Mybphl Cas9-KO Strategy

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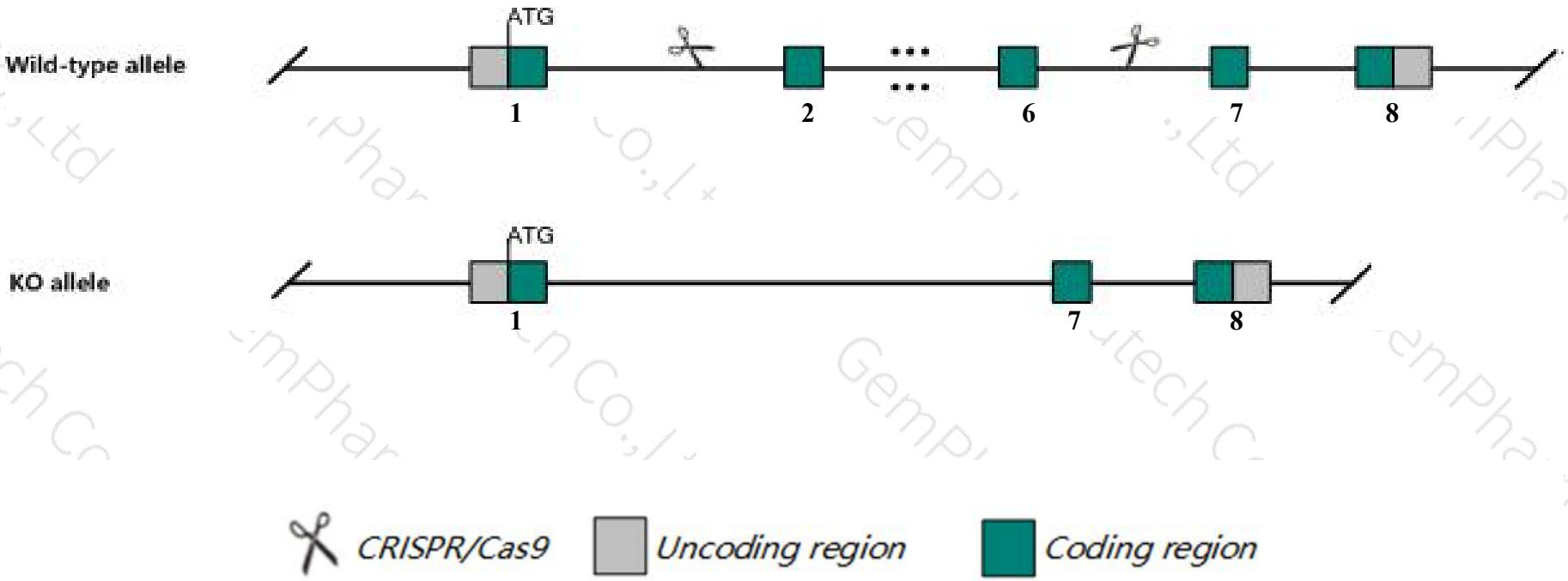
Project Overview

Project Name	***Mybphl***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

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



Technical routes

➢ The *Mybphl* gene has 1 transcript. According to the structure of *Mybphl* gene, exon2-exon6 of *Mybphl-201* (ENSMUST00000090563.6) transcript is recommended as the knockout region.The region contains 722bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Mybphl* gene. The brief process is as follows: CRISPR/Cas9 syster

Notice

➢Some amino acids will remain at the N-terminus and some functions may be retained.

