

Zfp217 Cas9-CKO Strategy

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Project Overview

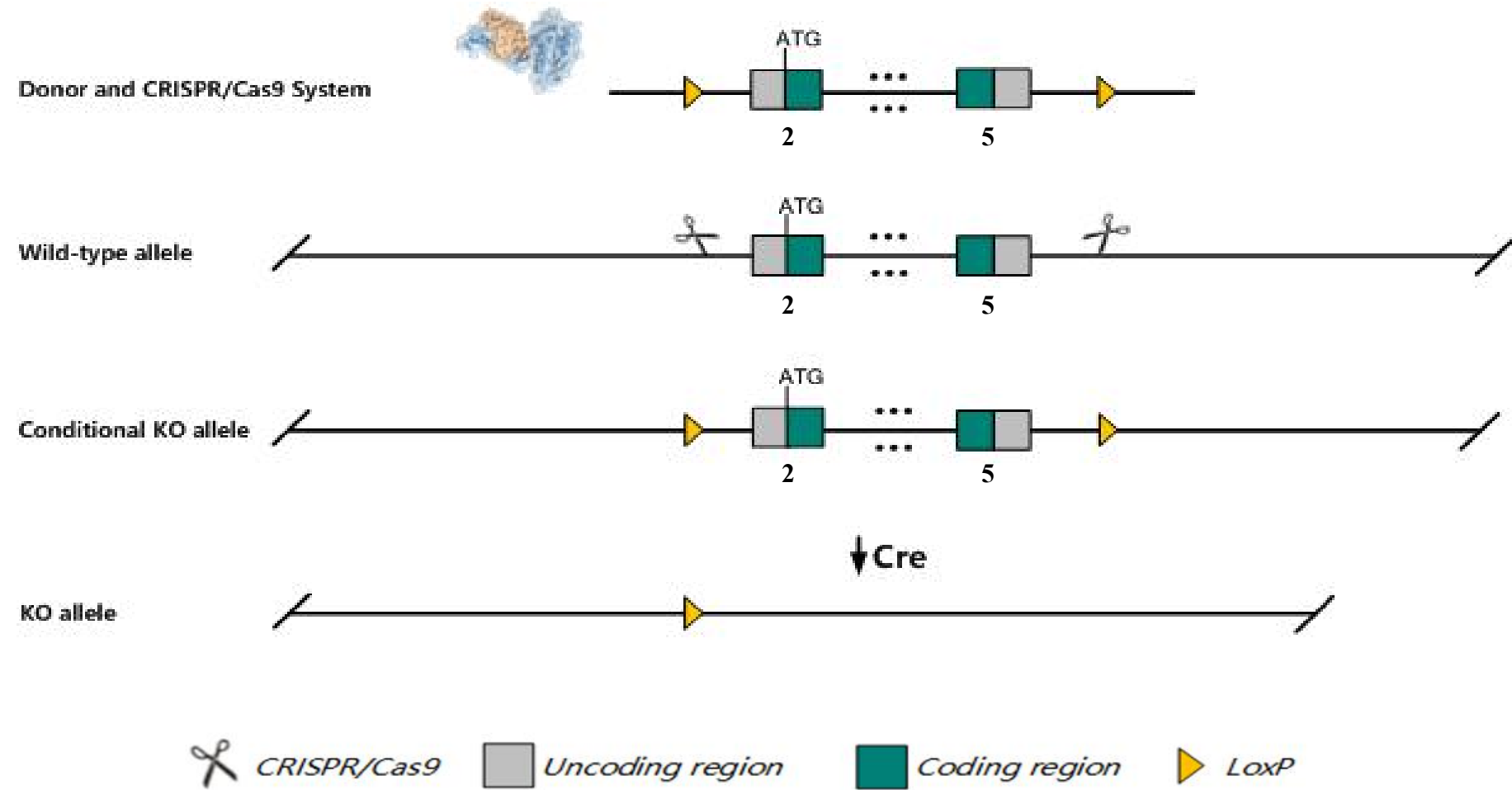
Project Name	<i>Zfp217</i>
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Project type	Cas9-CKO
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Strain background	C57BL/6JGpt
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Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfp217* gene. The schematic diagram is as follows:



The *Zfp217* gene has 5 transcripts. According to the structure of *Zfp217* gene, exon2-exon5 of *Zfp217-201*(ENSMUST00000063710.12) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.

In this project we use CRISPR/Cas9 technology to modify *Zfp217* 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.

The *Zfp217* gene is located on the Chr2. 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.

