

***Rbm17* Cas9-KO Strategy**

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Project Overview

Project Name

Rbm17

Project type

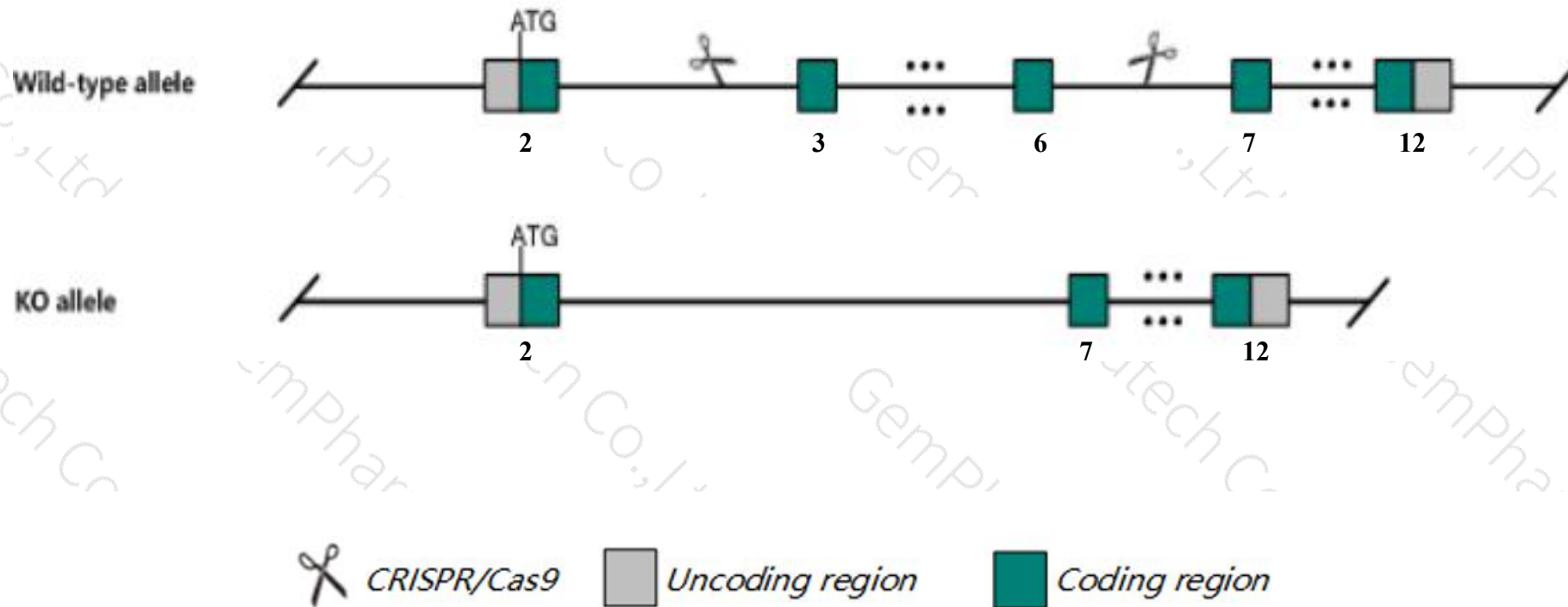
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rbm17* gene. The schematic diagram is as follows:



- The *Rbm17* gene has 6 transcripts. According to the structure of *Rbm17* gene, exon3-exon6 of *Rbm17*-201(ENSMUST00000040314.11) transcript is recommended as the knockout region. The region contains 439bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rbm17* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The *Rbm17* 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.
- The transcript of *Rbm17*-202&203&204&206 may not be affected.
- The effect on transcript *Rbm17*-205 is unknown.
- 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)

Rbm17 RNA binding motif protein 17 [Mus musculus (house mouse)]

Gene ID: 76938, updated on 13-Mar-2020

Summary



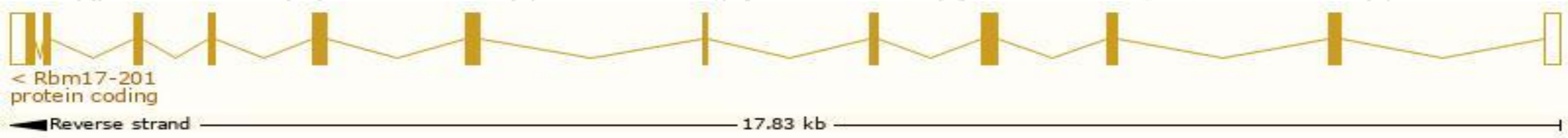
Official Symbol	Rbm17 provided by MGI
Official Full Name	RNA binding motif protein 17 provided by MGI
Primary source	MGI:MGI:1924188
See related	Ensembl:ENSMUSG00000037197
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2700027J02Rik
Expression	Broad expression in CNS E11.5 (RPKM 55.4), CNS E14 (RPKM 34.1) and 25 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

