

***Dnajb14* Cas9-CKO Strategy**

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Reviewer: Jia Yu

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Project Overview

Project Name

Dnajb14

Project type

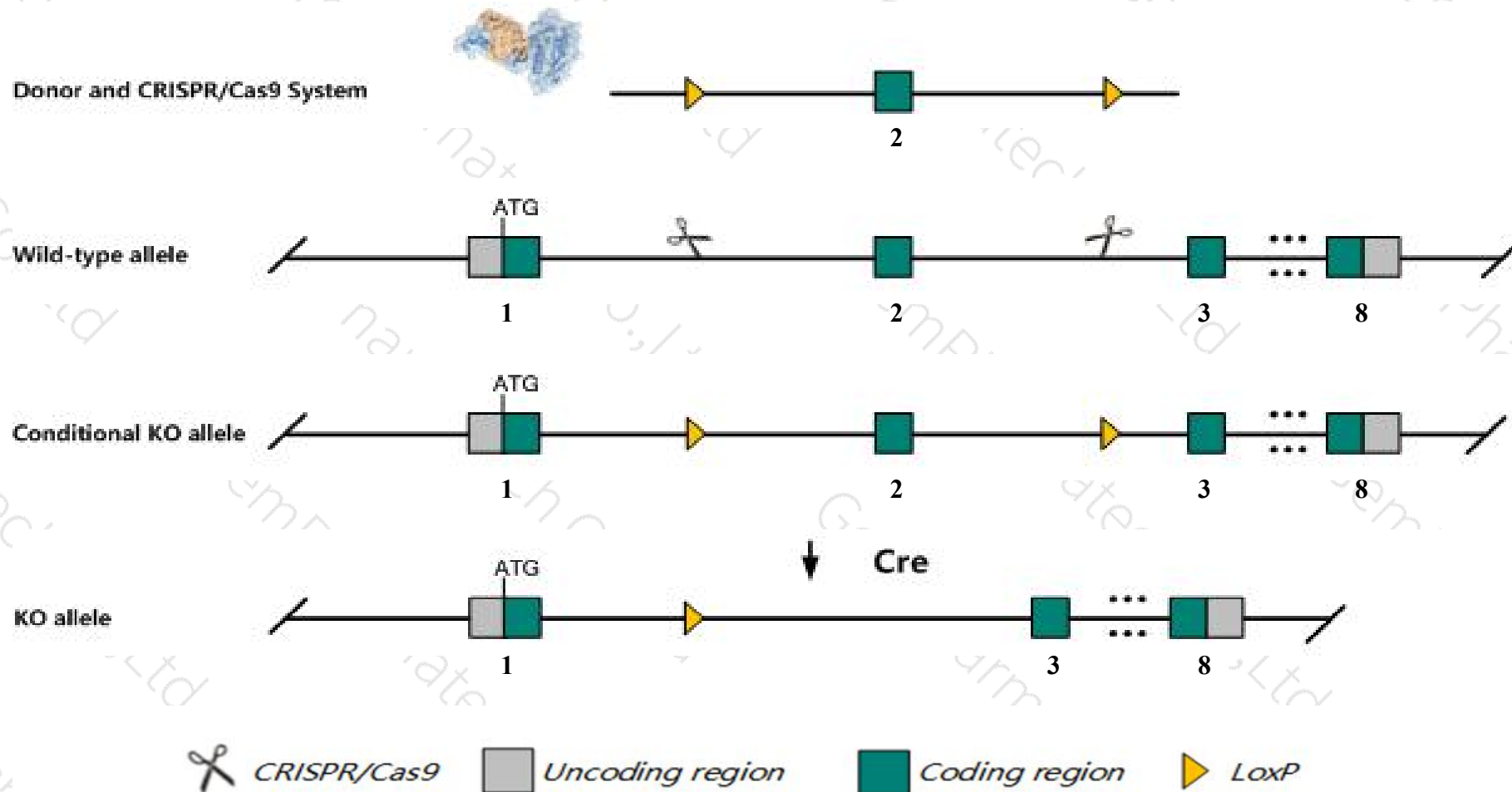
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnajb14* gene. The schematic diagram is as follows:



- The *Dnajb14* gene has 4 transcripts. According to the structure of *Dnajb14* gene, exon2 of *Dnajb14-201* (ENSMUST00000090178.9) transcript is recommended as the knockout region. The region contains 172bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dnajb14* 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 *Dnajb14* gene is located on the Chr3. 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)

Dnajb14 DnaJ heat shock protein family (Hsp40) member B14 [Mus musculus (house mouse)]

Gene ID: 70604, updated on 13-Mar-2020

Summary



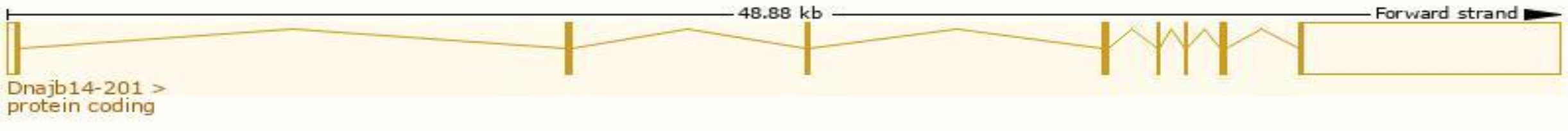
Official Symbol	Dnajb14 provided by MGI
Official Full Name	DnaJ heat shock protein family (Hsp40) member B14 provided by MGI
Primary source	MGI:MGI:1917854
See related	Ensembl:ENSMUSG00000074212
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	5730496F10Rik
Expression	Ubiquitous expression in testis adult (RPKM 8.5), cerebellum adult (RPKM 6.3) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

