

Rbpjl Cas9-KO Strategy

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Project Overview

Project Name

Rbpjl

Project type

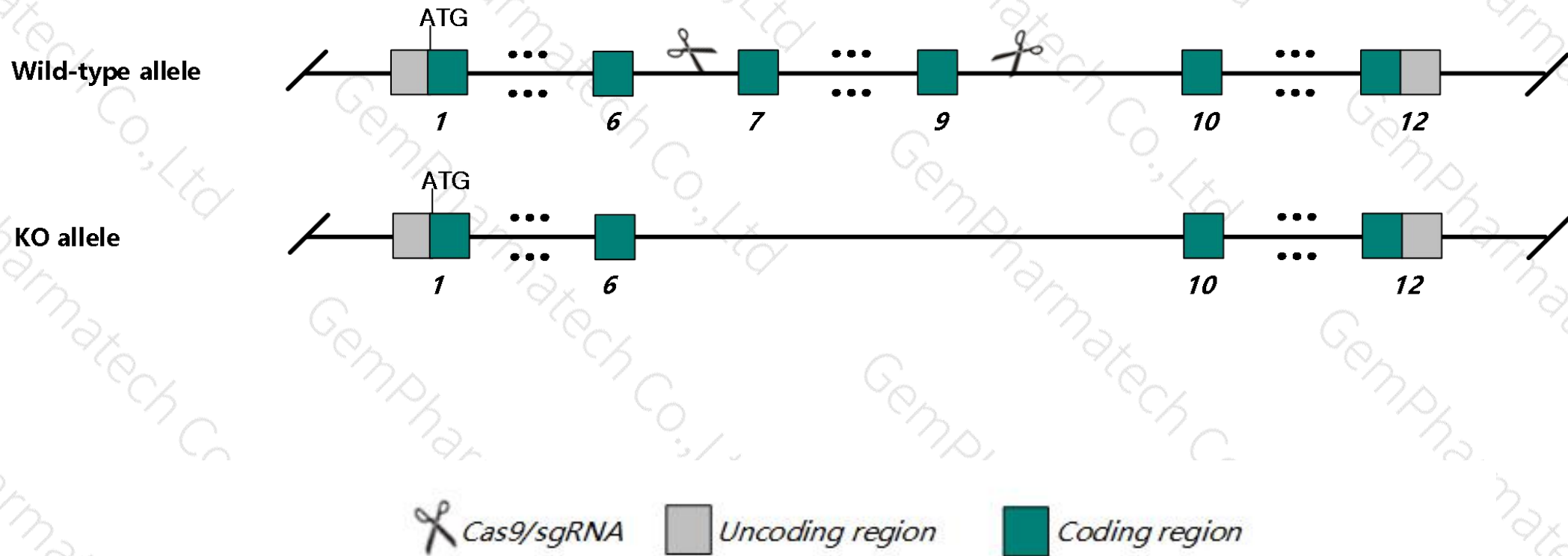
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Rbpjl* gene has 3 transcripts. According to the structure of *Rbpjl* gene, exon7-exon9 of *Rbpjl*-201 (ENSMUST00000017151.1) transcript is recommended as the knockout region. The region contains 401bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rbpjl* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for disruptions in this gene do not display any obvious phenotype abnormalities.
- Some amino acids will remain at the N-terminus and some functions may be retained.
- The *Rbpjl* 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)

Rbpjl recombination signal binding protein for immunoglobulin kappa J region-like [*Mus musculus* (house mouse)]

Gene ID: 19668, updated on 13-Mar-2020

Summary

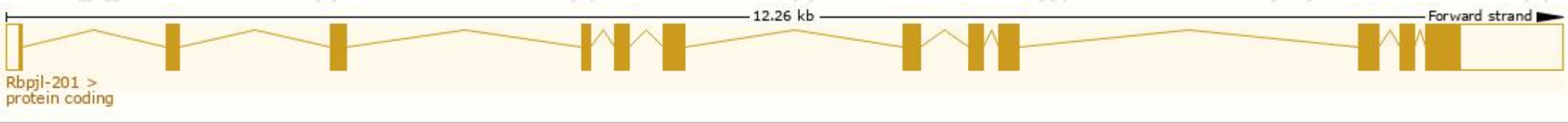
Official Symbol	Rbpjl provided by MGI
Official Full Name	recombination signal binding protein for immunoglobulin kappa J region-like provided by MGI
Primary source	MGI:MGI:1196616
See related	Ensembl:ENSMUSG00000017007
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	RBP-L; Rbpsuhl
Expression	Biased expression in lung adult (RPKM 40.4), small intestine adult (RPKM 29.8) and 5 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