➢The *Mybphl* gene is located on the Chr3. 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）

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Mybphl myosin binding protein H-like [*Mus musculus* (house mouse)]

Gene ID: 68753, updated on 12-Aug-2019

Summary

Official Symbol	Mybphl provided by MGI
Official Full Name	myosin binding protein H-like provided by MGI
Primary source	MGI:MGI:1916003
See related	Ensembl:ENSMUSG00000068745
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	1110037P11Rik
Expression	Restricted expression toward heart adult (RPKM 87.9) See more
Orthologs	human all

Genomic context

Location: 3; 3 F3

See Mybphl in Genome Data Viewer

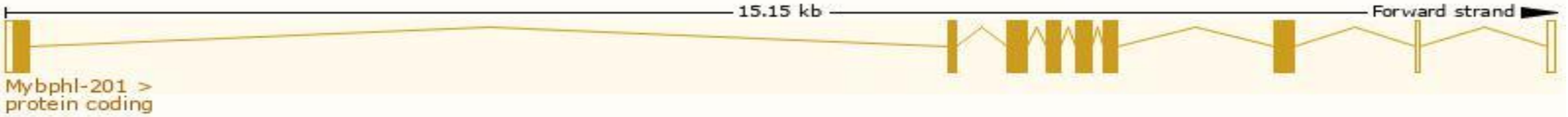
Exon count: 9

Transcript information（Ensembl）

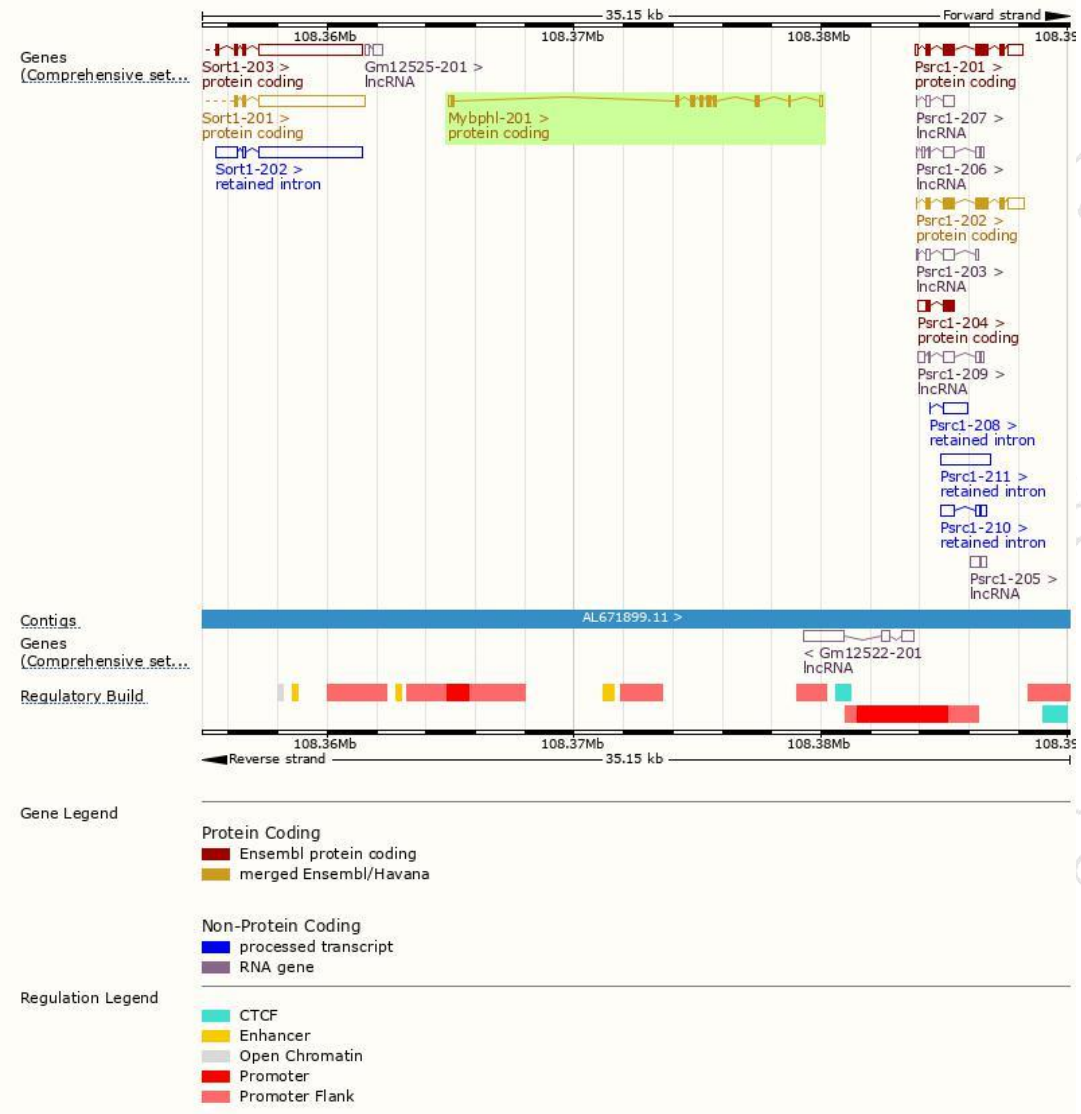
The gene has 1 transcript,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Mybphl-201	ENSMUST00000090563.6	1276	355aa	Protein coding	CCDS17757	Q5FW53	TSL:1 GENCODE basic APPRIS P1

