Dnajc10 Cas9-KO Strategy

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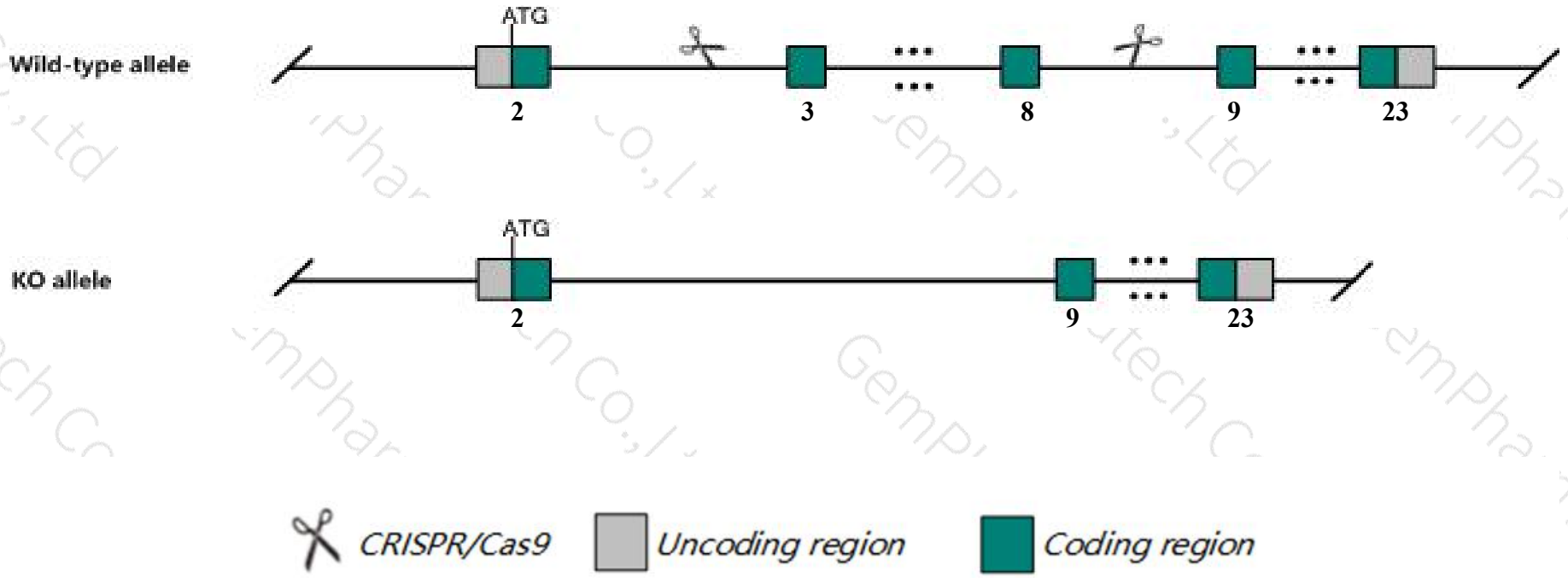
Project Overview

Project Name	***Dnajc10***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnajc10* gene. The schematic diagram is as follows:



Technical routes

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- The *Dnajc10* gene has 5 transcripts. According to the structure of *Dnajc10* gene, exon3-exon8 of *Dnajc10-201* (ENSMUST00000028392.7) transcript is recommended as the knockout region.The region contains 601bp coding sequence. Knock out the region will result in disruption of protein function.

- In this project we use CRISPR/Cas9 technology to modify *Dnajc10* gene. The brief process is as follows: CRISPR/Cas9 syste

Notice

- According to the existing MGI data,Mice homozygous for a knock-out allele exhibit increased endoplasmic reticulum stress in the salivary gland. Female homozygous mutant mice are smaller than controls.

- The *Dnajc10* gene is located on the Chr2. 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）

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Dnajc10 DnaJ heat shock protein family (Hsp40) member C10 [Mus musculus (house mouse)]

Gene ID: 66861, updated on 31-Jan-2019

Summary

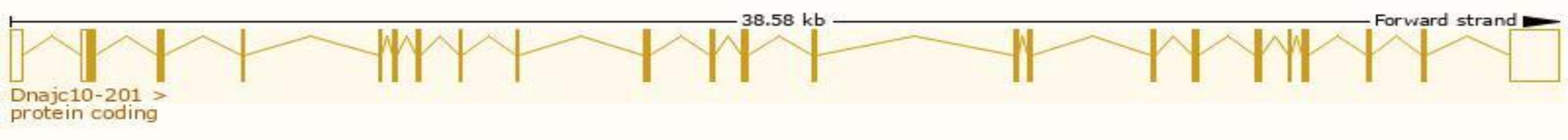
Official Symbol	Dnajc10 provided by MGI
Official Full Name	DnaJ heat shock protein family (Hsp40) member C10 provided by MGI
Primary source	MGI:MGI:1914111
See related	Ensembl:ENSMUSG00000027006
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1200006L06Rik, D2Ertd706e, ERdj5, JPDI
Expression	Ubiquitous expression in genital fat pad adult (RPKM 77.2), limb E14.5 (RPKM 18.0) and 26 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

