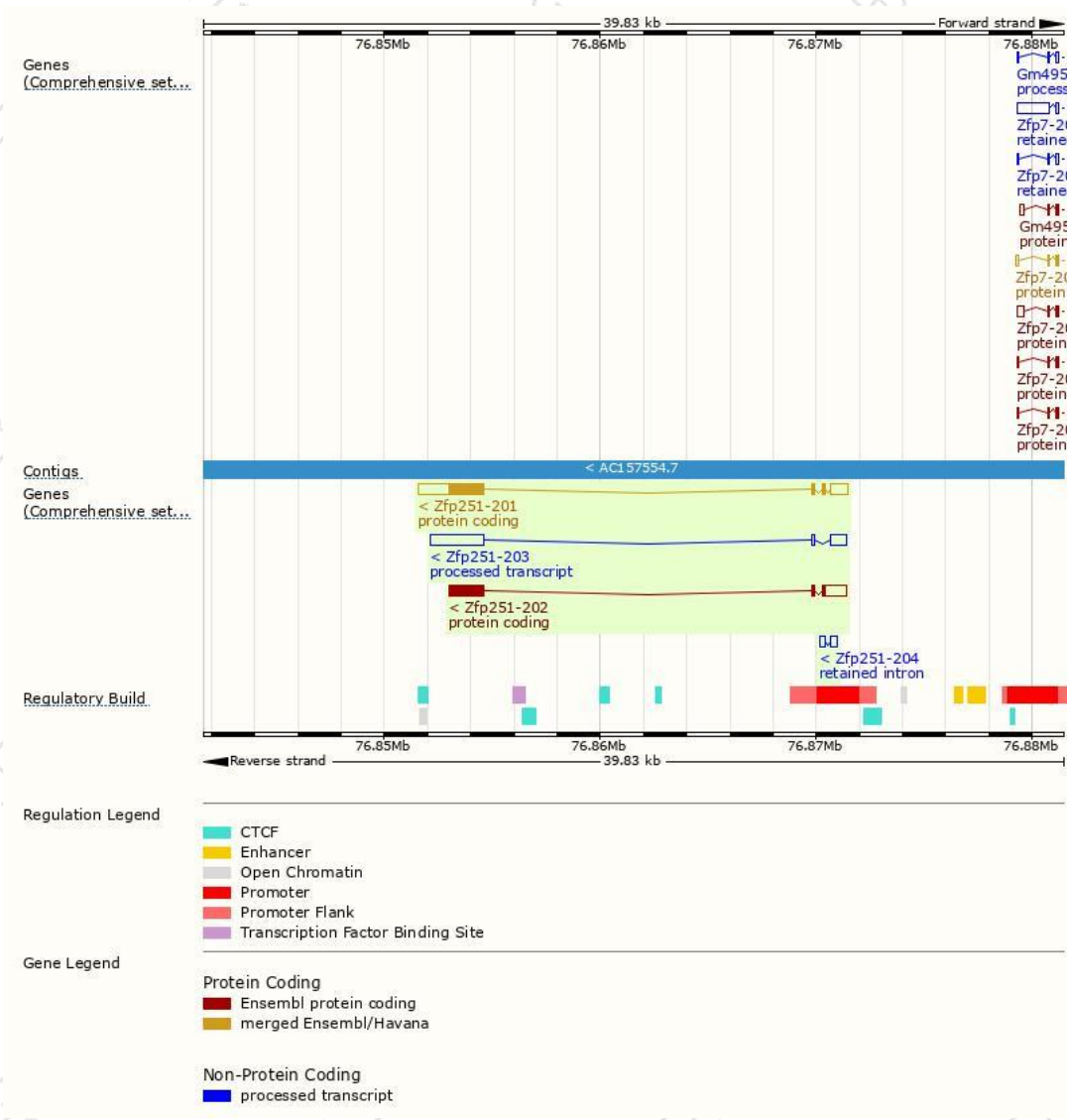
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfp251-201	ENSMUST00000080406.6	4036	632aa	Protein coding	CCDS27593	Q6PCX8	TSL:1 GENCODE basic APPRIS P1
Zfp251-202	ENSMUST00000229494.1	2855	622aa	Protein coding	-	Q3V362	CDS 3' incomplete
Zfp251-203	ENSMUST00000230315.1	3337	No protein	Processed transcript	-	-	
Zfp251-204	ENSMUST00000230524.1	579	No protein	Retained intron	-	-	

The strategy is based on the design of *Zfp251-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

Tel: 400-9660890