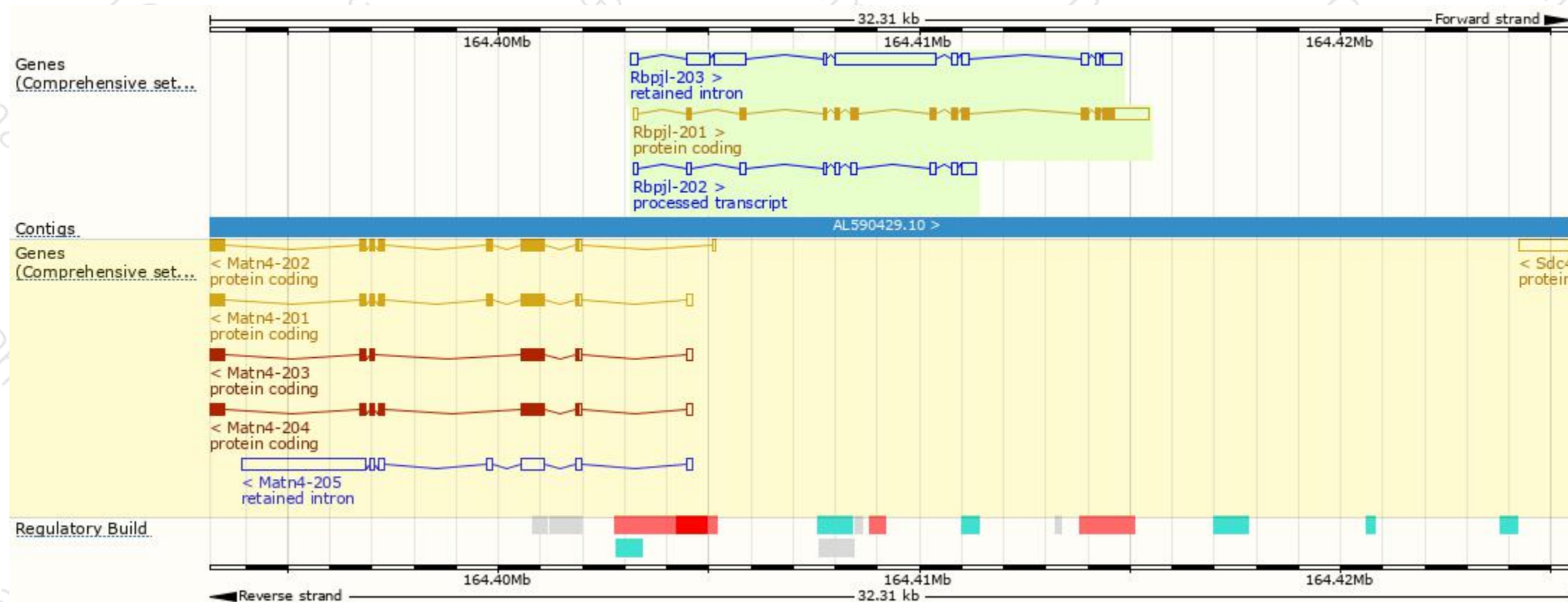
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rbpjl-201	ENSMUST00000017151.1	2456	515aa	Protein coding	CCDS17035	O08674 Q3V2I2	TSL:1 GENCODE basic APPRIS P1
Rbpjl-202	ENSMUST00000109356.1	1220	No protein	Processed transcript	-	-	TSL:1
Rbpjl-203	ENSMUST00000137427.7	4908	No protein	Retained intron	-	-	TSL:1

