

***Dnajb13* Cas9-KO Strategy**

Designer: JiaYu

Reviewer: Xiaojing Li

Design Date: 2020-7-28

Project Overview

Project Name

Dnajb13

Project type

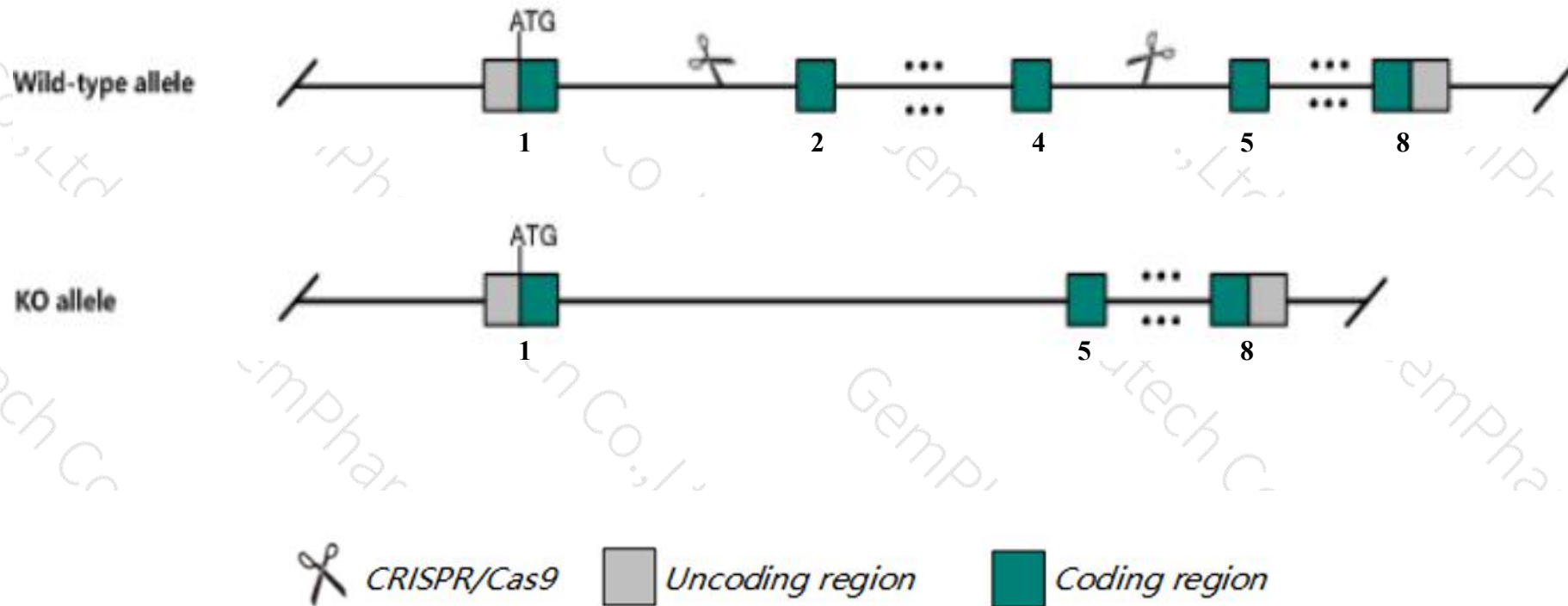
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnajb13* gene. The schematic diagram is as follows:



- The *Dnajb13* gene has 4 transcripts. According to the structure of *Dnajb13* gene, exon2-exon4 of *Dnajb13*-204(ENSMUST00000207405.1) transcript is recommended as the knockout region. The region contains 424bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dnajb13* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Dnajb13* gene is located on the Chr7. 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Dnajb13 DnaJ heat shock protein family (Hsp40) member B13 [Mus musculus (house mouse)]

Gene ID: 69387, updated on 13-Mar-2020

Summary



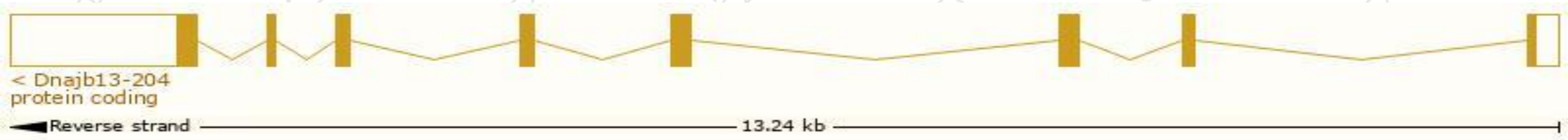
Official Symbol	Dnajb13 provided by MGI
Official Full Name	DnaJ heat shock protein family (Hsp40) member B13 provided by MGI
Primary source	MGI:MGI:1916637
See related	Ensembl:ENSMUSG00000030708
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1700014P03Rik, Tsarg
Expression	Biased expression in testis adult (RPKM 160.4) and ovary adult (RPKM 6.8) See more
Orthologs	human all

