

Dnajb3 Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Dnajb3

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnajb3* gene. The schematic diagram is as follows:



- The *Dnajb3* gene has 1 transcript. According to the structure of *Dnajb3* gene, exon1 of *Dnajb3-201* (ENSMUST00000119972.3) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dnajb3* gene. The brief process is as follows: CRISPR/Cas9 system

- The flox region is about 6kb away from the 5th end of the *Ugt1a1* gene, which may affect the regulation of this gene.
- The flox region is in the intron of the *Ugt1a2* and *Ugt1a5* and *Ugt1a6a* and *Ugt1a7c* and *Ugt1a7c* and *Ugt1a6b* and *Ugt1a10* and *Ugt1a8* and *Gm20528* gene, which may affect the regulation of these gene.
- The *Dnajb3* gene is located on the Chr1.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)

Dnajb3 DnaJ heat shock protein family (Hsp40) member B3 [*Mus musculus* (house mouse)]

Gene ID: 15504, updated on 13-Mar-2020

Summary

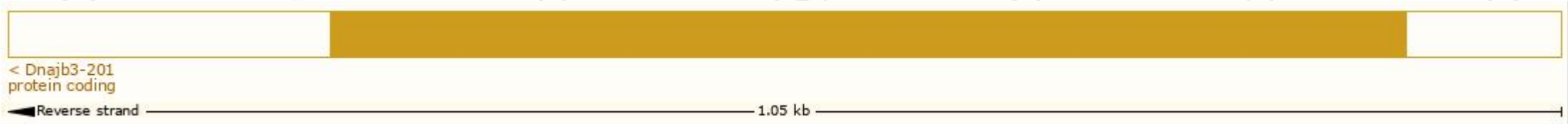
Official Symbol	Dnajb3 provided by MGI
Official Full Name	DnaJ heat shock protein family (Hsp40) member B3 provided by MGI
Primary source	MGI:MGI:1306822
See related	Ensembl:ENSMUSG000000081984
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Hsj3; Msj1; MSJ-1
Orthologs	human all

Transcript information (Ensembl)

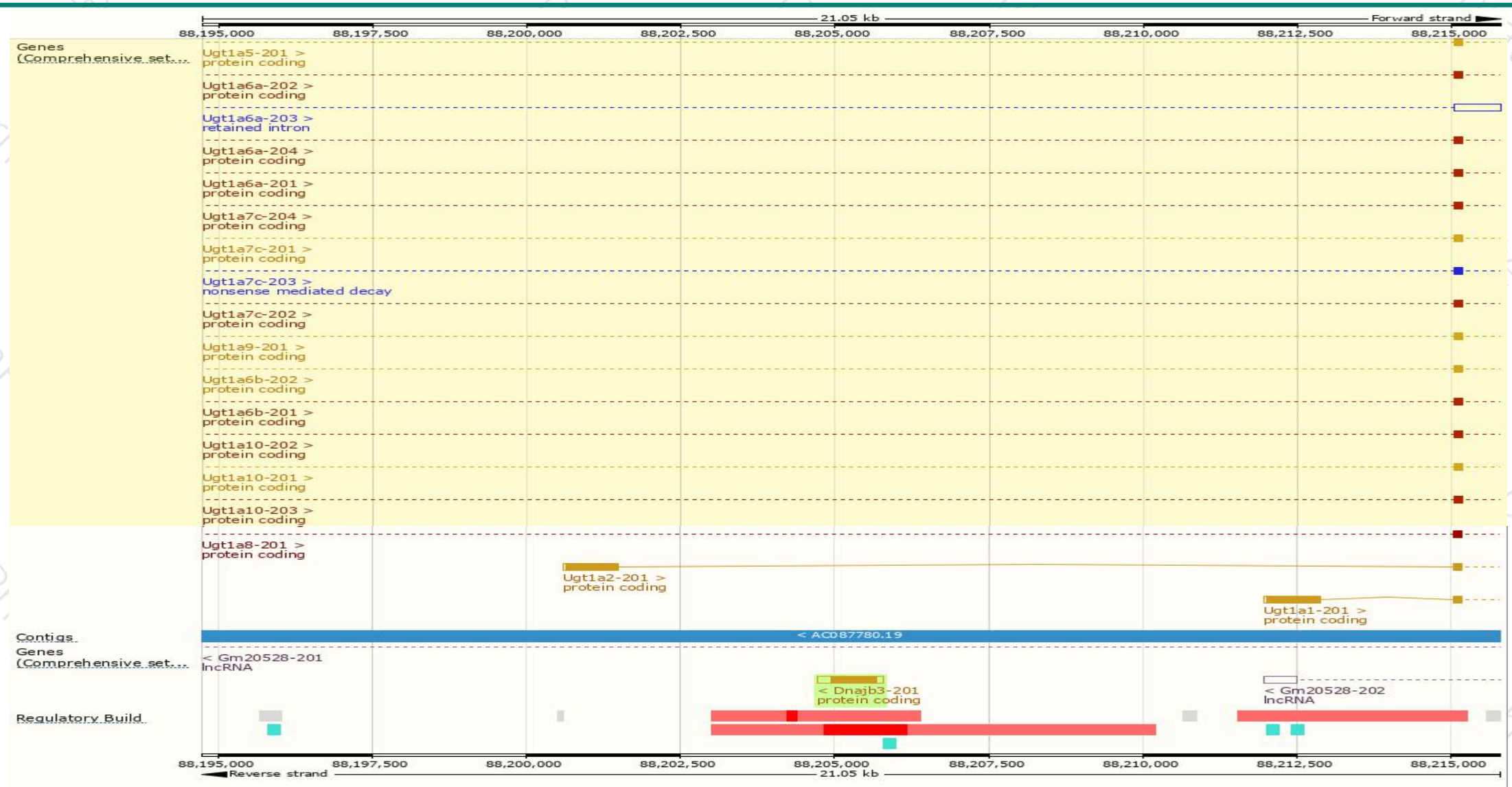
The gene has 1 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags		
Dnajb3-201	ENSMUST00000119972.3	1051	242aa	Protein coding	CCDS15142	Q5RL26	TSL:NA	GENCODE basic	APPRIS P1

