

***Zfp286* Cas9-CKO Strategy**

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Design Date: 2020-9-14

Project Overview

Project Name

Zfp286

Project type

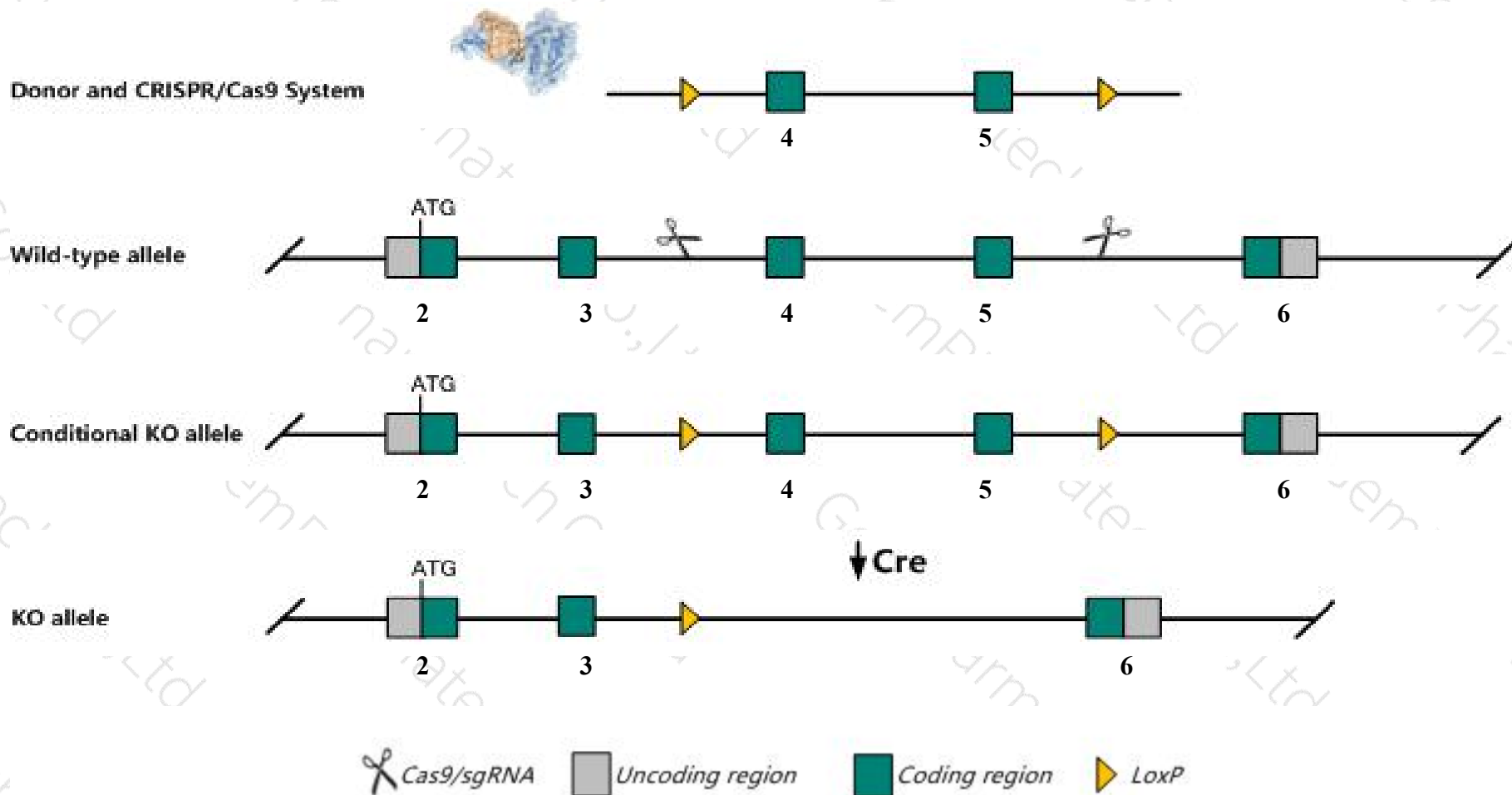
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfp286* gene. The schematic diagram is as follows:



- The *Zfp286* gene has 11 transcripts. According to the structure of *Zfp286* gene, exon4-exon5 of *Zfp286-201*(ENSMUST00000054654.12) transcript is recommended as the knockout region. The region contains 205bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zfp286* gene. The brief process is as follows: sgRNA was transcribed in vitro, donor vector was constructed. Cas9, sgRNA 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 was 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 *Zfp286* gene is located on the Chr11. 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.
- Transcript *Zfp286-203&207&210* may not be affected.
- 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)

Zfp286 zinc finger protein 286 [Mus musculus (house mouse)]

