

***Dnajc18* Cas9-CKO Strategy**

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Reviewer:

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Project Overview

Project Name

Dnajc18

Project type

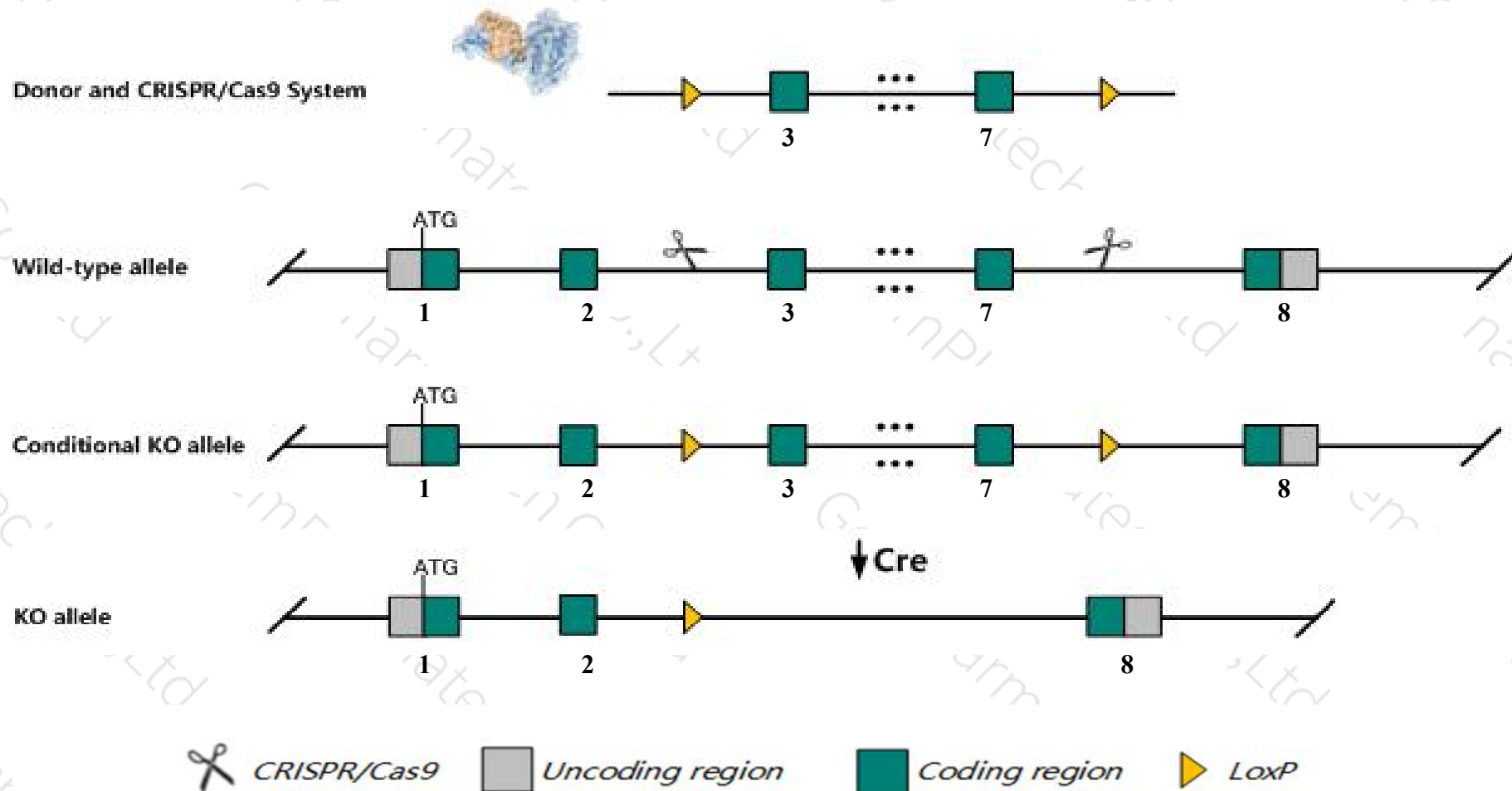
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnajc18* gene. The schematic diagram is as follows:



