

Ndufb4 Cas9-KO Strategy

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Design Date: 2020-5-28

Project Overview

Project Name

Ndufb4

Project type

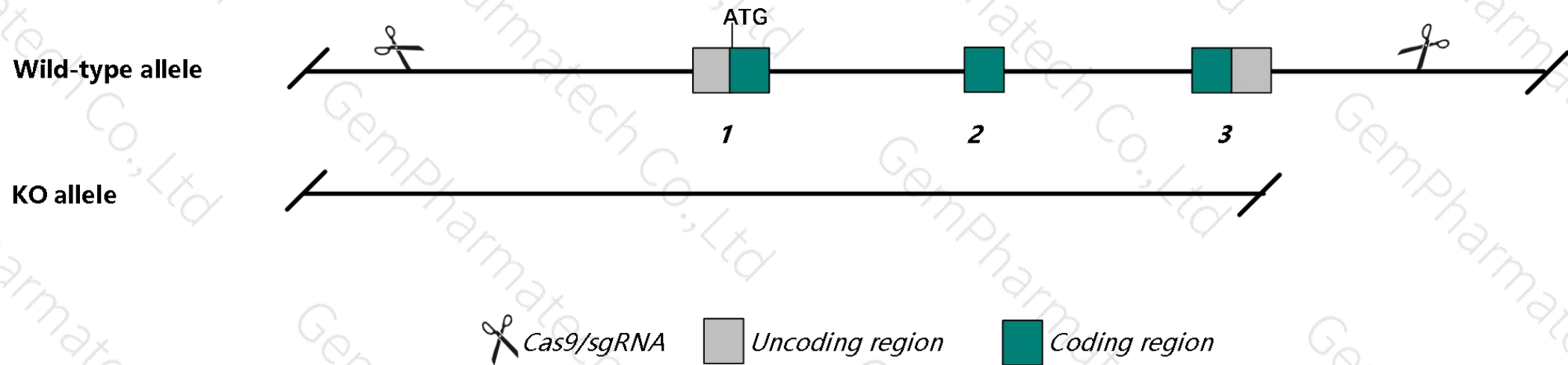
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ndufb4* gene. The schematic diagram is as follows:



- The *Ndufb4* gene has 3 transcripts. According to the structure of *Ndufb4* gene, exon1-exon3 of *Ndufb4-201* (ENSMUST00000023514.3) 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 *Ndufb4* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Ndufb4* gene is located on the Chr16. 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)

Ndufb4 NADH:ubiquinone oxidoreductase subunit B4 [Mus musculus (house mouse)]

Gene ID: 68194, updated on 26-Mar-2020

Summary



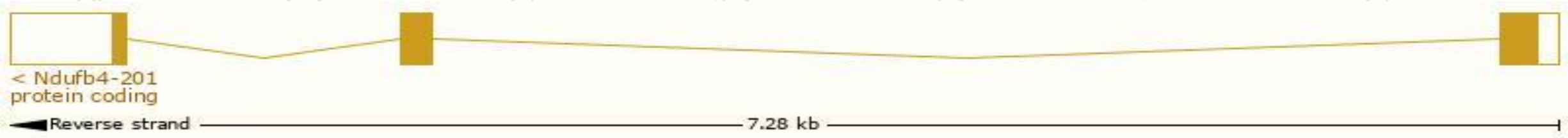
Official Symbol	Ndufb4 provided by MGI
Official Full Name	NADH:ubiquinone oxidoreductase subunit B4 provided by MGI
Primary source	MGI:MGI:1915444
See related	Ensembl:ENSMUSG00000022820
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	0610006N12Rik, 1300010H20Rik
Expression	Ubiquitous expression in kidney adult (RPKM 303.2), heart adult (RPKM 262.0) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