Gene ID: 192651, updated on 20-Mar-2020

Summary



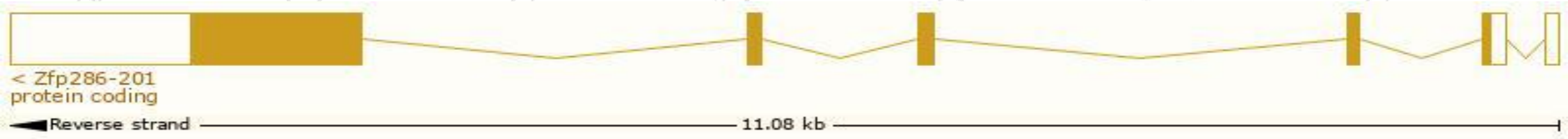
Official Symbol	Zfp286 provided by MGI
Official Full Name	zinc finger protein 286 provided by MGI
Primary source	MGI:MGI:2384758
See related	Ensembl:ENSMUSG00000047342
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	BC027023
Expression	Biased expression in CNS E14 (RPKM 2.6), CNS E18 (RPKM 2.5) and 12 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

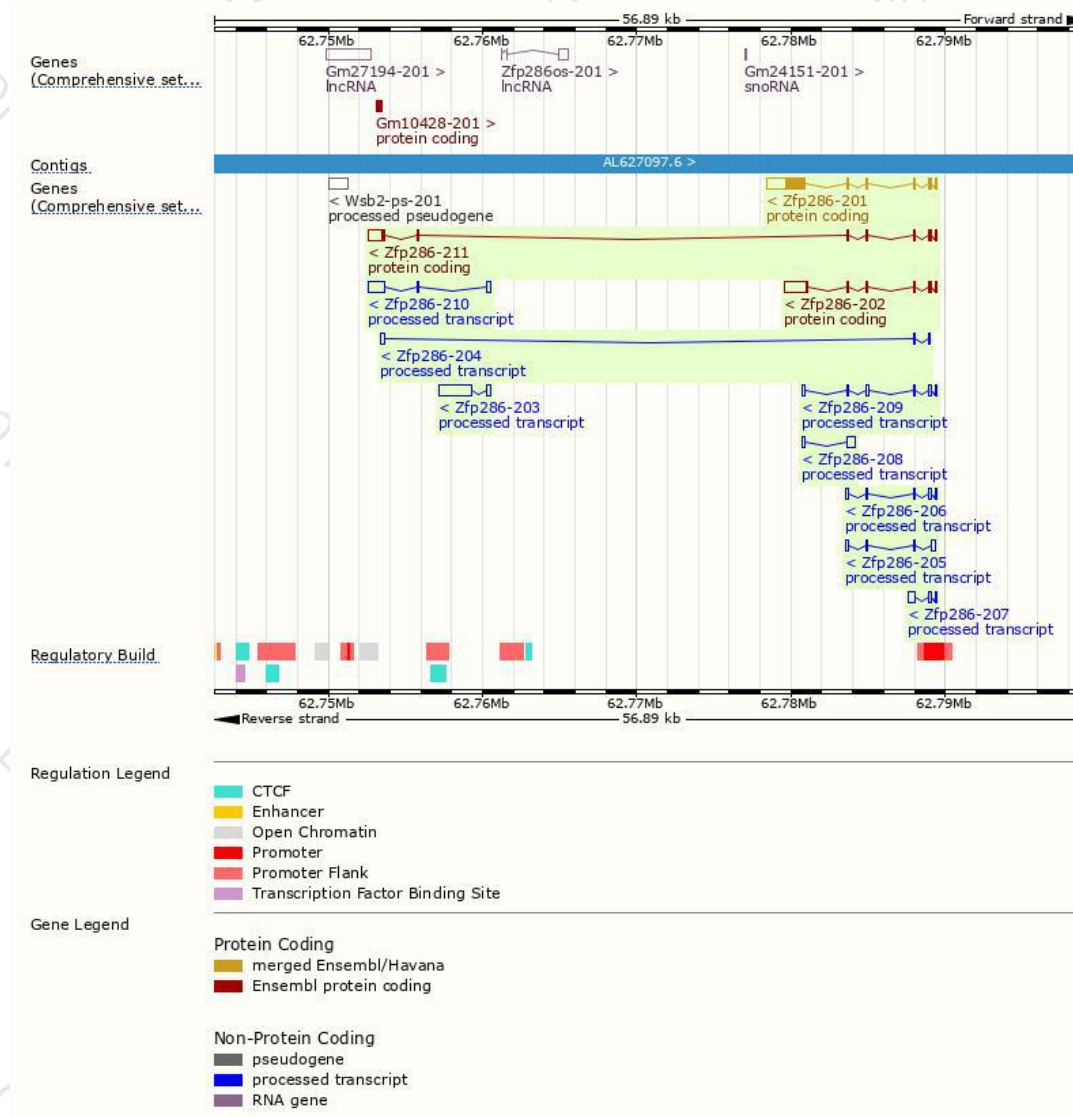
The gene has 11 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfp286-201	ENSMUST00000054654.12	3051	519aa	Protein coding	CCDS24831	Q8C0E6	TSL:1 GENCODE basic APPRIS P1
Zfp286-202	ENSMUST00000108705.7	1979	156aa	Protein coding	-	Q5SVS7	TSL:1 GENCODE basic
Zfp286-211	ENSMUST00000207597.1	1668	201aa	Protein coding	-	A0A140LIZ8	TSL:5 GENCODE basic
Zfp286-203	ENSMUST00000138105.1	2391	No protein	Processed transcript	-	-	TSL:1
Zfp286-210	ENSMUST00000207474.1	1489	No protein	Processed transcript	-	-	TSL:5
Zfp286-205	ENSMUST00000140072.7	705	No protein	Processed transcript	-	-	TSL:2
Zfp286-209	ENSMUST00000152602.7	679	No protein	Processed transcript	-	-	TSL:2
Zfp286-207	ENSMUST00000149215.1	678	No protein	Processed transcript	-	-	TSL:2
Zfp286-206	ENSMUST00000145474.7	641	No protein	Processed transcript	-	-	TSL:1
Zfp286-208	ENSMUST00000149230.1	641	No protein	Processed transcript	-	-	TSL:1
Zfp286-204	ENSMUST00000139798.7	443	No protein	Processed transcript	-	-	TSL:3