Zfp217 zinc finger protein 217 [Mus musculus (house mouse)]

Gene ID: 228913, updated on 13-Mar-2020

Summary



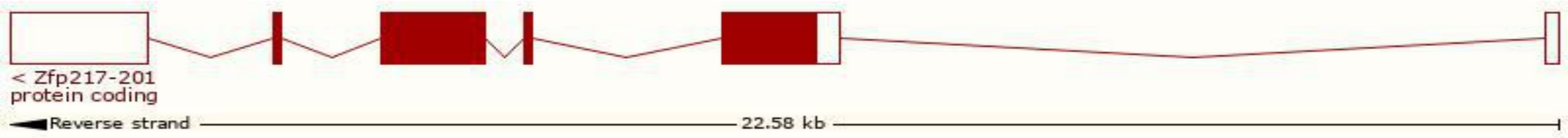
Official Symbol	Zfp217 provided by MGI
Official Full Name	zinc finger protein 217 provided by MGI
Primary source	MGI:MGI:2685408
See related	Ensembl:ENSMUSG00000052056
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4933431C08Rik, AW987152, Gm562, ZABC1, Znf217
Expression	Broad expression in testis adult (RPKM 23.1), thymus adult (RPKM 7.0) and 23 other tissues See more
Orthologs	human all

Transcript information Ensembl

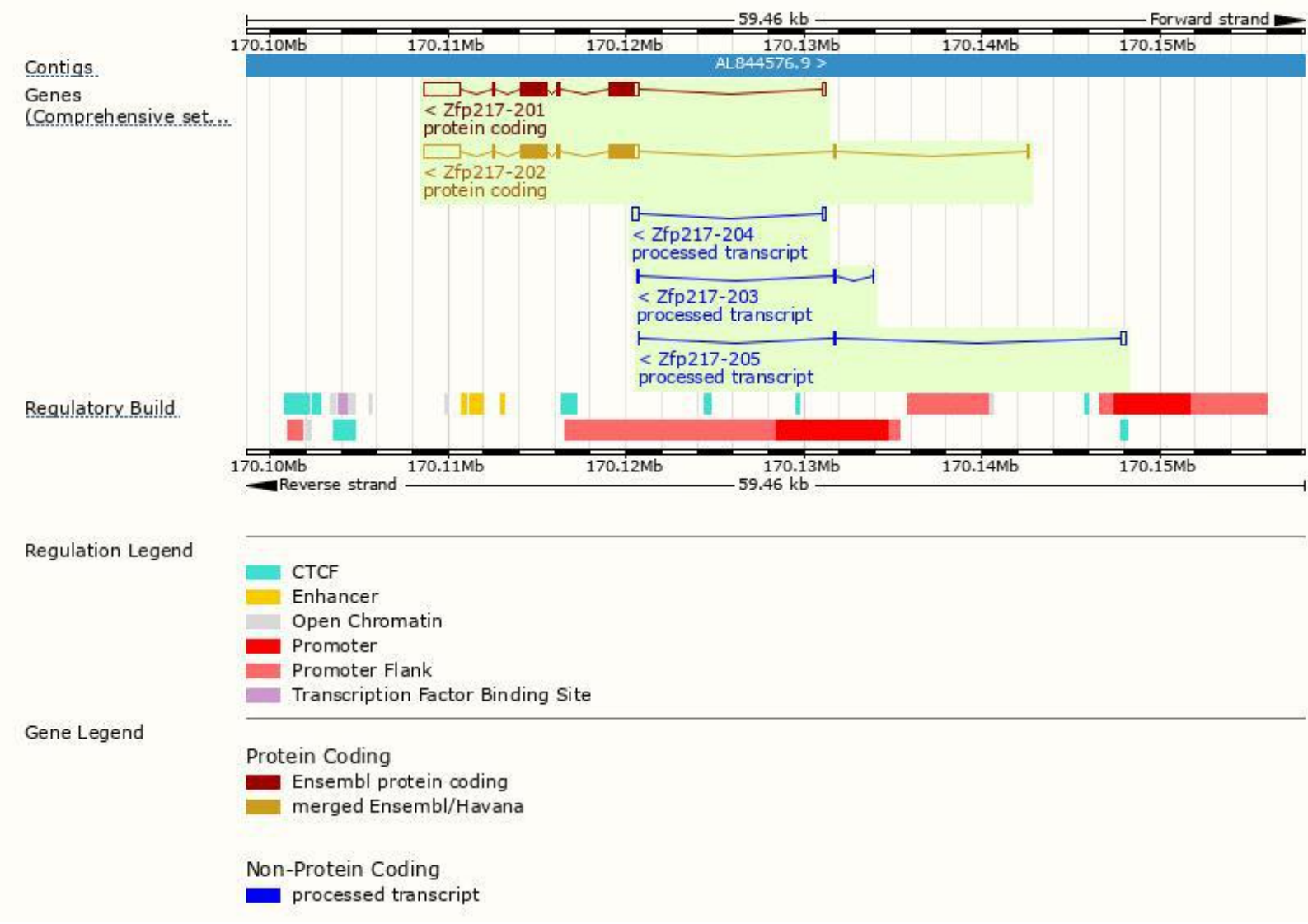
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfp217-201	ENSMUST00000063710.12	5685	1041aa	Protein coding	CCDS17120	Q3U0X6	TSL:1 GENCODE basic APPRIS P1
Zfp217-202	ENSMUST00000109155.7	5670	1041aa	Protein coding	CCDS17120	Q3U0X6	TSL:1 GENCODE basic APPRIS P1
Zfp217-204	ENSMUST00000149088.1	594	No protein	Processed transcript	-	-	TSL:3
Zfp217-205	ENSMUST00000149318.1	373	No protein	Processed transcript	-	-	TSL:3
Zfp217-203	ENSMUST00000125162.7	282	No protein	Processed transcript	-	-	TSL:5