- The *Dnajc18* gene has 4 transcripts. According to the structure of *Dnajc18* gene, exon3-exon7 of *Dnajc18-201* (ENSMUST00000025208.6) transcript is recommended as the knockout region. The region contains 722bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dnajc18* 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 transcripts of 202,203 are incomplete and effects are unknown.
- The *Dnajc18* gene is located on the Chr18. 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)

Dnajc18 DnaJ heat shock protein family (Hsp40) member C18 [*Mus musculus* (house mouse)]

Gene ID: 76594, updated on 12-Aug-2019

Summary

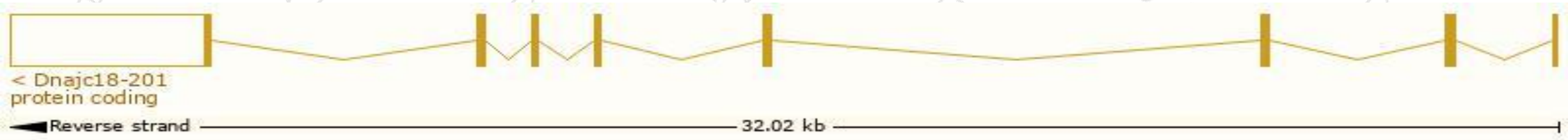
Official Symbol	Dnajc18 provided by MGI
Official Full Name	DnaJ heat shock protein family (Hsp40) member C18 provided by MGI
Primary source	MGI:MGI:1923844
See related	Ensembl:ENSMUSG00000024350
Gene type	protein coding
RefSeq status	VALIDATED
Organism	<i>Mus musculus</i>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AU041129; 2700075B01Rik
Expression	Broad expression in cerebellum adult (RPKM 10.7), frontal lobe adult (RPKM 10.2) and 25 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

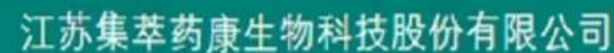
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dnajc18-201	ENSMUST00000025208.6	5146	357aa	Protein coding	CCDS29148	Q9CZJ9	TSL:1 GENCODE basic APPRIS P1
Dnajc18-204	ENSMUST00000237995.1	909	163aa	Protein coding	-	-	CDS 3' incomplete
Dnajc18-203	ENSMUST00000236738.1	582	34aa	Protein coding	-	-	CDS 3' incomplete
Dnajc18-202	ENSMUST00000235930.1	569	68aa	Nonsense mediated decay	-	-	CDS 5' incomplete

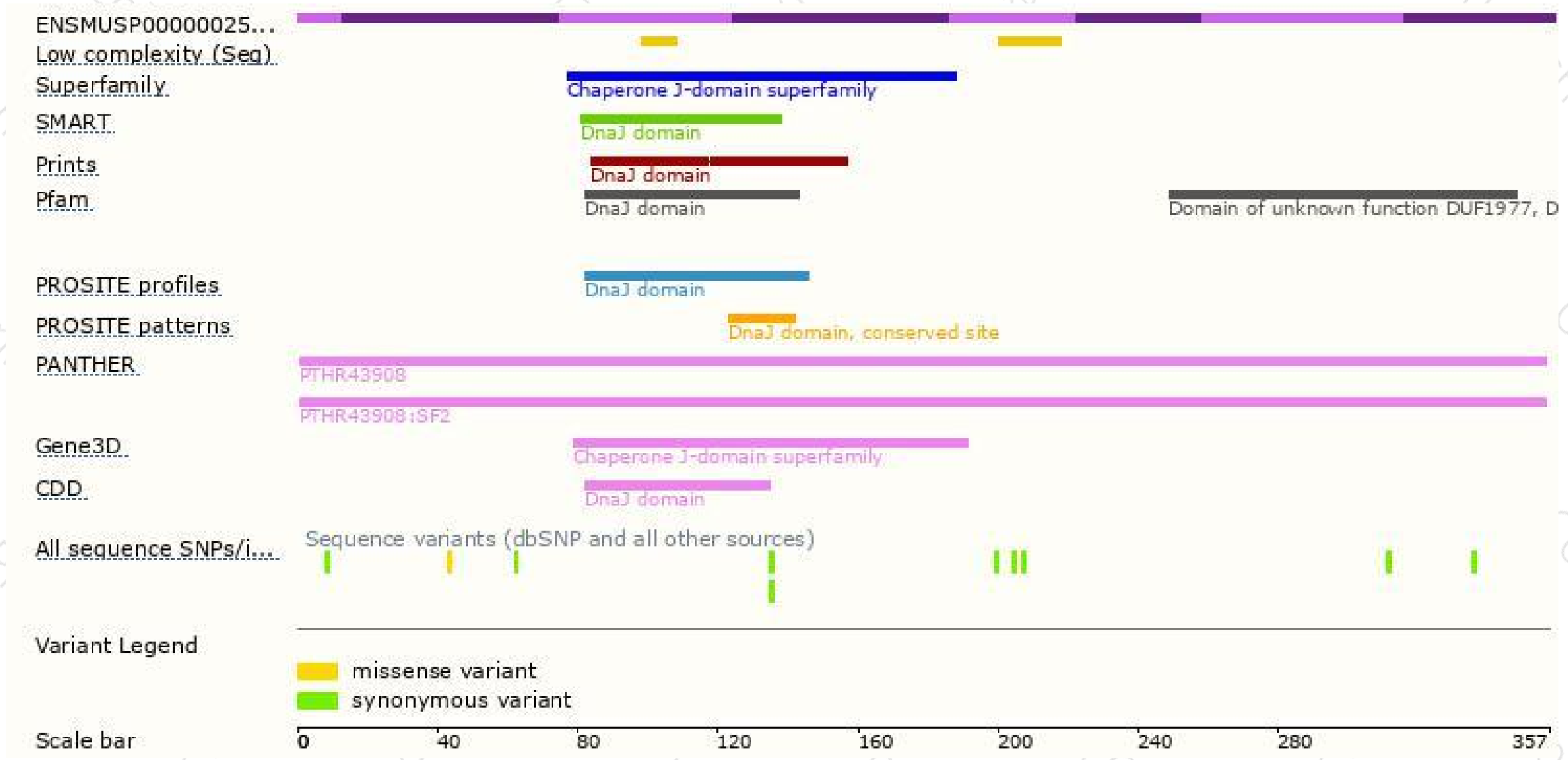
The strategy is based on the design of *Dnajc18-201* transcript,The transcription is shown below



