

Dnaja4 Cas9-KO Strategy

Designer: Xueting Zhang
reviewer: Yanhua Shen
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Project Overview

Project Name

Dnaja4

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnaja4* gene. The schematic diagram is as follows:



- The *Dnaja4* gene has 3 transcripts. According to the structure of *Dnaja4* gene, exon2 of *Dnaja4-201* (ENSMUST00000070070.7) transcript is recommended as the knockout region. The region contains 181bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dnaja4* gene. The brief process is as follows: CRISPR/Cas9 system

- The knockout region is near to the N-terminal of *Mir5710* gene, this strategy may influence the regulatory function of the N-terminal of *Mir5710* gene.
- The *Dnaja4* gene is located on the Chr9. 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)

Dnaja4 DnaJ heat shock protein family (Hsp40) member A4 [*Mus musculus* (house mouse)]

Gene ID: 58233, updated on 14-Aug-2019

Summary

- Official Symbol** Dnaja4 provided by [MGI](#)
- Official Full Name** DnaJ heat shock protein family (Hsp40) member A4 provided by [MGI](#)
- Primary source** [MGI:MGI:1927638](#)
- See related** [Ensembl:ENSMUSG00000032285](#)
- 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** Dj4; Hsj4; mmDjA4; AV358213; 1110021L12Rik
- Expression** Broad expression in testis adult (RPKM 35.2), heart adult (RPKM 15.3) and 20 other tissues [See more](#)
- Orthologs** [human](#) [all](#)

Genomic context

Location: 9; 9 A5.3 [See Dnaja4 in Genome Data Viewer](#)

Exon count: 8

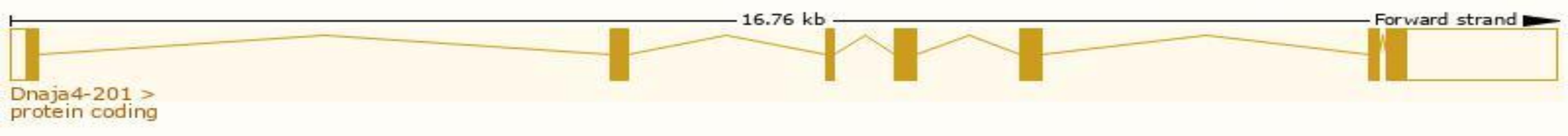
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	9	NC_000075.6 (54698848..54716317)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	9	NC_000075.5 (54547366..54564119)

Transcript information (Ensembl)

