

Myl9 Cas9-KO Strategy

Designer: Xiaojing Li

Reviewer: Jia Yu

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Project Overview

Project Name

Myl9

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Myl9* gene. The schematic diagram is as follows:



- The *Myl9* gene has 4 transcripts. According to the structure of *Myl9* gene, exon2-exon4 of *Myl9-201* (ENSMUST00000088552.6) 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 *Myl9* gene. The brief process is as follows: CRISPR/Cas9 system v

- The *Myl9* 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)

Myl9 myosin, light polypeptide 9, regulatory [*Mus musculus* (house mouse)]

Gene ID: 98932, updated on 26-Nov-2019

Summary

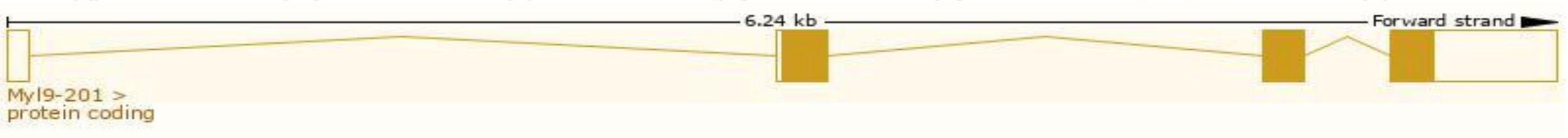
| | |
|--------------------|---|
| Official Symbol | Myl9 provided by MGI |
| Official Full Name | myosin, light polypeptide 9, regulatory provided by MGI |
| Primary source | MGI:MGI:2138915 |
| See related | Ensembl:ENSMUSG00000067818 |
| Gene type | protein coding |
| RefSeq status | PROVISIONAL |
| Organism | Mus musculus |
| Lineage | Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus |
| Also known as | MLC20; RLC-C; Mylc2c; AI327049 |
| Expression | Biased expression in bladder adult (RPKM 1647.7), colon adult (RPKM 313.1) and 8 other tissues See more |
| Orthologs | human all |

Transcript information (Ensembl)

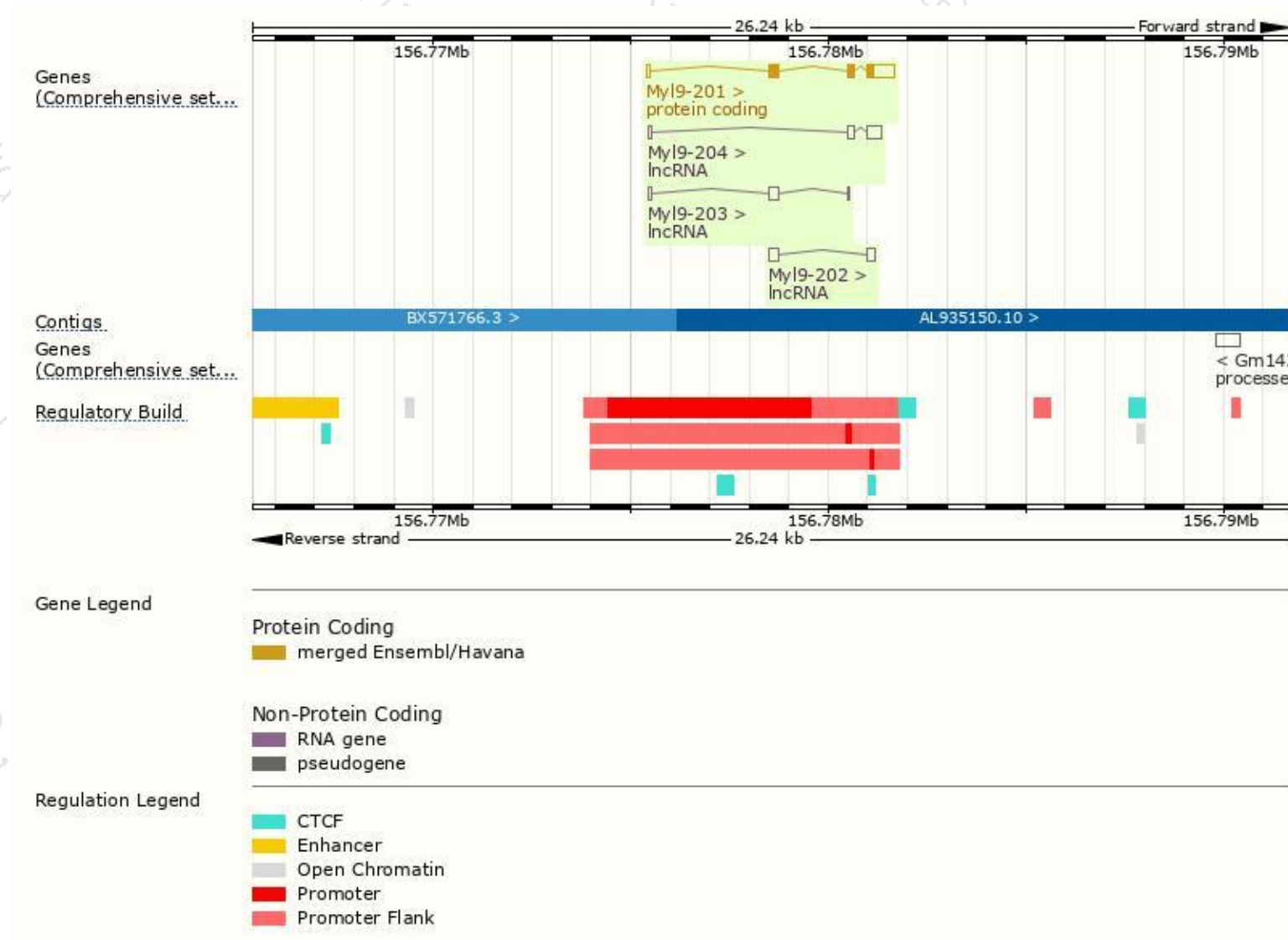
The gene has 4 transcripts,all transcripts are shown below:

