

***Rbm10* Cas9-KO Strategy**

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Project Overview

Project Name

Rbm10

Project type

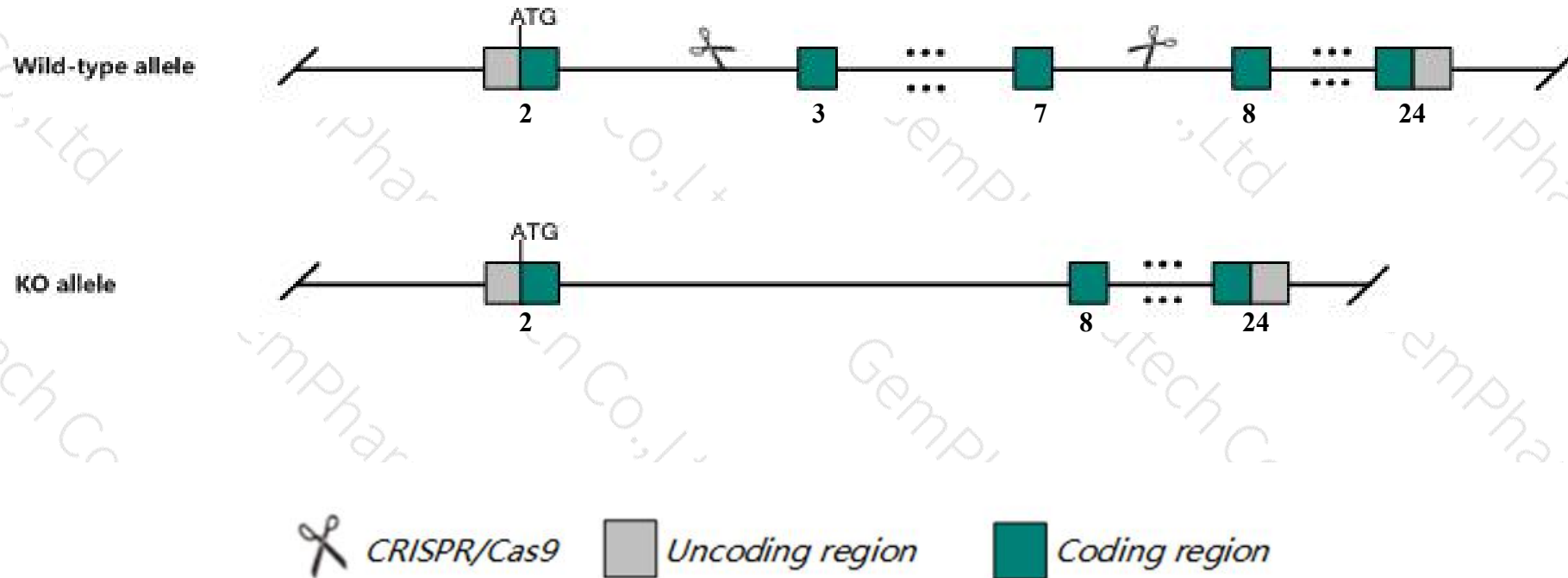
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rbm10* gene. The schematic diagram is as follows:



- The *Rbm10* gene has 7 transcripts. According to the structure of *Rbm10* gene, exon3-exon7 of *Rbm10-205* (ENSMUST00000115375.7) transcript is recommended as the knockout region. The region contains 646bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rbm10* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Male chimeras hemizygous for a gene trapped allele appear normal at E8.5.
- The *Rbm10* gene is located on the ChrX. 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)

Rbm10 RNA binding motif protein 10 [Mus musculus (house mouse)]

Gene ID: 236732, updated on 19-Feb-2019

Summary



Official Symbol	Rbm10 provided by MGI
Official Full Name	RNA binding motif protein 10 provided by MGI
Primary source	MGI:MGI:2384310
See related	Ensembl:ENSMUSG000000031060
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	E430039K10Rik
Expression	Ubiquitous expression in thymus adult (RPKM 28.1), ovary adult (RPKM 27.2) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