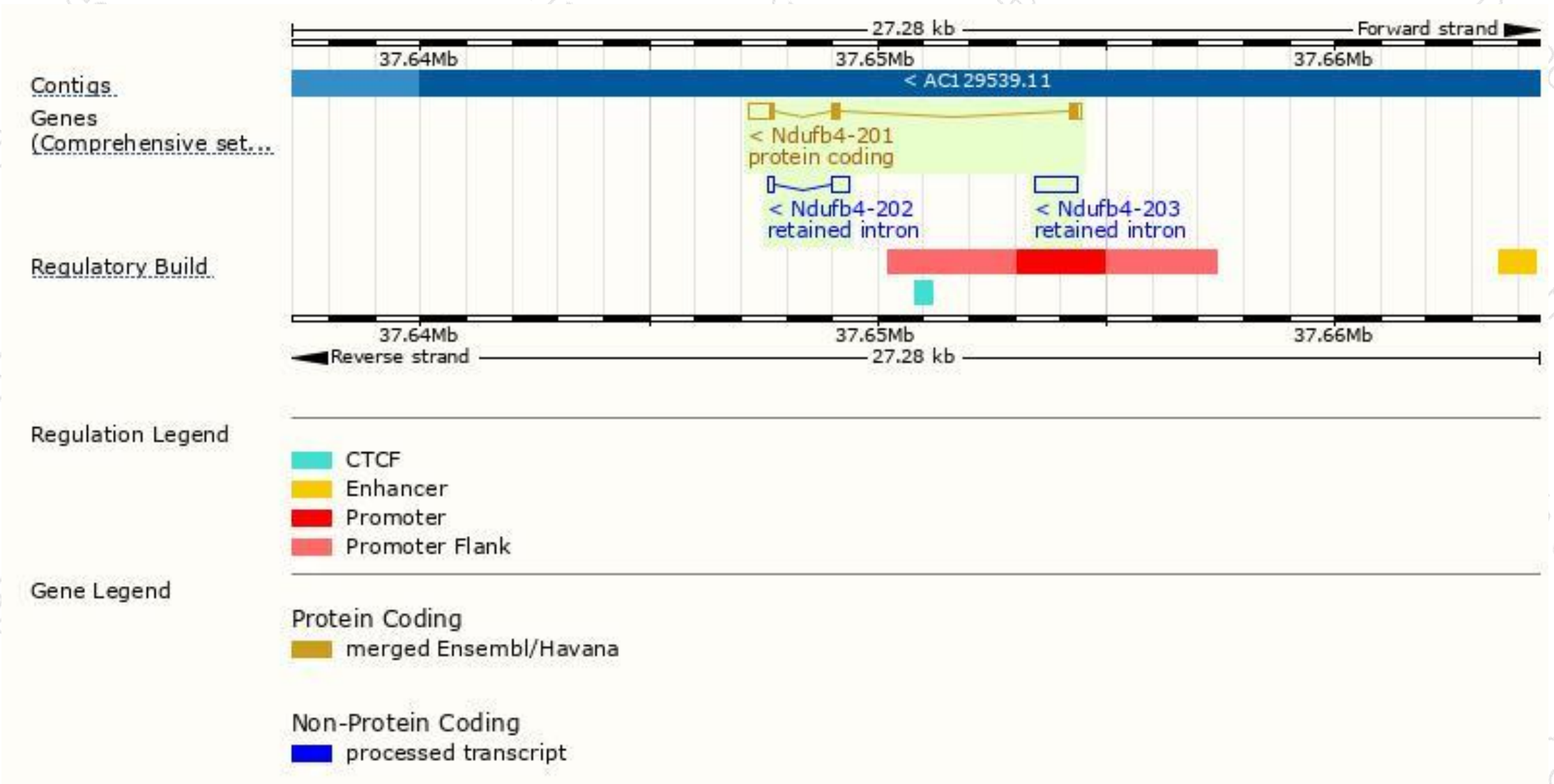
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ndufb4-201	ENSMUST00000023514.3	971	129aa	Protein coding	CCDS28161	Q9CQC7	TSL:1 GENCODE basic APPRIS P1
Ndufb4-203	ENSMUST00000231881.1	933	No protein	Retained intron	-	-	
Ndufb4-202	ENSMUST00000135019.1	465	No protein	Retained intron	-	-	TSL:2

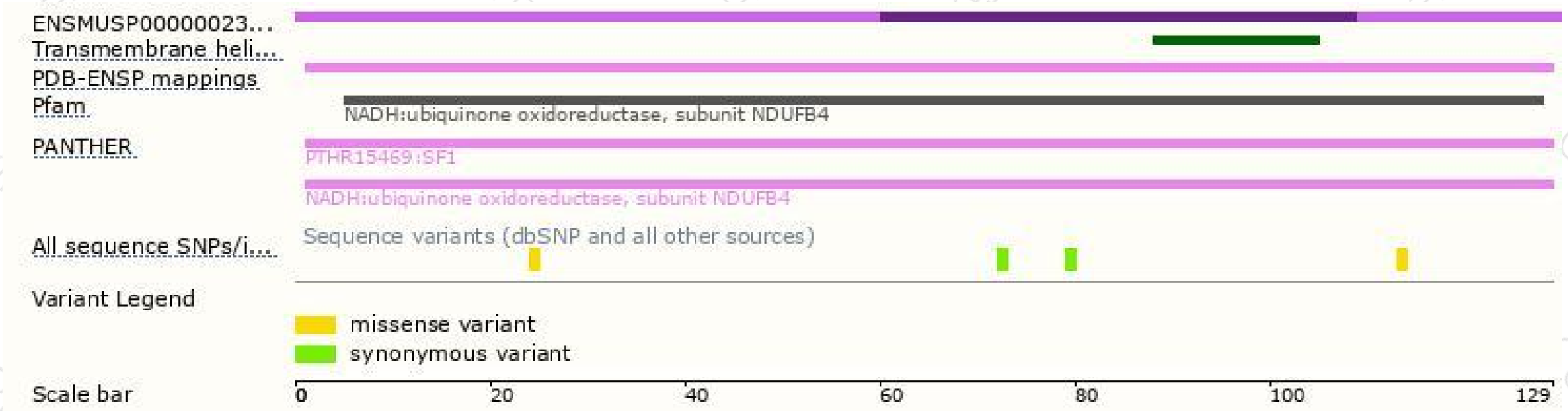
The strategy is based on the design of *Ndufb4-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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