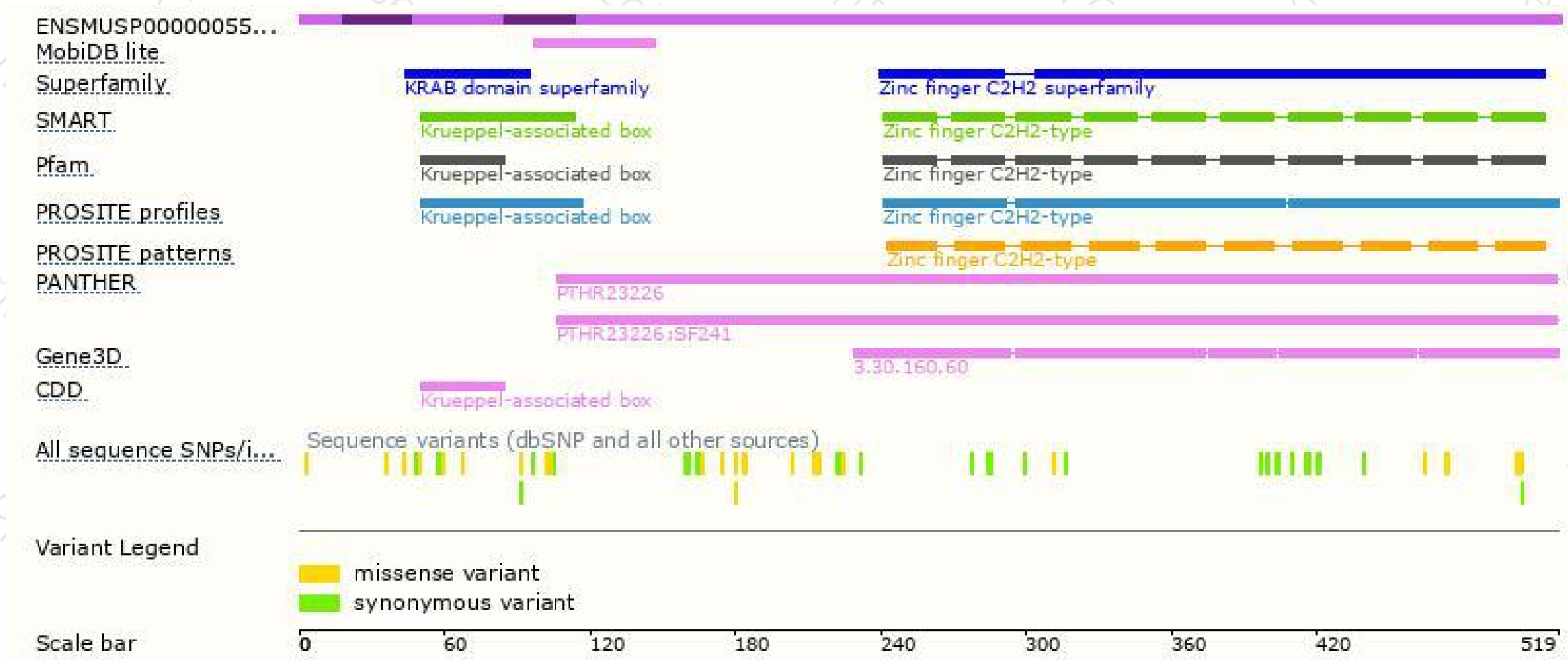
The strategy is based on the design of *Zfp286-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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