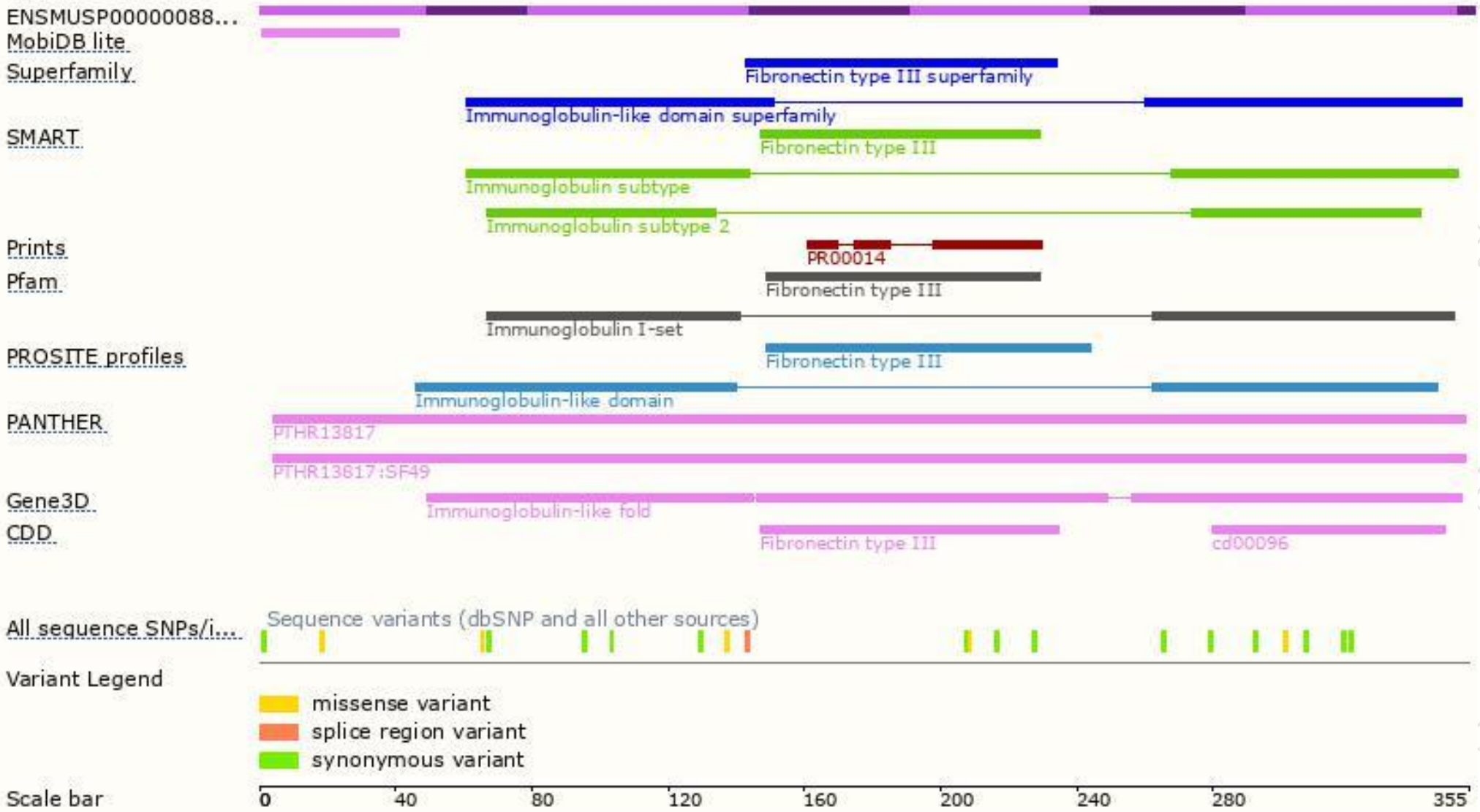
The strategy is based on the design of *Mybphl-201* transcript,The transcription is shown below