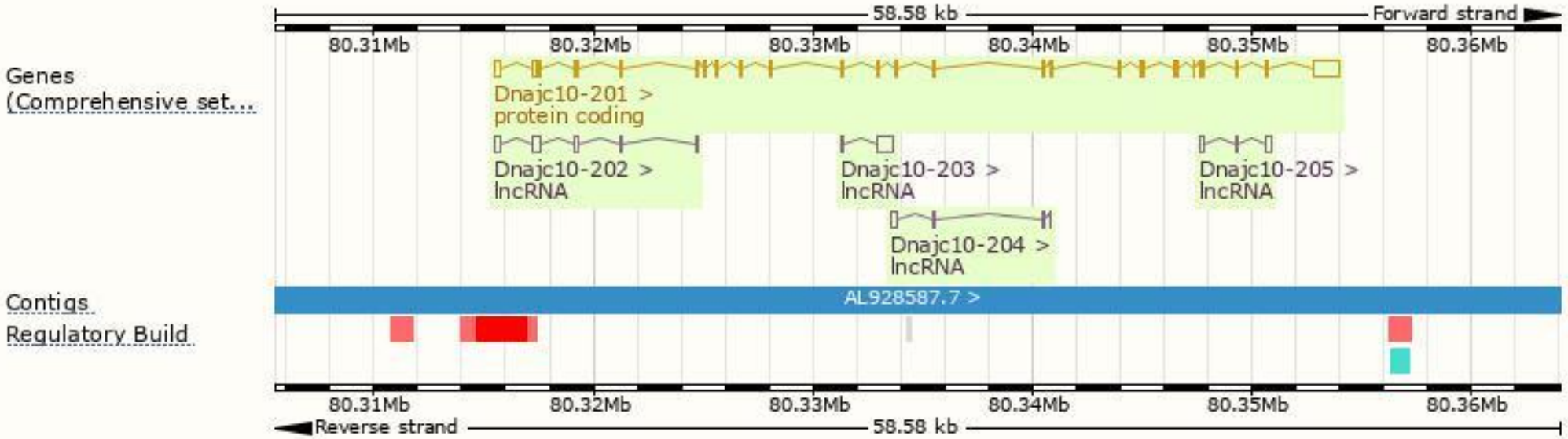
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dnajc10-201	ENSMUST00000028392.7	4042	793aa	Protein coding	CCDS38159	Q9DC23	TSL:1 GENCODE basic APPRIS P1
Dnajc10-202	ENSMUST00000125000.7	1034	No protein	Processed transcript	-	-	TSL:1
Dnajc10-203	ENSMUST00000133536.1	839	No protein	Processed transcript	-	-	TSL:3
Dnajc10-205	ENSMUST00000154912.1	576	No protein	Processed transcript	-	-	TSL:2
Dnajc10-204	ENSMUST00000153093.1	562	No protein	Processed transcript	-	-	TSL:2

The strategy is based on the design of *Dnajc10-201* transcript,The transcription is shown below