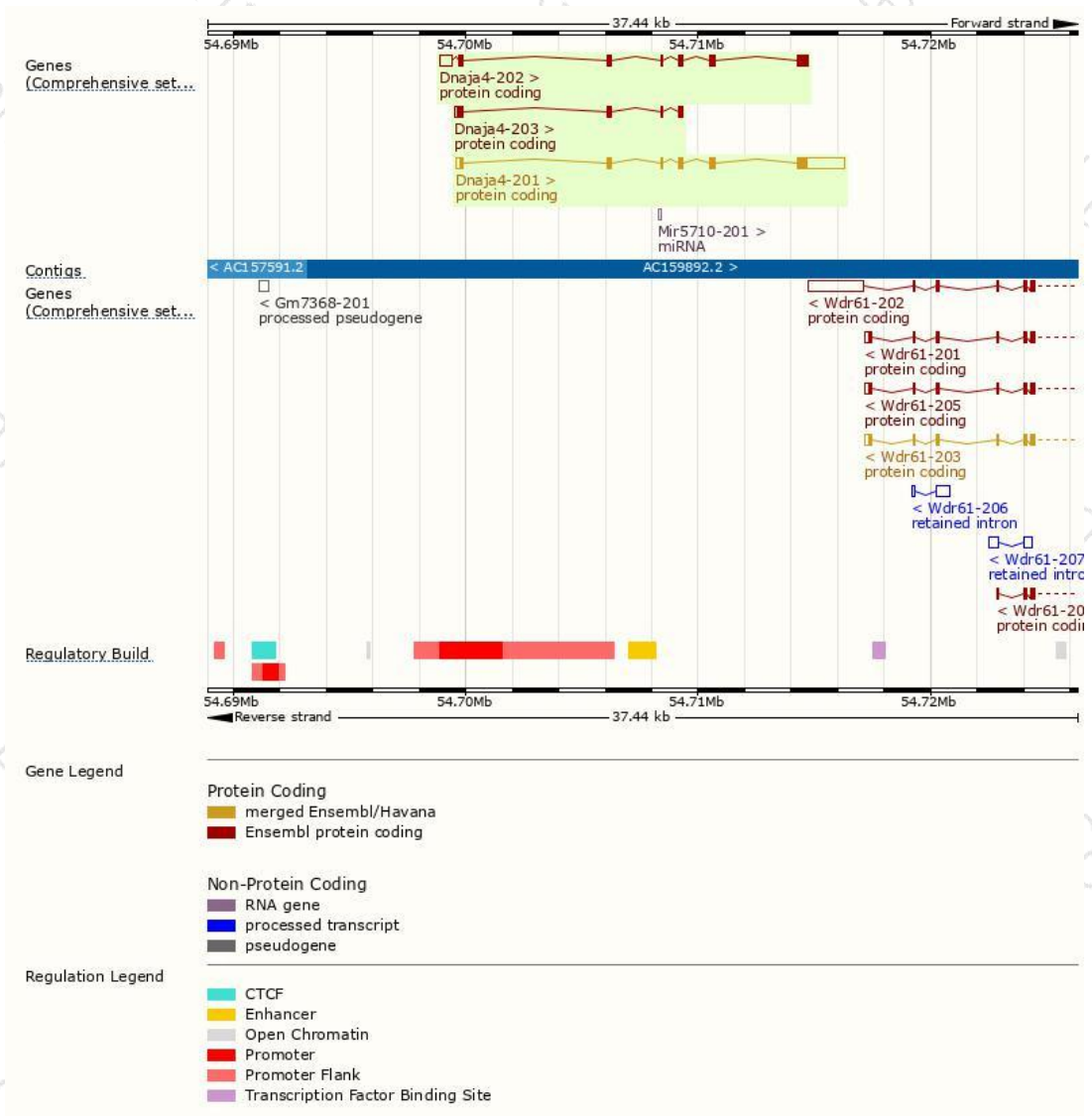
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dnaja4-201	ENSMUST00000070070.7	3003	397aa	Protein coding	CCDS23193	Q9JMC3	TSL:1 GENCODE basic APPRIS P1
Dnaja4-202	ENSMUST00000120452.7	1827	397aa	Protein coding	CCDS23193	Q9JMC3	TSL:1 GENCODE basic APPRIS P1
Dnaja4-203	ENSMUST00000154690.7	756	207aa	Protein coding	-	D3Z1U5	CDS 3' incomplete TSL:5

The strategy is based on the design of *Dnaja4-201* transcript,The transcription is shown below