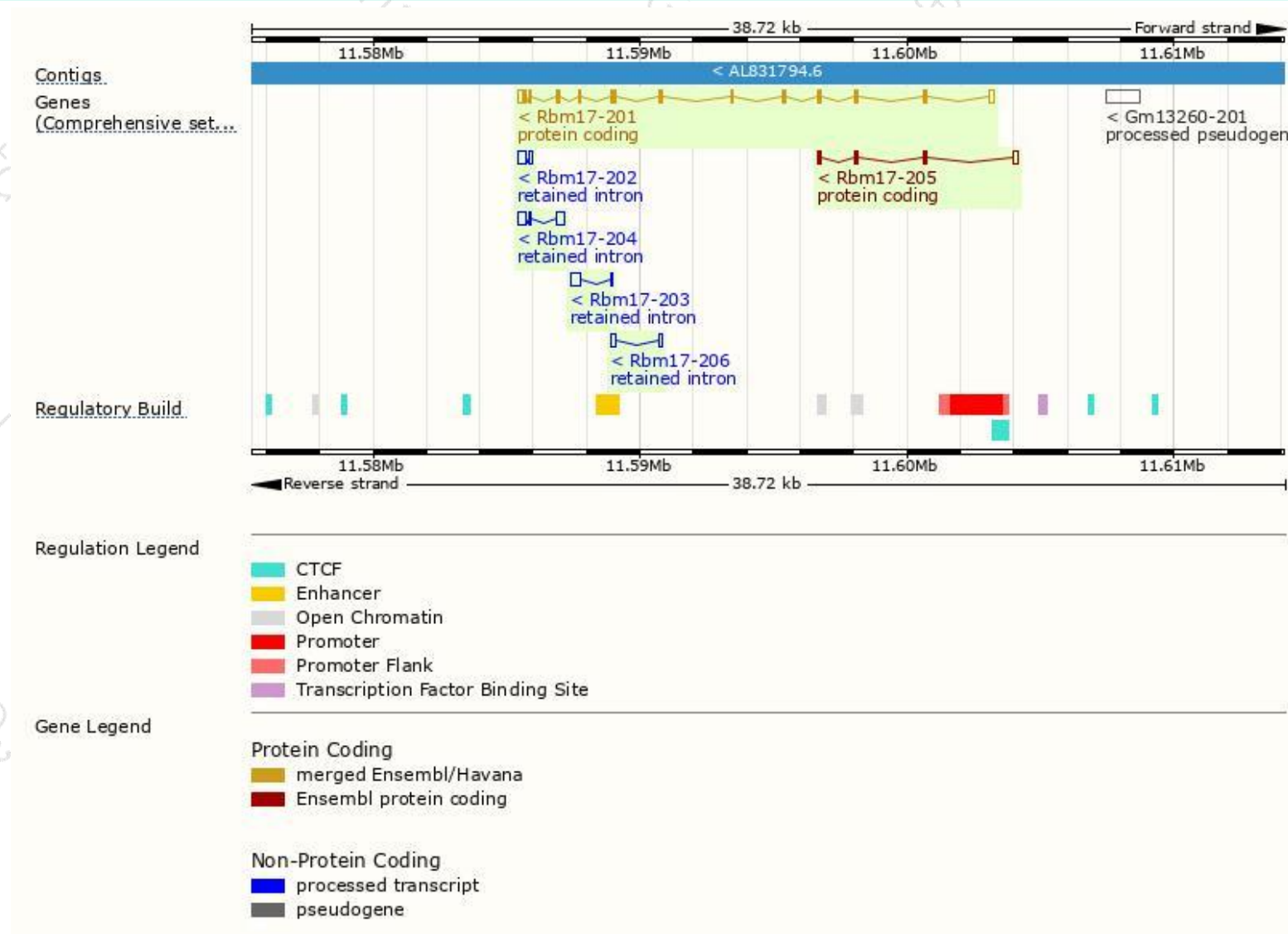
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rbm17-201	ENSMUST00000040314.11	1599	405aa	Protein coding	CCDS15684	Q8JZX4	TSL:1 GENCODE basic APPRIS P1
Rbm17-205	ENSMUST00000156469.1	517	118aa	Protein coding	-	A2AP40	CDS 3' incomplete TSL:3
Rbm17-204	ENSMUST00000150369.1	663	No protein	Retained intron	-	-	TSL:2
Rbm17-203	ENSMUST00000131036.2	458	No protein	Retained intron	-	-	TSL:3
Rbm17-202	ENSMUST00000125808.1	447	No protein	Retained intron	-	-	TSL:2
Rbm17-206	ENSMUST00000195047.1	347	No protein	Retained intron	-	-	TSL:1

