

Myh2 Cas9-KO Strategy

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Project Overview

Project Name

Myh2

Project type

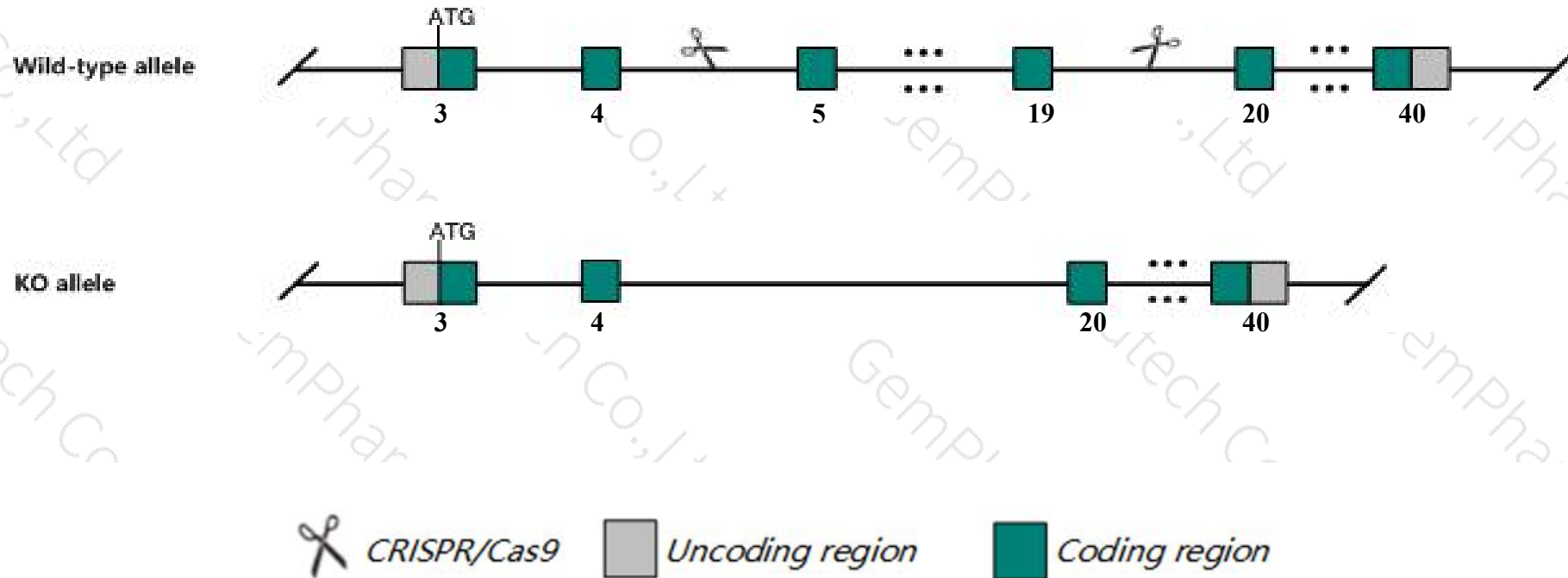
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Myh2* gene. The schematic diagram is as follows:



- The *Myh2* gene has 3 transcripts. According to the structure of *Myh2* gene, exon5-exon19 of *Myh2-203* (ENSMUST00000170159.7) transcript is recommended as the knockout region. The region contains 1835bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Myh2* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Myh2* gene is located on the Chr11. 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)

Myh2 myosin, heavy polypeptide 2, skeletal muscle, adult [Mus musculus (house mouse)]

Gene ID: 17882, updated on 19-Mar-2019

Summary



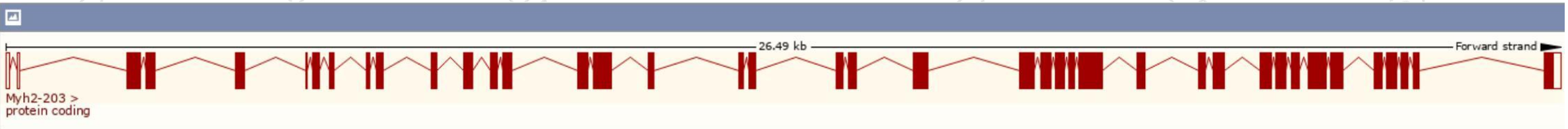
Official Symbol	Myh2 provided by MGI
Official Full Name	myosin, heavy polypeptide 2, skeletal muscle, adult provided by MGI
Primary source	MGI:MGI:1339710
See related	Ensembl:ENSMUSG000000033196
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	MHC2A, MyHC-IIa, Myh2a, Myhs-f, Myhs-f1, Myhsf1
Expression	Biased expression in mammary gland adult (RPKM 15.2), kidney adult (RPKM 2.7) and 3 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