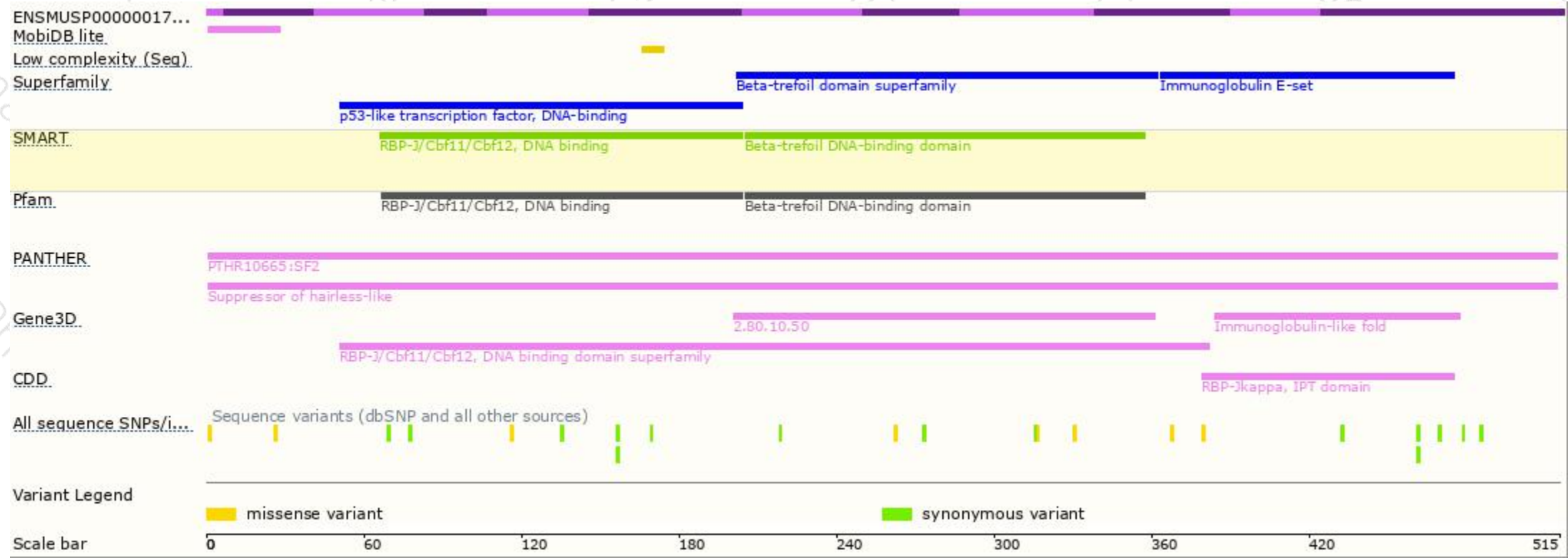
The strategy is based on the design of *Rbpjl-201* transcript,The transcription is shown below



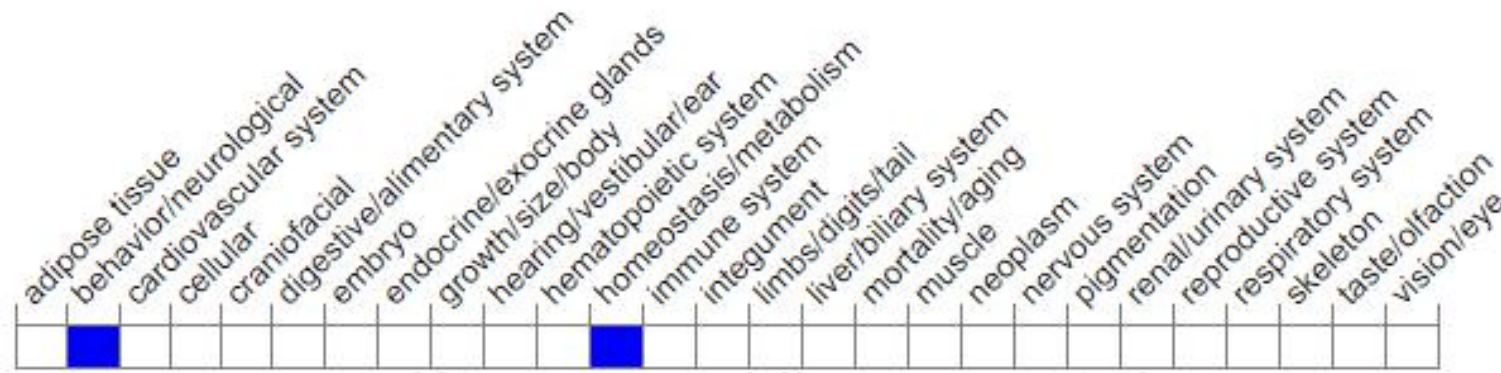
Genomic location distribution



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/>).

According to the existing MGI data, Mice homozygous for disruptions in this gene do not display any obvious phenotype abnormalities.

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

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