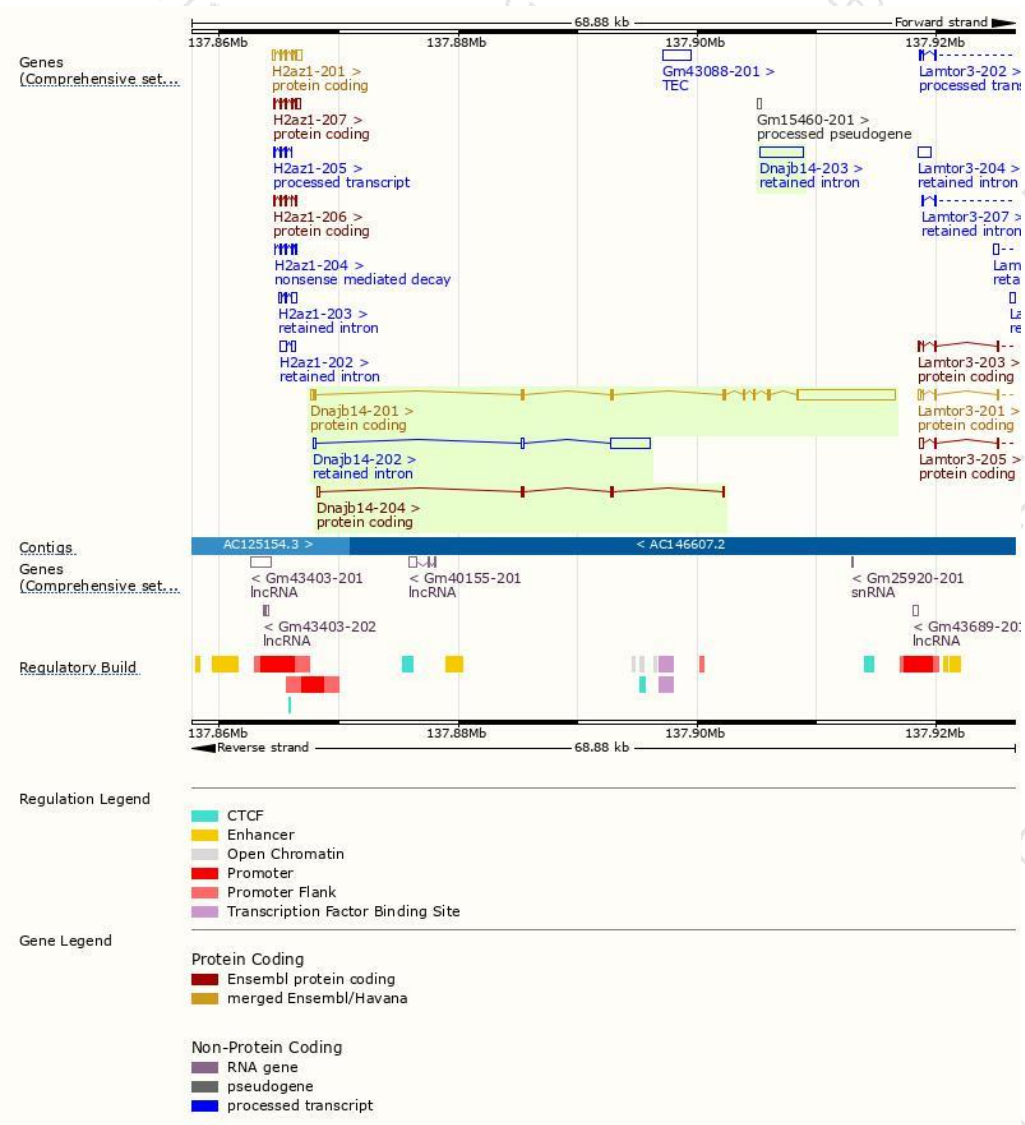
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dnajb14-201	ENSMUST00000090178.9	9477	379aa	Protein coding	CCDS51077	Q149L6	TSL:1 GENCODE basic APPRIS P1
Dnajb14-202	ENSMUST00000125226.1	3564	No protein	Retained intron	-	-	TSL:1
Dnajb14-203	ENSMUST00000195903.1	3700	No protein	Retained intron	-	-	TSL:NA
Dnajb14-204	ENSMUST00000197711.1	635	124aa	Protein coding	-	A0A0G2JFJ4	CDS 3' incomplete TSL:5

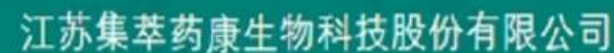
The strategy is based on the design of *Dnajb14-201* transcript,The transcription is shown below



Genomic location distribution



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GemPharmatech



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

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