Genomic location distribution



Gene Legend

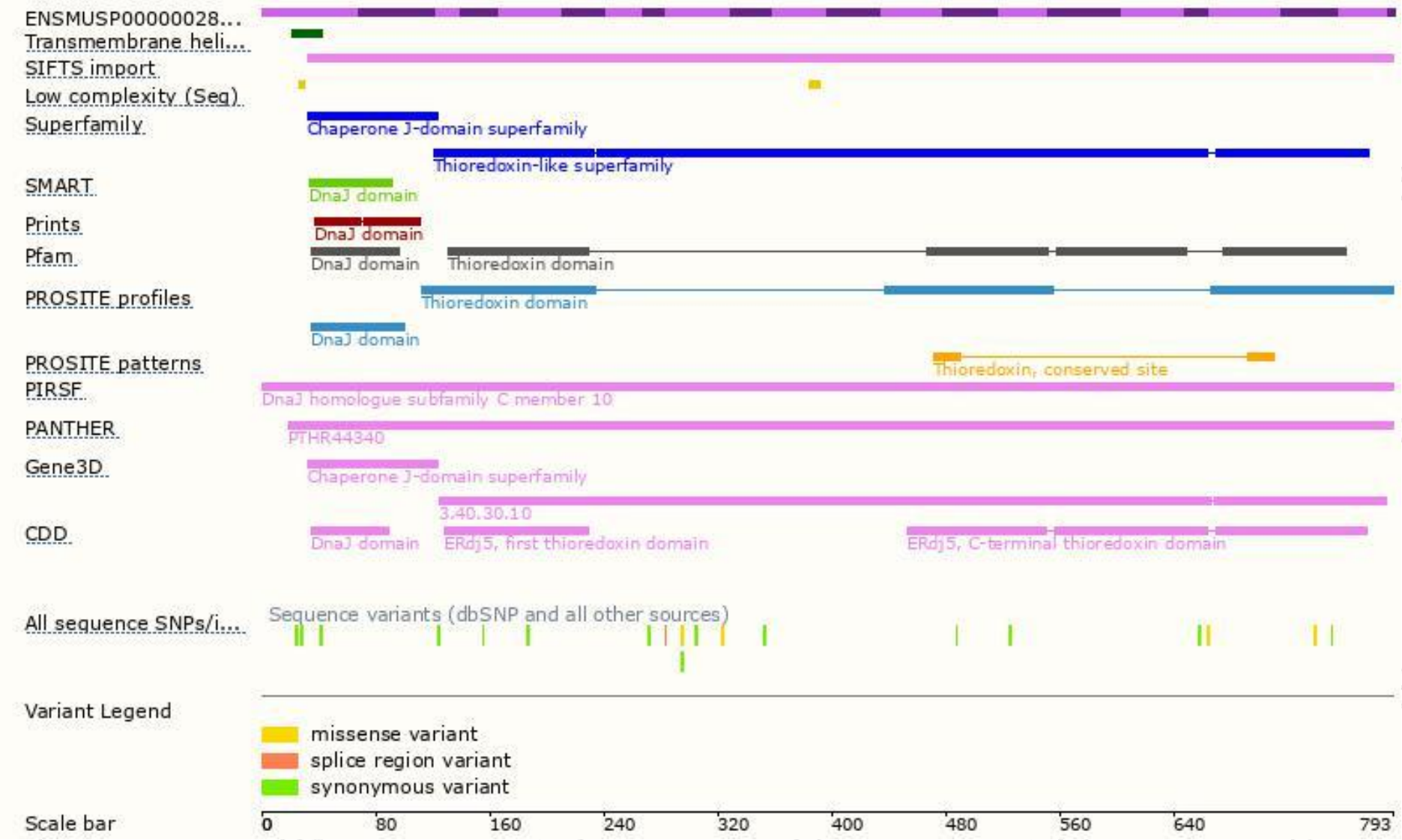
Protein Coding
merged Ensembl/Havana

Non-Protein Coding
RNA gene

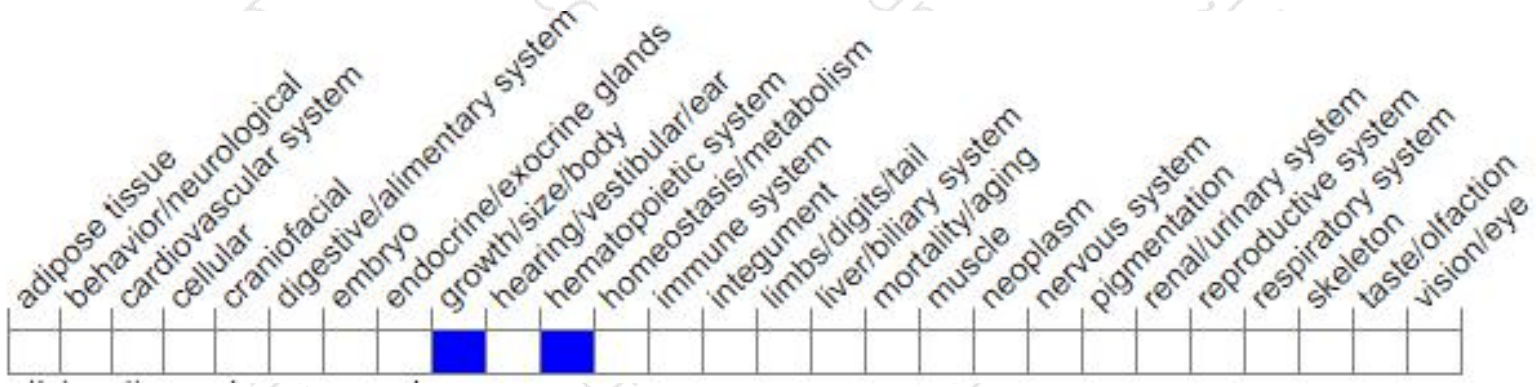
Regulation Legend

CTCF
Open Chromatin
Promoter
Promoter Flank

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/).

According to the existing MGI data,Mice homozygous for a knock-out allele exhibit increased endoplasmic reticulum stress in the salivary gland. Female homozygous mutant mice are smaller than controls.

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