

Ndufb3 Cas9-KO Strategy

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Project Overview

Project Name

Ndufb3

Project type

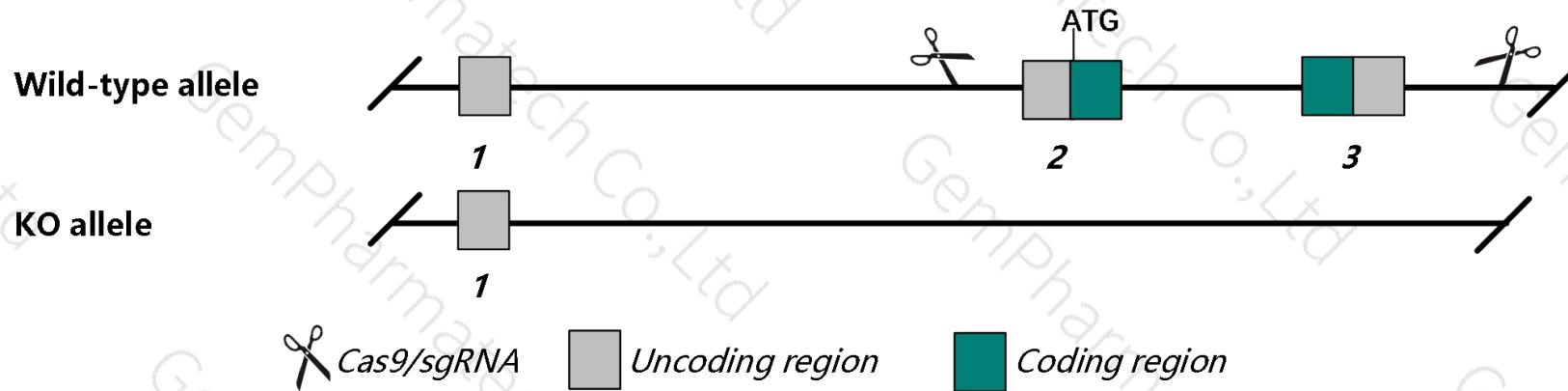
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ndufb3* gene. The schematic diagram is as follows:



- The *Ndufb3* gene has 1 transcript. According to the structure of *Ndufb3* gene, exon2-exon3 of *Ndufb3-201* (ENSMUST00000027193.8) 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 *Ndufb3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Ndufb3* 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.
- The knockout region is near to the N-terminal of *Fam126b* gene, this strategy may influence the regulatory function of the N-terminal of *Fam126b* gene.
- 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)

Ndufb3 NADH:ubiquinone oxidoreductase subunit B3 [Mus musculus (house mouse)]

Gene ID: 66495, updated on 13-Mar-2020

Summary



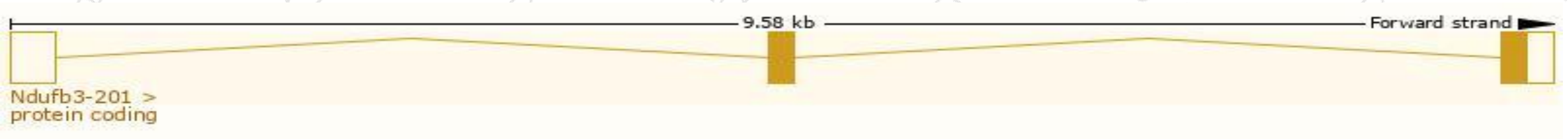
Official Symbol	Ndufb3 provided by MGI
Official Full Name	NADH:ubiquinone oxidoreductase subunit B3 provided by MGI
Primary source	MGI:MGI:1913745
See related	Ensembl:ENSMUSG00000026032
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2700033I16Rik, CI-B12
Expression	Ubiquitous expression in heart adult (RPKM 65.8), bladder adult (RPKM 47.1) and 26 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

