

Zfp91 Cas9-CKO Strategy

Designer:

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Project Overview

Project Name

Zfp91

Project type

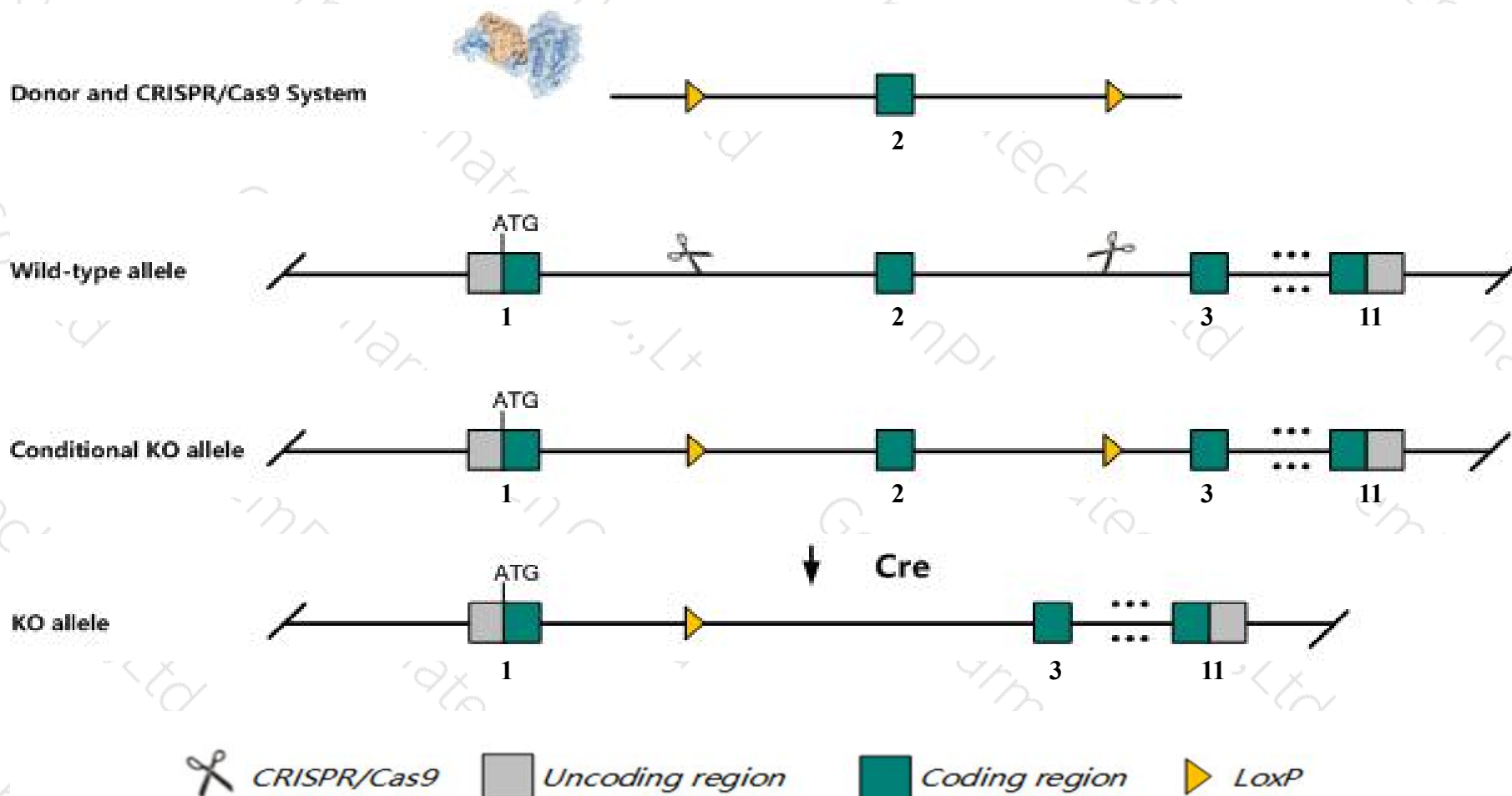
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfp91* gene. The schematic diagram is as follows:



Technical routes

- The *Zfp91* gene has 3 transcripts. According to the structure of *Zfp91* gene, exon2 of *Zfp91-201* (ENSMUST00000038627.8) transcript is recommended as the knockout region. The region contains 29bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zfp91* 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 *Zfp91* gene is located on the Chr19. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Zfp91 zinc finger protein 91 [Mus musculus (house mouse)]

Gene ID: 109910, updated on 31-Jan-2019

Summary



Official Symbol Zfp91 provided by [MGI](#)

Official Full Name zinc finger protein 91 provided by [MGI](#)