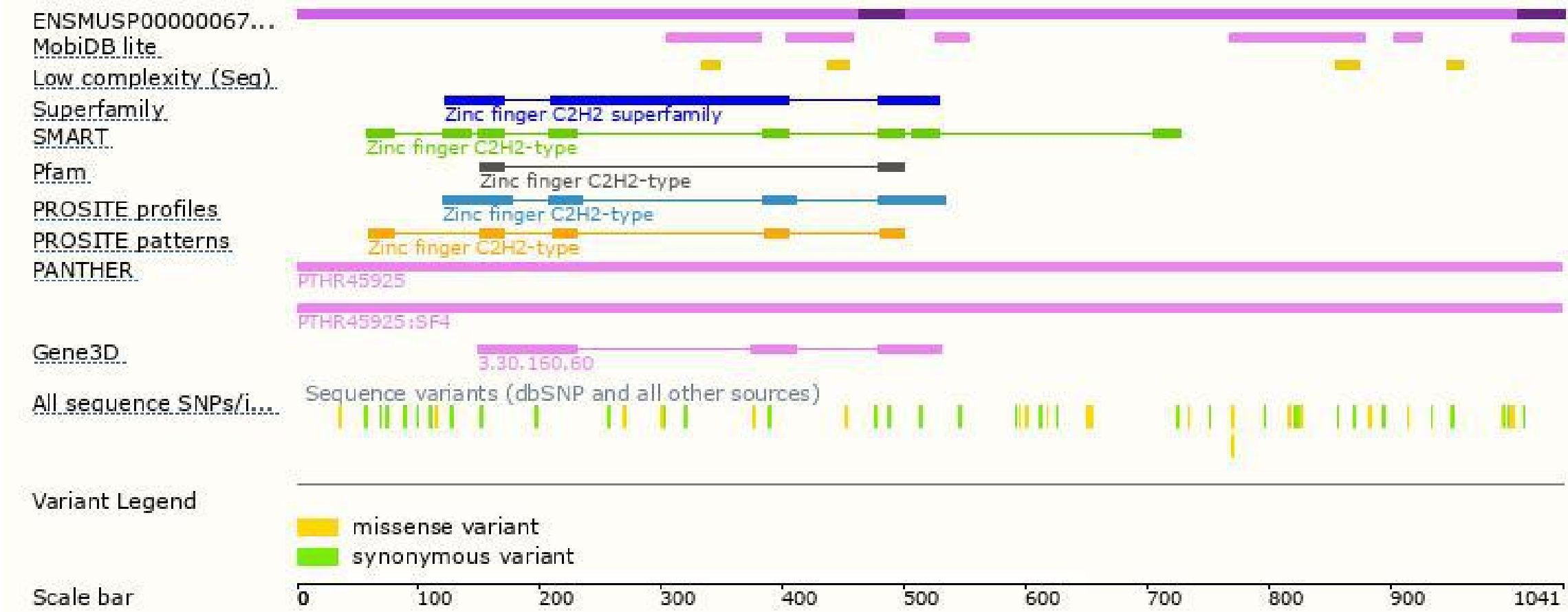
The strategy is based on the design of *Zfp217-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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