Transcript information (Ensembl)

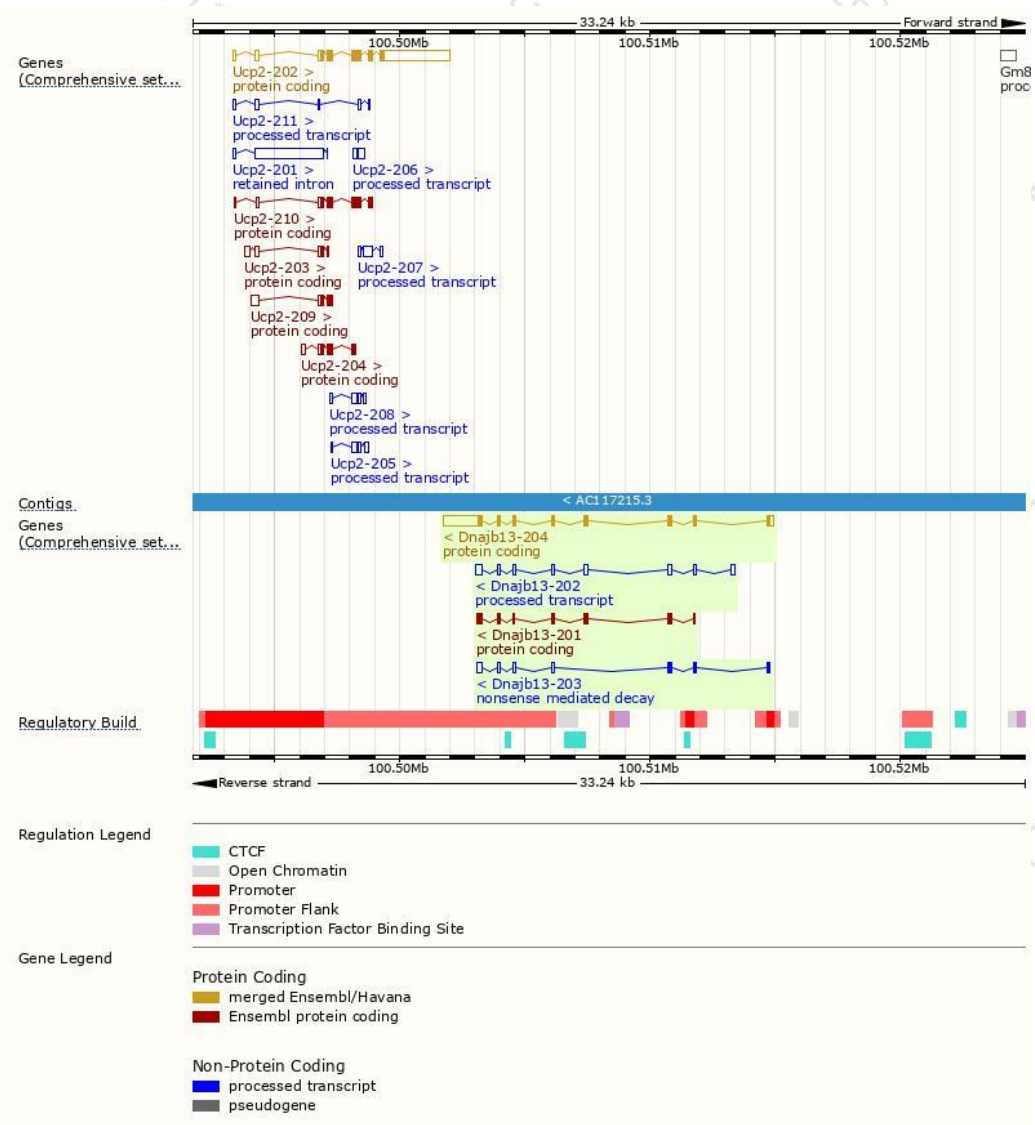
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dnajb13-204	ENSMUST00000207405.1	2592	316aa	Protein coding	CCDS21499	Q80Y75	TSL:1 GENCODE basic APPRIS P1
Dnajb13-201	ENSMUST00000054923.8	847	256aa	Protein coding	-	A0A171EBK9	CDS 5' incomplete TSL:3
Dnajb13-203	ENSMUST00000154516.2	905	114aa	Nonsense mediated decay	-	A0A140LHH6	TSL:5
Dnajb13-202	ENSMUST00000130534.7	1159	No protein	Processed transcript	-	-	TSL:1