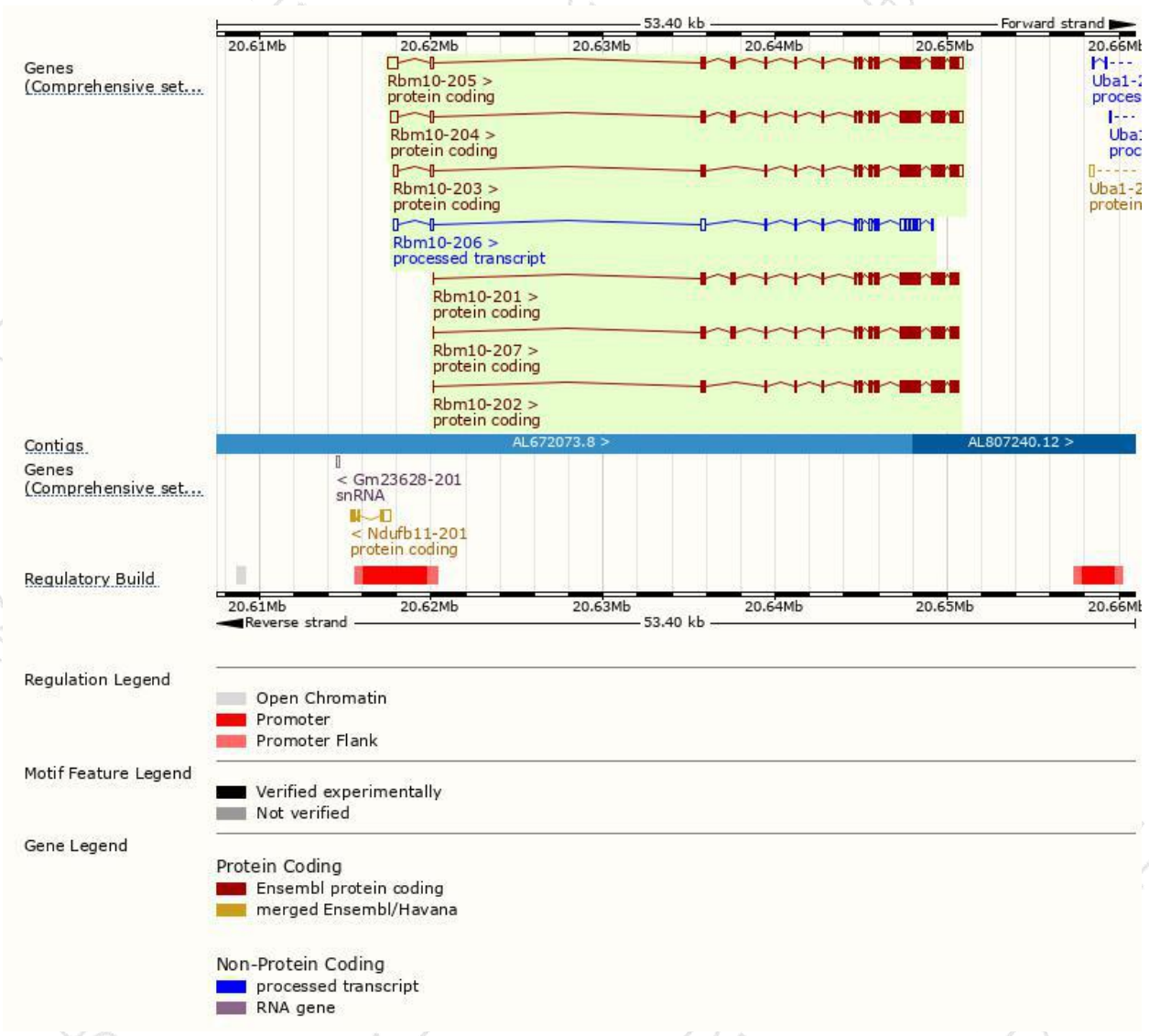
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rbm10-205	ENSMUST00000115375.7	3698	929aa	Protein coding	CCDS53013	Q99KG3	TSL:1 GENCODE basic APPRIS ALT 1
Rbm10-204	ENSMUST00000115374.7	3564	930aa	Protein coding	CCDS40885	Q99KG3	TSL:1 GENCODE basic APPRIS P3
Rbm10-203	ENSMUST00000084383.9	3172	853aa	Protein coding	CCDS53014	Q99KG3	TSL:1 GENCODE basic APPRIS ALT 1
Rbm10-201	ENSMUST00000064911.6	2793	930aa	Protein coding	CCDS40885	Q99KG3	TSL:1 GENCODE basic APPRIS P3
Rbm10-207	ENSMUST00000177738.7	2790	929aa	Protein coding	CCDS53013	Q99KG3	TSL:5 GENCODE basic APPRIS ALT 1
Rbm10-202	ENSMUST00000082089.13	2562	853aa	Protein coding	CCDS53014	Q99KG3	TSL:5 GENCODE basic APPRIS ALT 1
Rbm10-206	ENSMUST00000141128.1	2160	No protein	Processed transcript	-	-	TSL:1