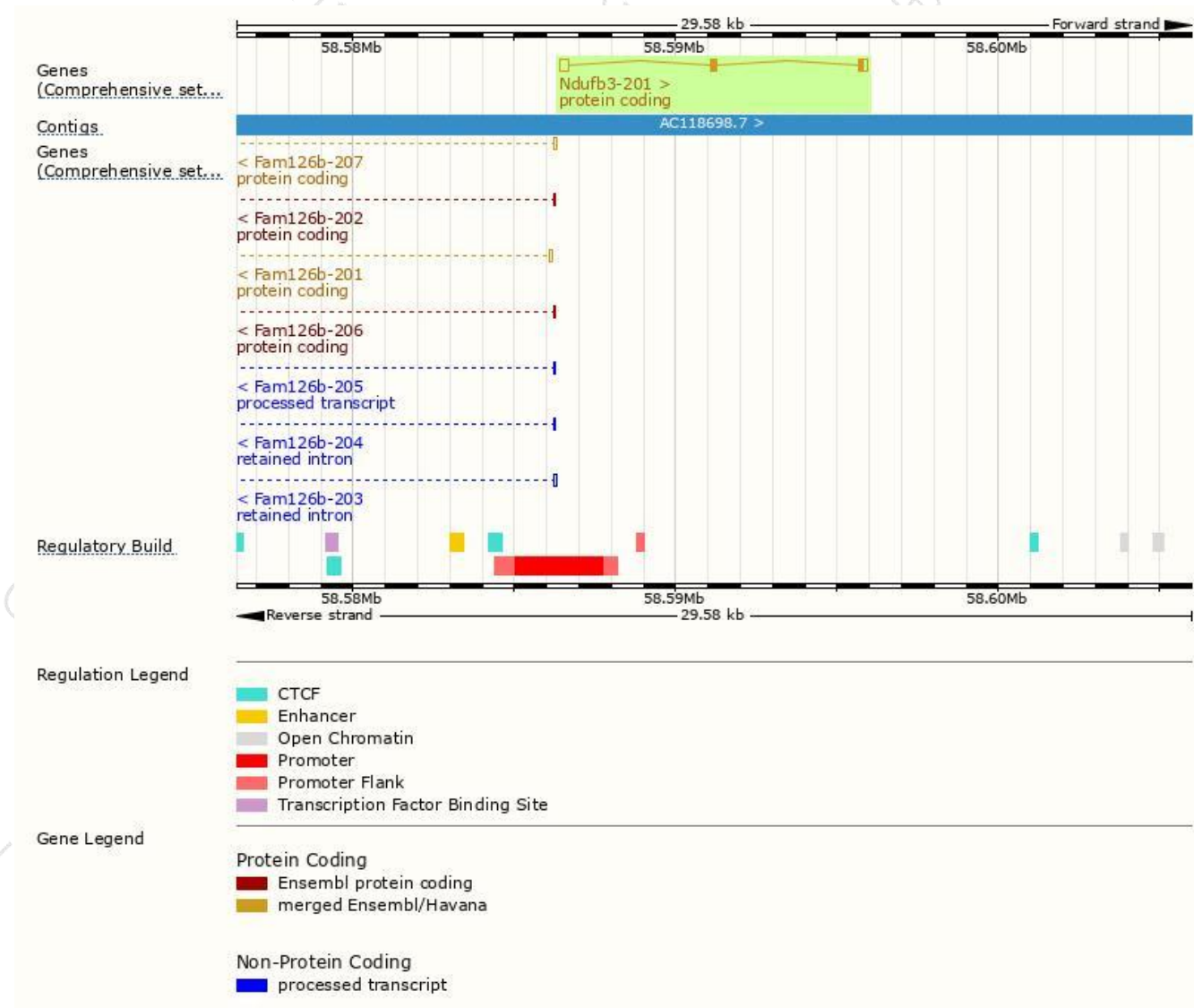
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ndufb3-201	ENSMUST00000027193.8	763	104aa	Protein coding	CCDS14977	Q9CQZ6	TSL:1 GENCODE basic APPRIS P1

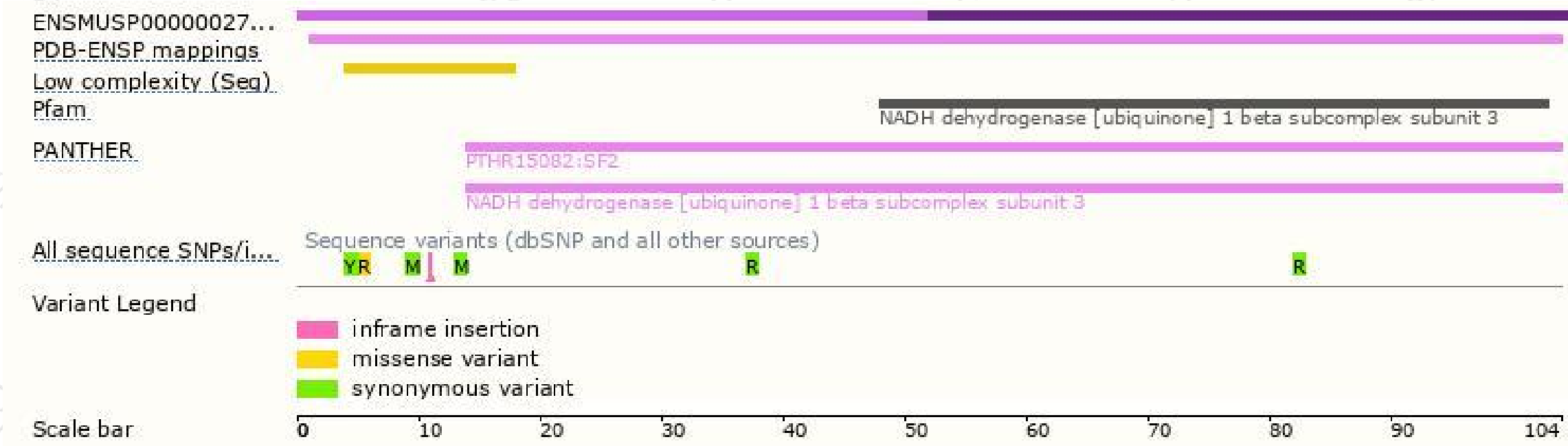
The strategy is based on the design of *Ndufb3-201* transcript, the transcription is shown below:



Genomic location distribution



Protein domain



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

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