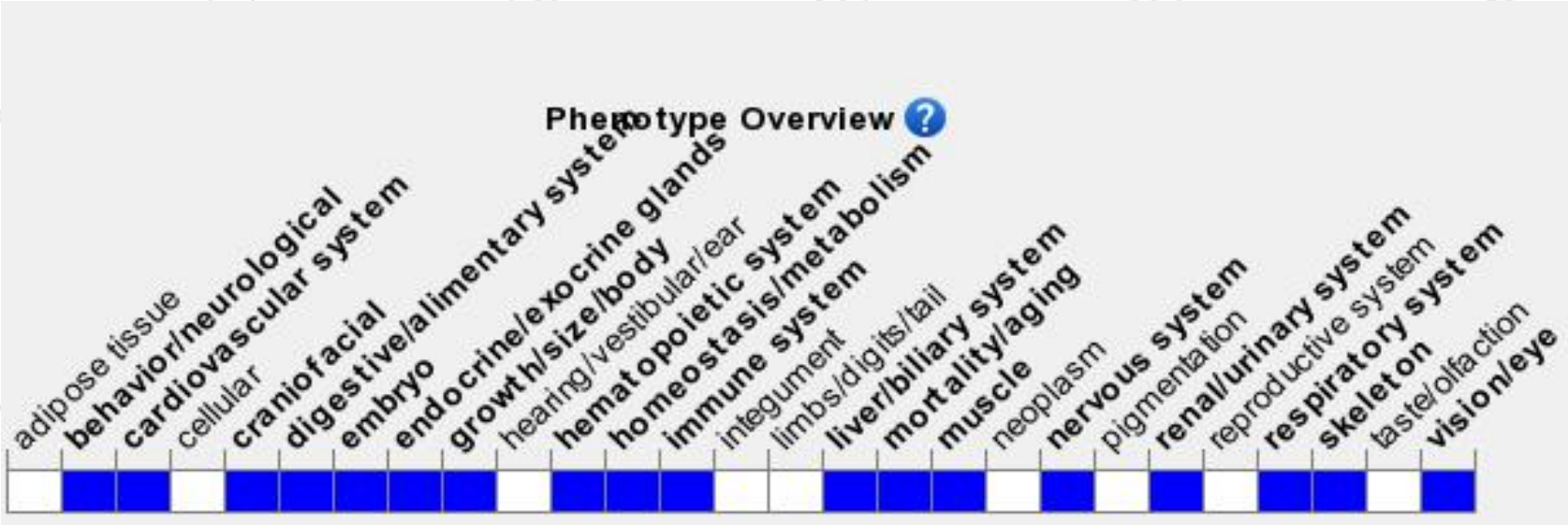
Genomic location distribution



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/).

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

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