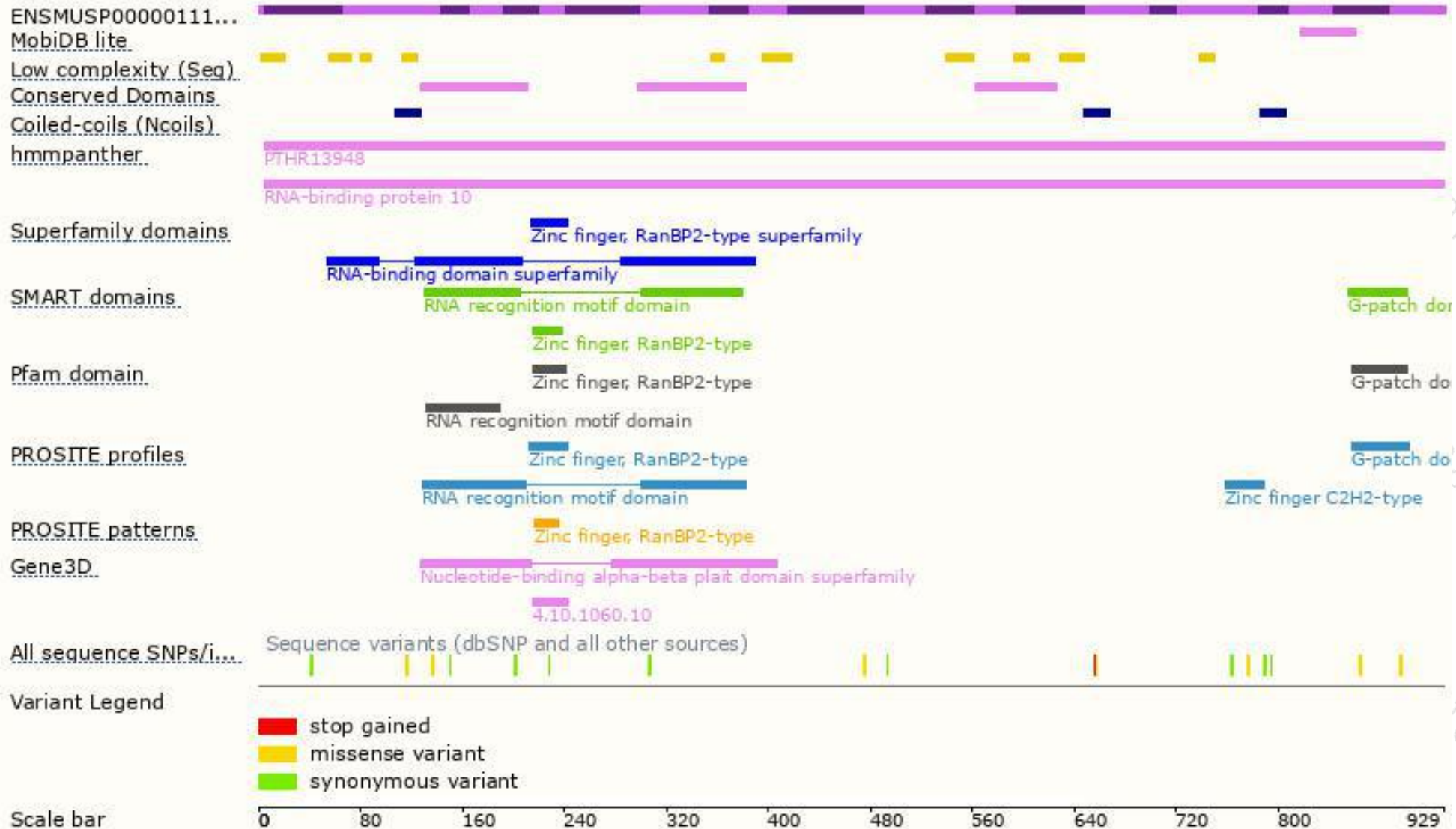
The strategy is based on the design of *Rbm10-205* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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