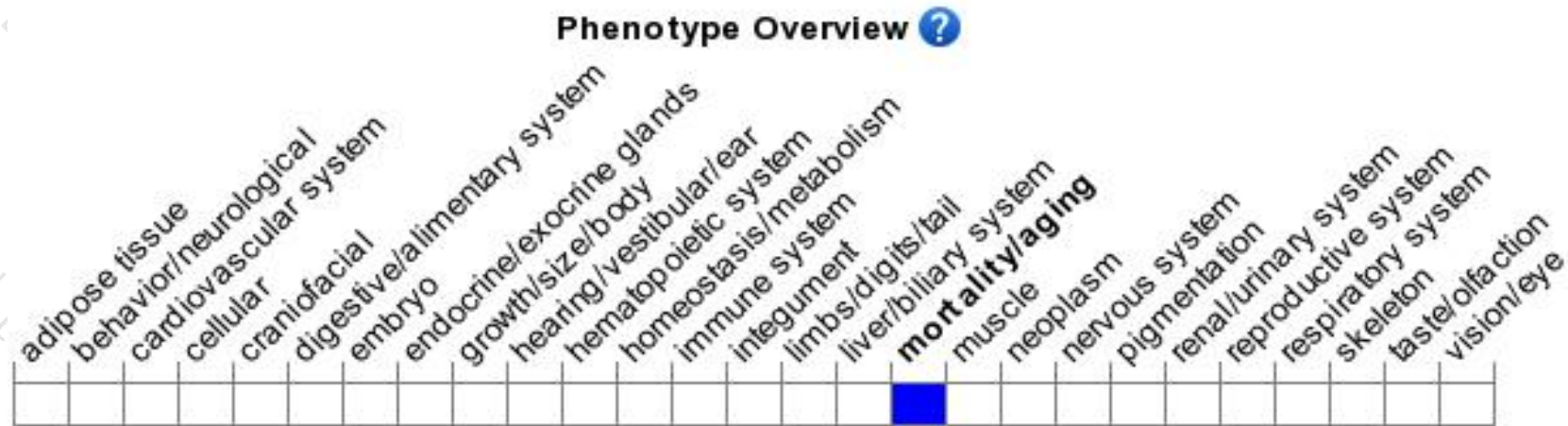
集萃药康
GemPharmatech



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

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