Primary source [MGI:MGI:104854](#)

See related [Ensembl:ENSMUSG00000024695](#)

Gene type protein coding

RefSeq status REVIEWED

Organism [Mus musculus](#)

Lineage Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus

Also known as 9130014I08Rik, A530054C17Rik, AL024263, AW545902, Pzf, Zfp-91

Summary The protein encoded by this gene is a member of the zinc finger family of proteins. The gene product contains C2H2-type domains, which are the classical zinc finger domains found in numerous nucleic acid-binding proteins. The homologous human protein has been shown to function as a regulator of the non-canonical NF-kappaB pathway in lymphotoxin-beta receptor signaling. A read-through transcript variant composed of Zfp91 and the downstream Cntf gene sequence has been identified, but it is thought to be non-coding. Read-through transcription of Zfp91 and Cntf has been observed in both human and mouse. A Zfp91-related pseudogene has also been identified on chromosome 17. [provided by RefSeq, Oct 2010]

Expression Ubiquitous expression in testis adult (RPKM 19.5), bladder adult (RPKM 15.2) and 28 other tissues [See more](#)

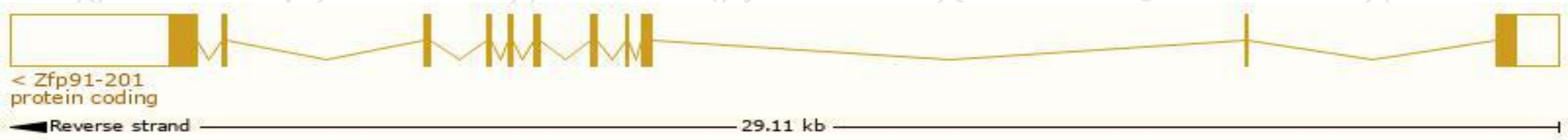
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

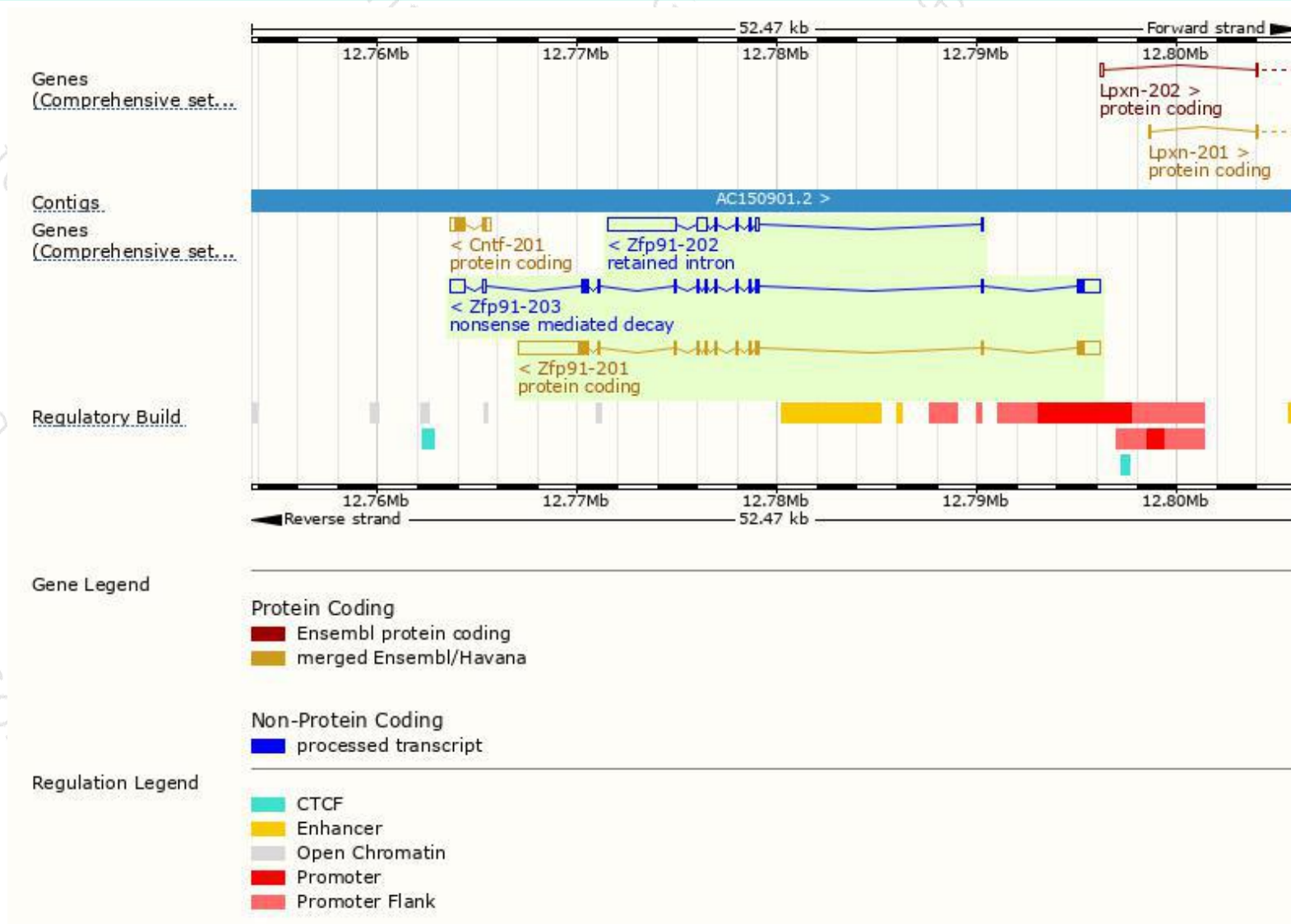
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfp91-201	ENSMUST00000038627.8	5531	572aa	Protein coding	CCDS37927	Q62511	TSL:1 GENCODE basic APPRIS P1
Zfp91-203	ENSMUST00000142247.7	3221	529aa	Nonsense mediated decay	-	E0CY81	TSL:5
Zfp91-202	ENSMUST00000137256.1	4426	No protein	Retained intron	-	-	TSL:1