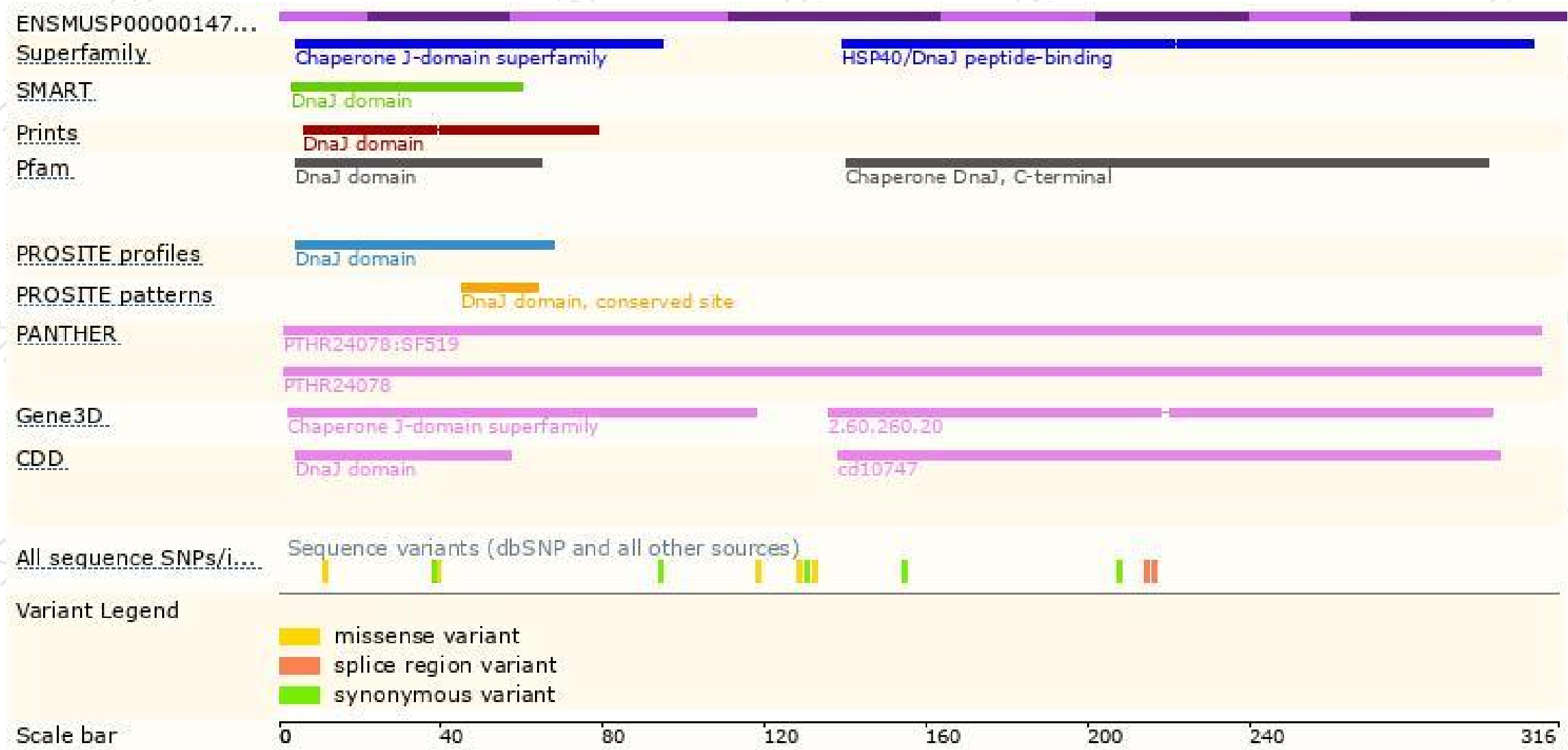
The strategy is based on the design of *Dnajb13-204* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

Tel: 400-9660890