| Name | Transcript ID | bp | Protein | Biotype | CCDS | UniProt | Flags |
|----------|--------------------------------------|------|-----------------------|----------------|---------------------------|------------------------|-------------------------------|
| MyI9-201 | ENSMUST00000088552.6 | 1128 | 172aa | Protein coding | CCDS50779 | Q9CQ19 | TSL:1 GENCODE basic APPRIS P1 |
| MyI9-204 | ENSMUST00000145299.1 | 619 | No protein | lncRNA | - | - | TSL:3 |
| MyI9-202 | ENSMUST00000131622.1 | 387 | No protein | lncRNA | - | - | TSL:5 |
| MyI9-203 | ENSMUST00000132985.1 | 345 | No protein | lncRNA | - | - | TSL:3 |

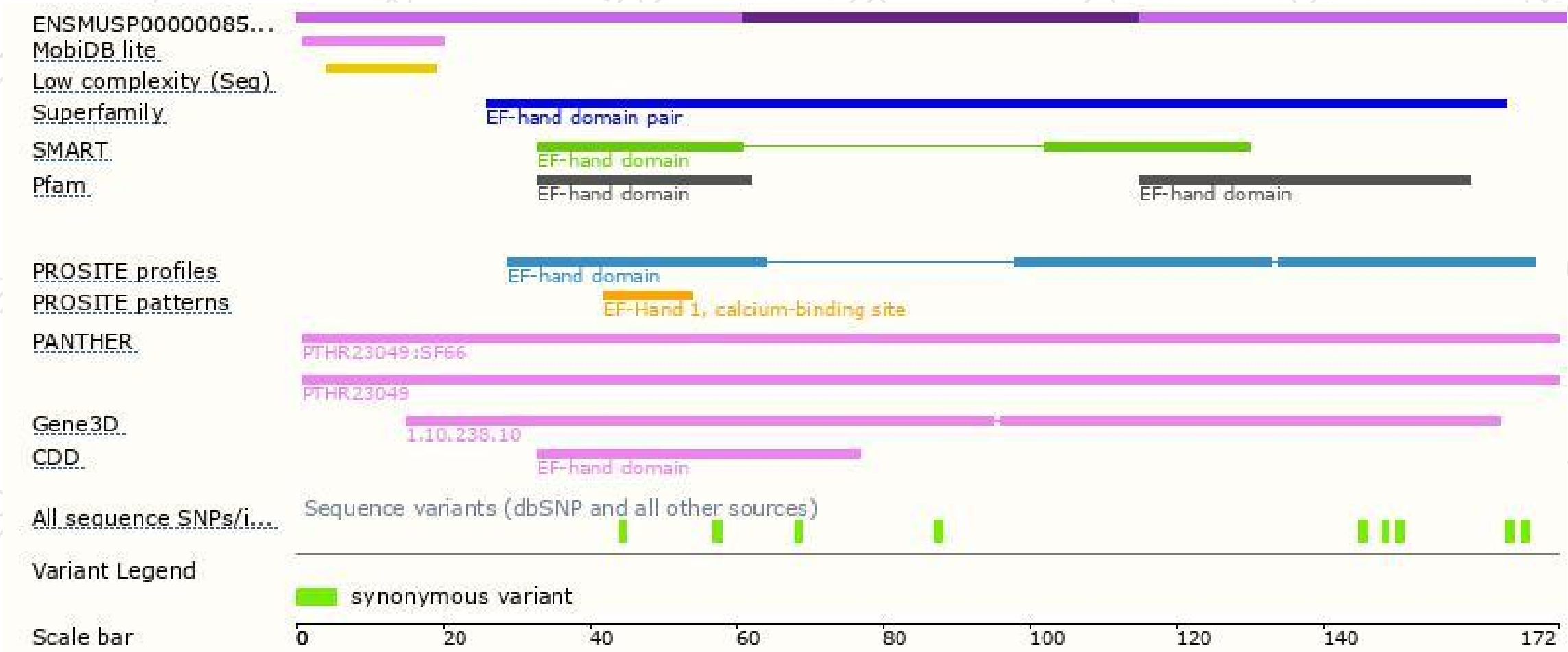
The strategy is based on the design of *MyI9-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