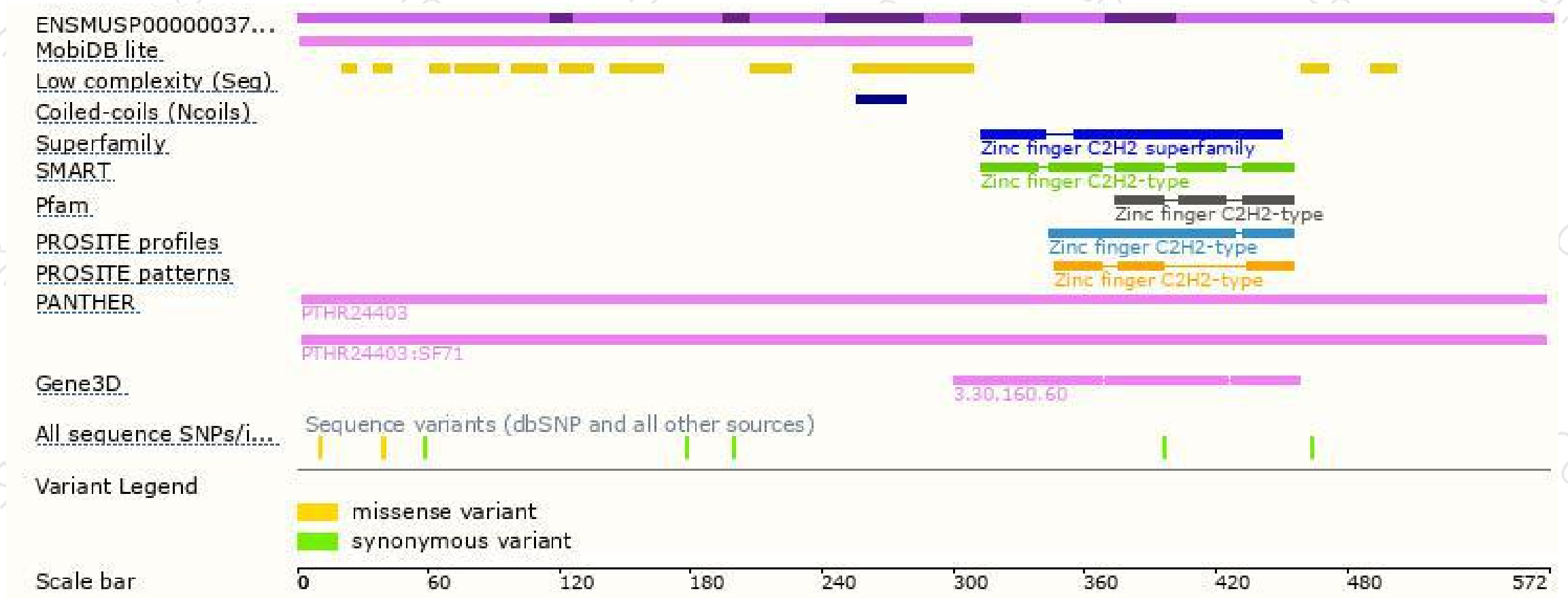
The strategy is based on the design of *Zfp91-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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