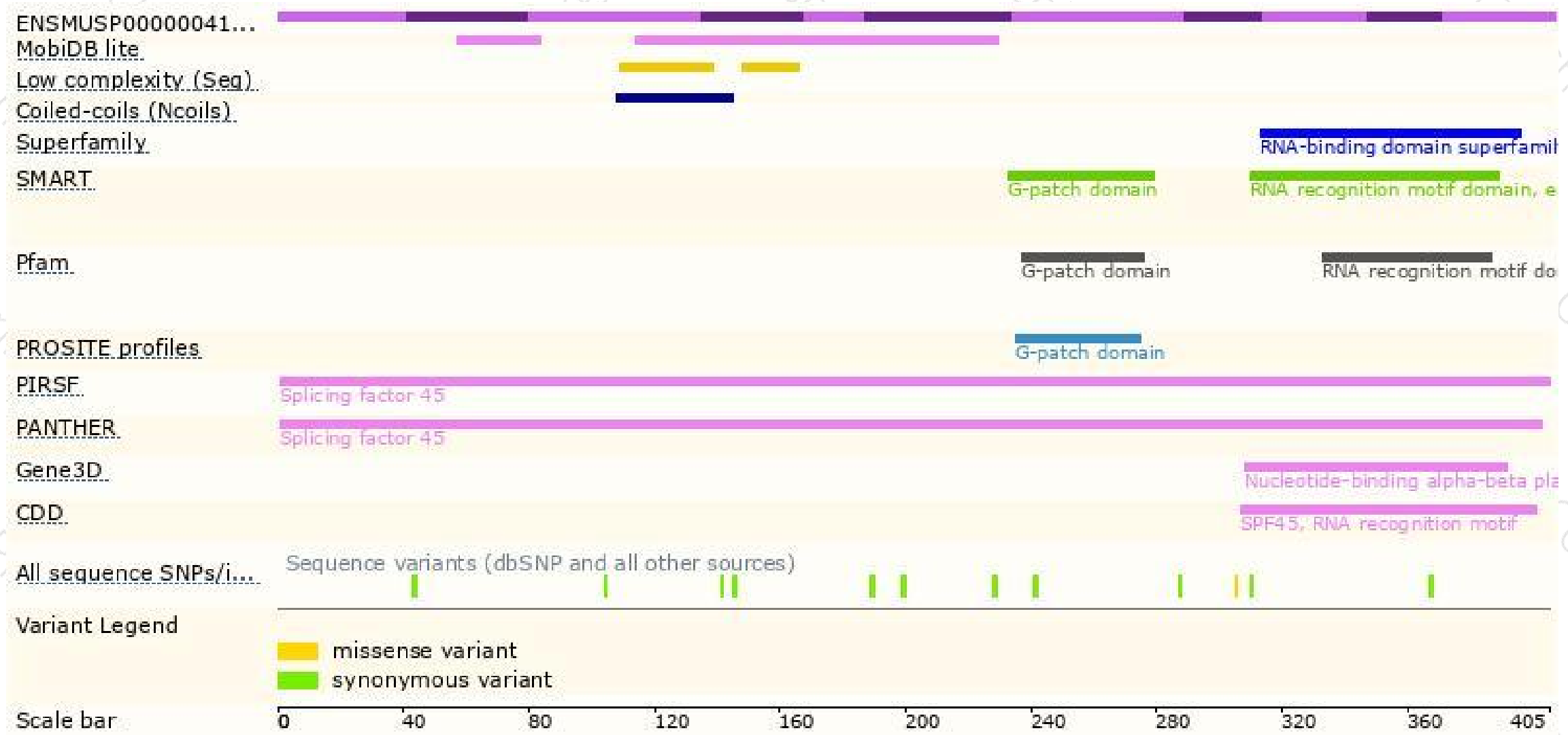
The strategy is based on the design of *Rbm17-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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