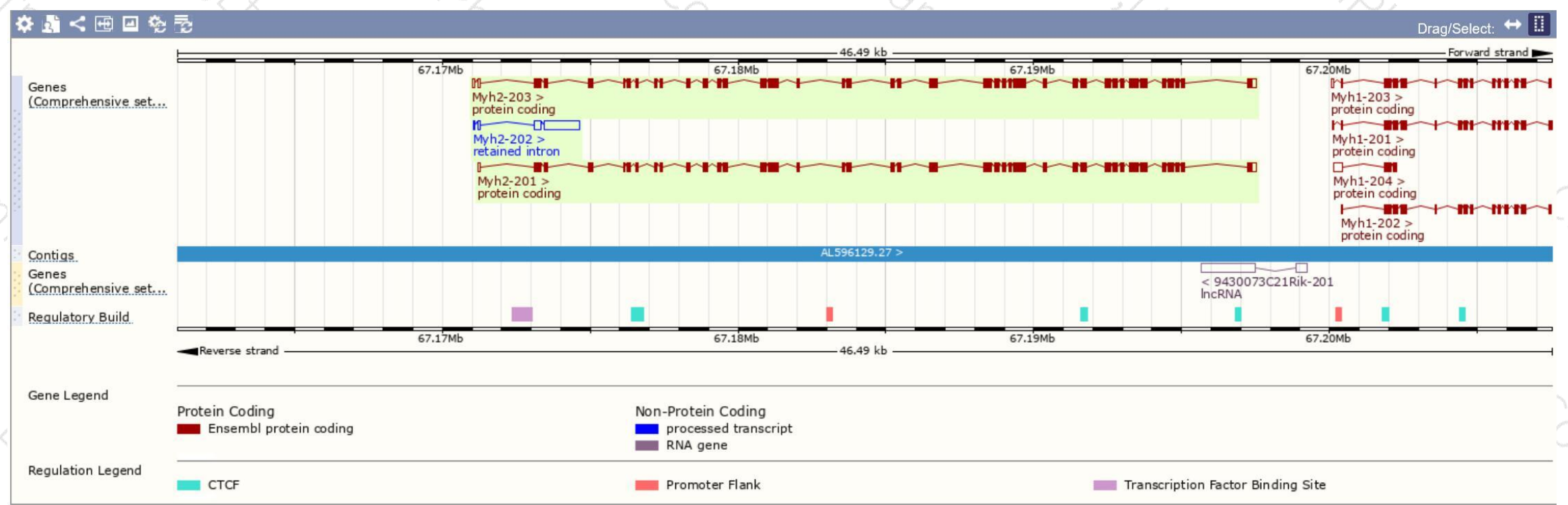
The gene has 3 transcripts,all transcripts are shown below:

Show/hide columns (1 hidden)							Filter	
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags	
Myh2-203	ENSMUST00000170159.7	6083	1942aa	Protein coding	CCDS24854	G3UW82	TSL:5	GENCODE basic APPRIS P1
Myh2-202	ENSMUST00000124337.7	1488	No protein	Retained intron	-	-	TSL:1	
Myh2-201	ENSMUST00000018641.7	6018	1942aa	Protein coding	CCDS24854	G3UW82	TSL:5	GENCODE basic APPRIS P1

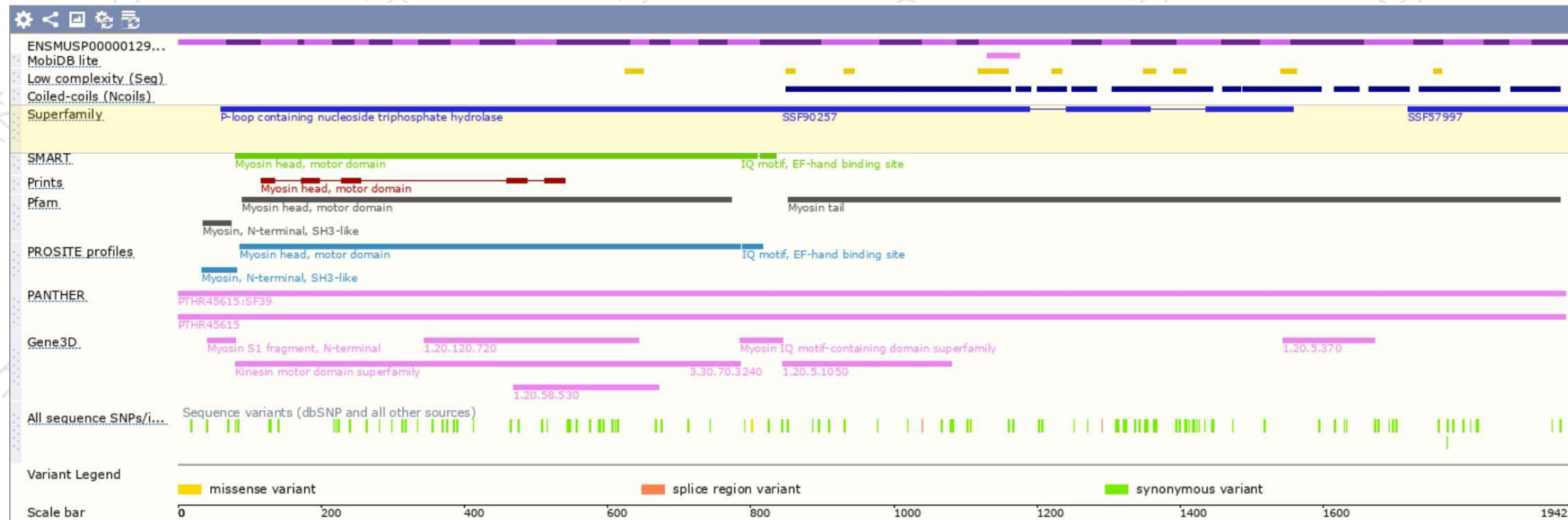
The strategy is based on the design of *Myh2-203* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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