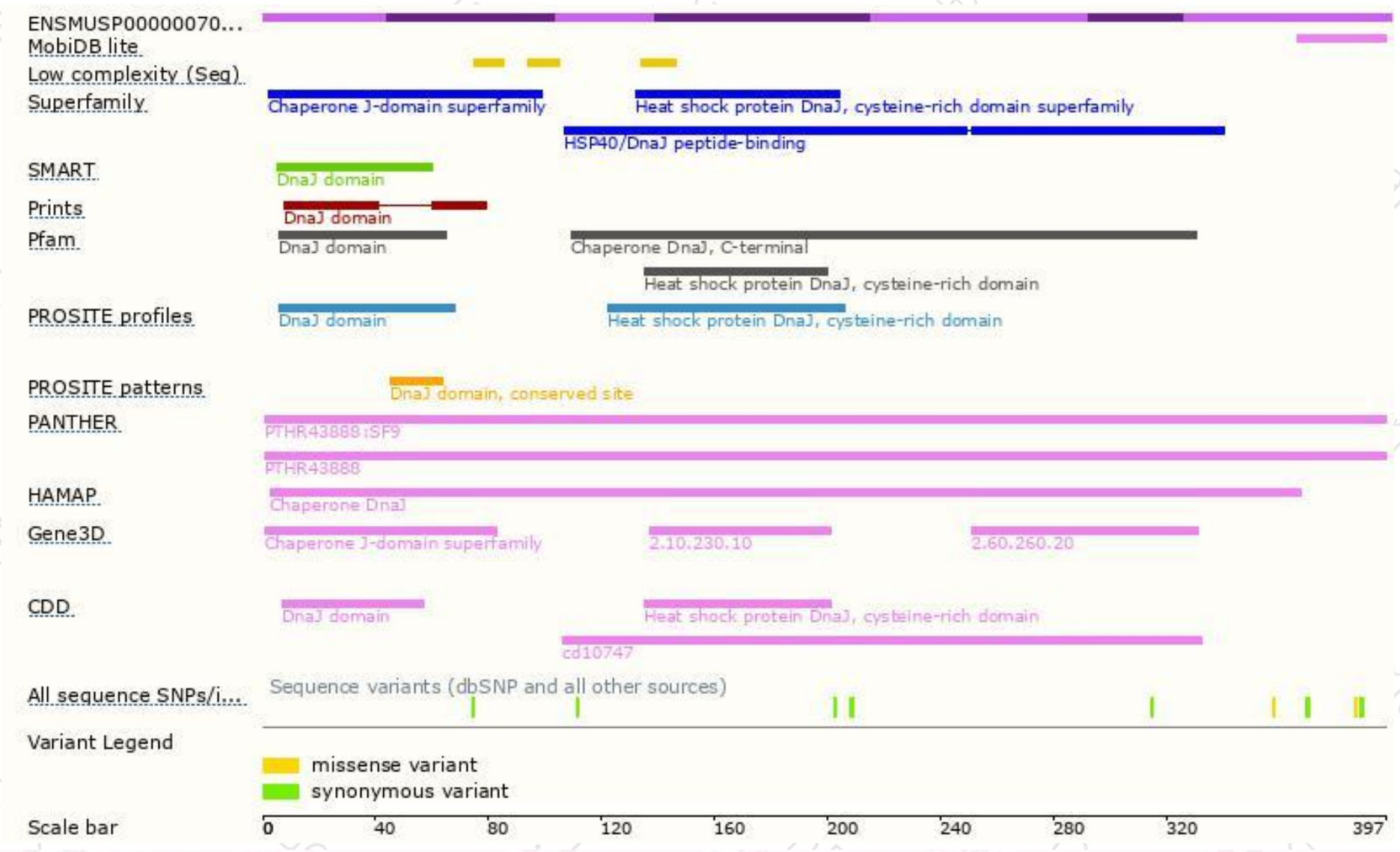
Genomic location distribution



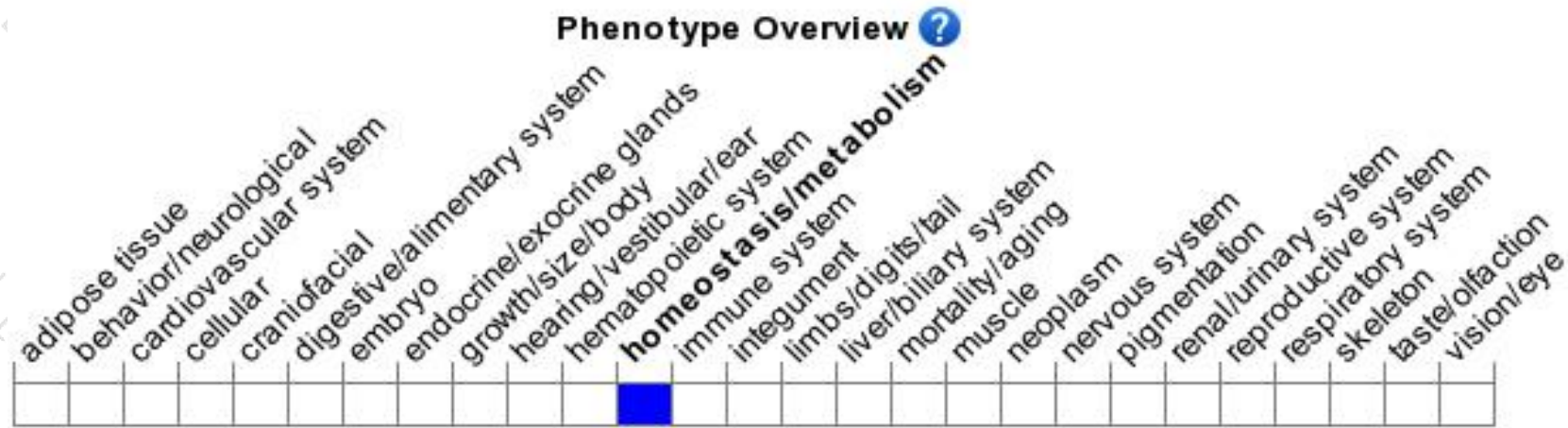
Protein domain



集萃药康
GemPharmatech



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.

Tel: 400-9660890