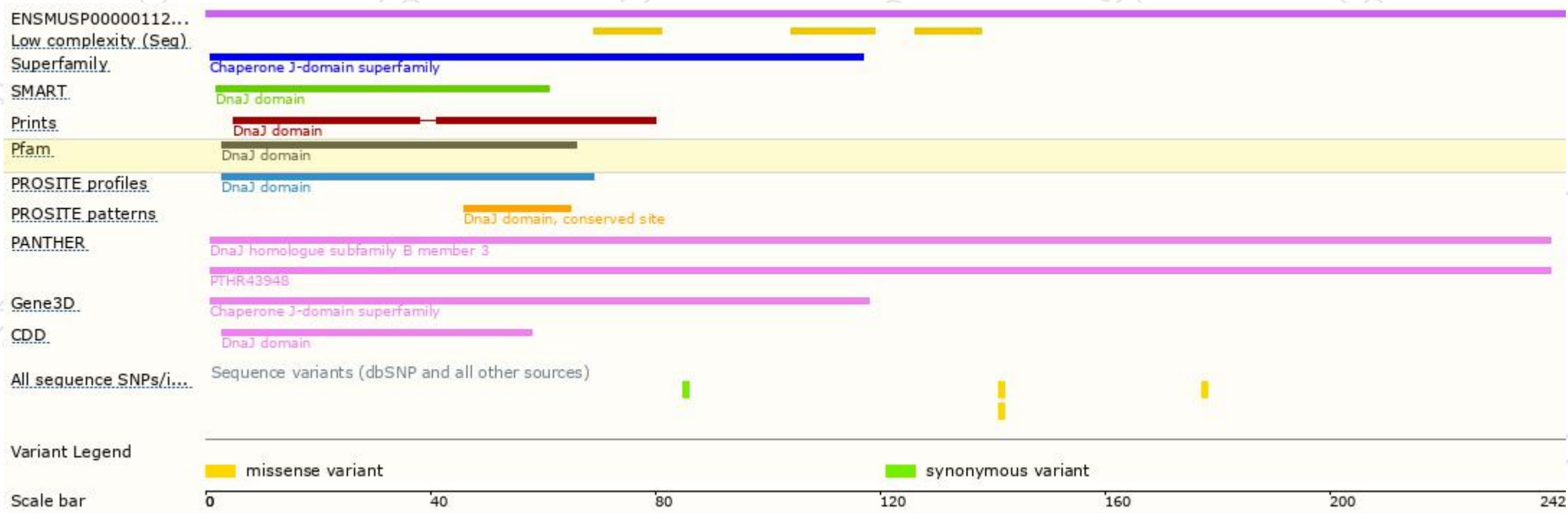
The strategy is based on the design of *Dnajb3-201* transcript,The transcription is shown below



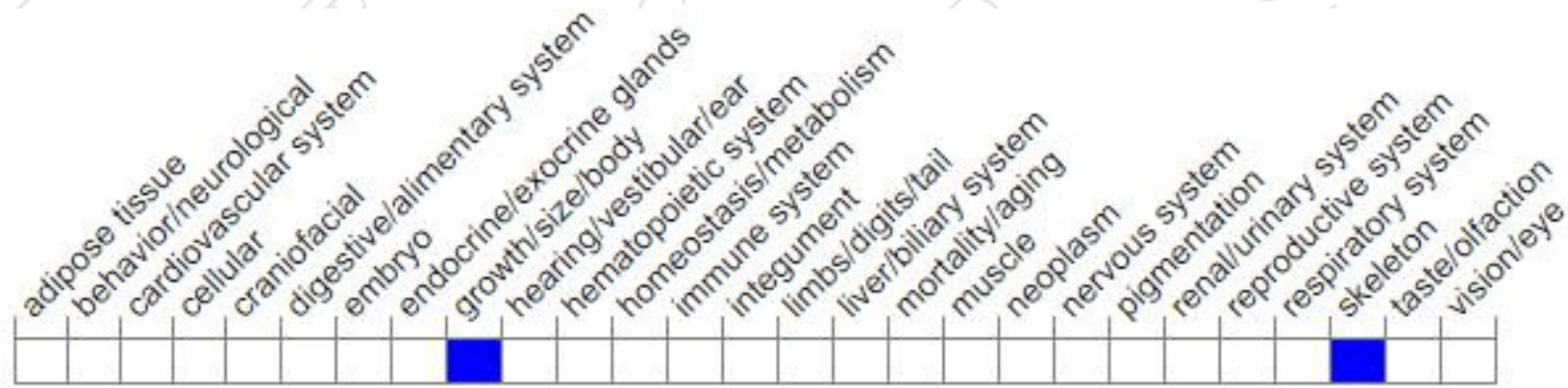
Genomic location distribution



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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