

Ndufa8 Cas9-KO Strategy

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Project Overview

Project Name

Ndufa8

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ndufa8* gene. The schematic diagram is as follows:



- The *Ndufa8* gene has 1 transcript. According to the structure of *Ndufa8* gene, exon2 of *Ndufa8-201* (ENSMUST00000070112.5) transcript is recommended as the knockout region. The region contains 164bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ndufa8* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Ndufa8* 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)

Ndufa8 NADH:ubiquinone oxidoreductase subunit A8 [Mus musculus (house mouse)]

Gene ID: 68375, updated on 31-Jan-2019

Summary



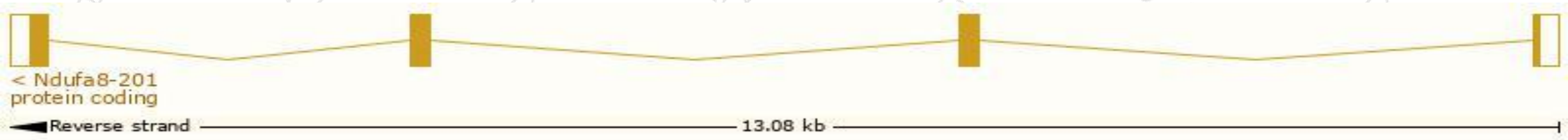
Official Symbol	Ndufa8 provided by MGI
Official Full Name	NADH:ubiquinone oxidoreductase subunit A8 provided by MGI
Primary source	MGI:MGI:1915625
See related	Ensembl:ENSMUSG00000026895
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	0610033L03Rik, AW261656, CI-19kD, CI-PGIV
Expression	Ubiquitous expression in heart adult (RPKM 140.9), kidney adult (RPKM 86.4) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

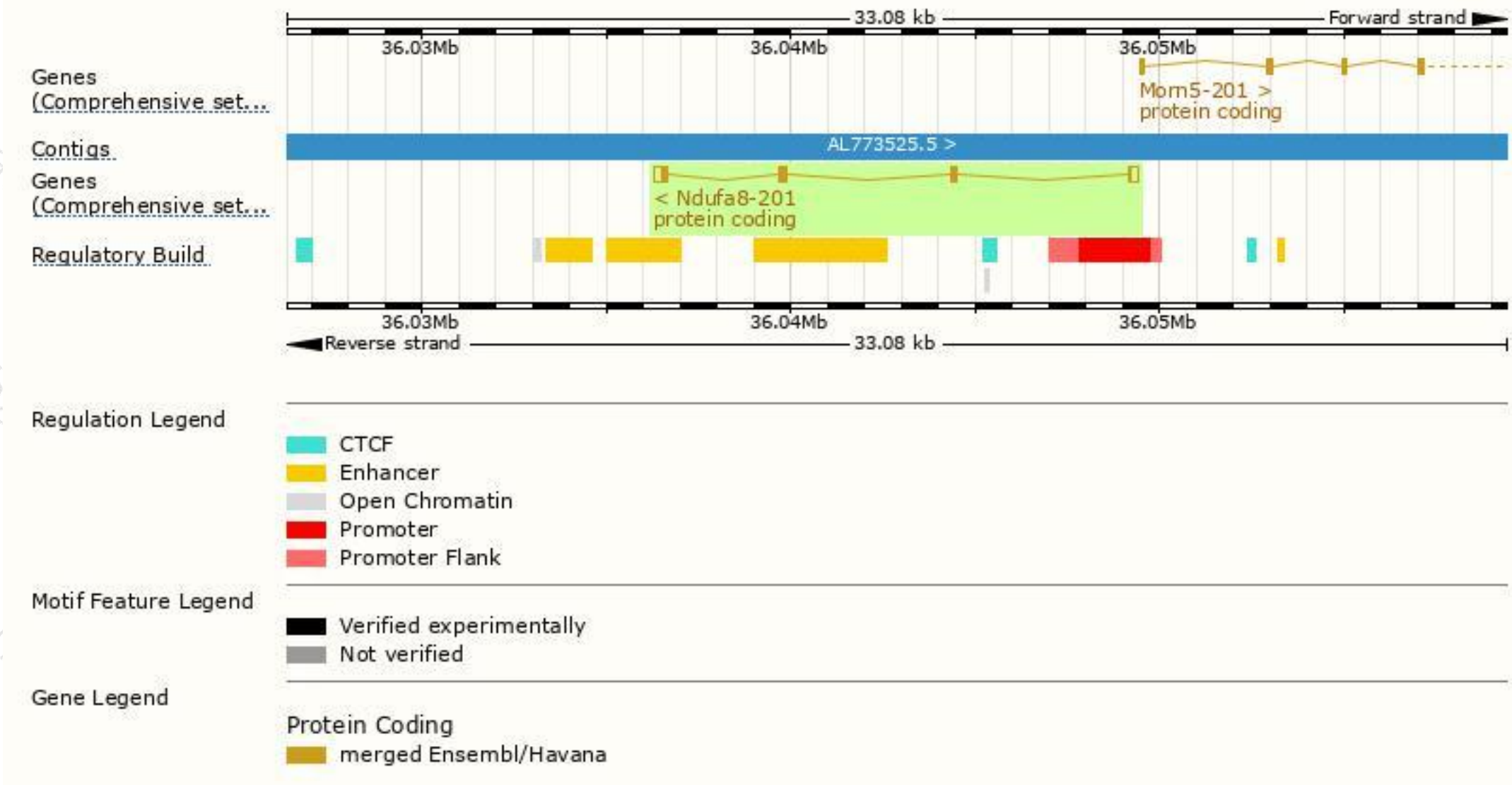
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ndufa8-201	ENSMUST00000070112.5	861	172aa	Protein coding	CCDS15967	Q9DCJ5	TSL:1 GENCODE basic APPRIS P1

The strategy is based on the design of *Ndufa8-201* 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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