

Rnps1 Cas9-KO Strategy

Designer:

Daohua Xu

Reviewer:

Huimin Su

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Project Overview

Project Name

Rnps1

Project type

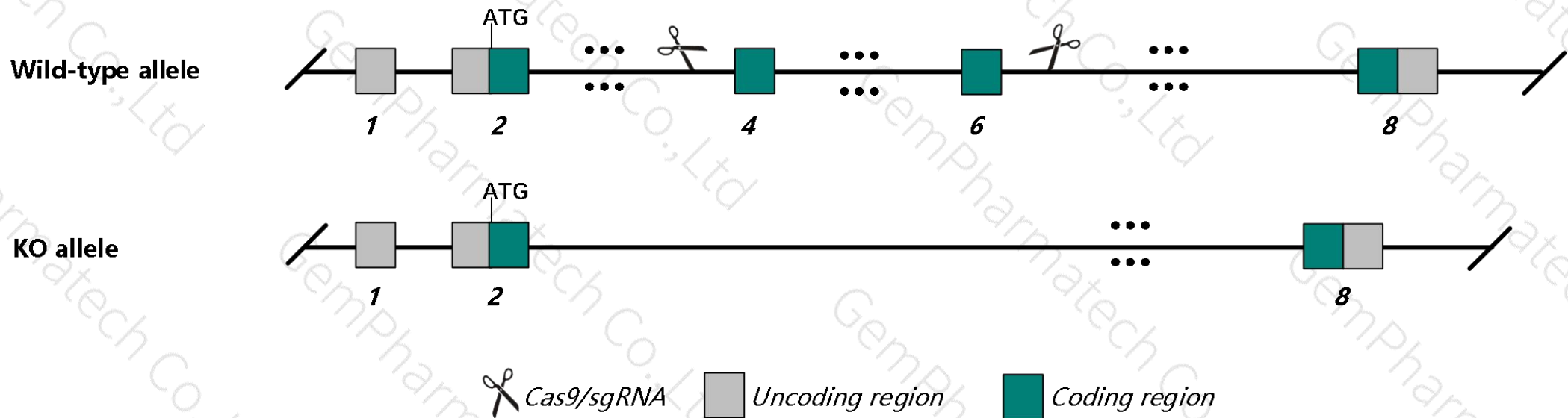
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rnps1* gene. The schematic diagram is as follows:



- The *Rnps1* gene has 11 transcripts. According to the structure of *Rnps1* gene, exon4-exon6 of *Rnps1-201* (ENSMUST00000088512.12) transcript is recommended as the knockout region. The region contains 449bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rnps1* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Rnps1* gene is located on the Chr17. 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)

Rnps1 ribonucleic acid binding protein S1 [Mus musculus (house mouse)]

Gene ID: 19826, updated on 12-Mar-2019

Summary



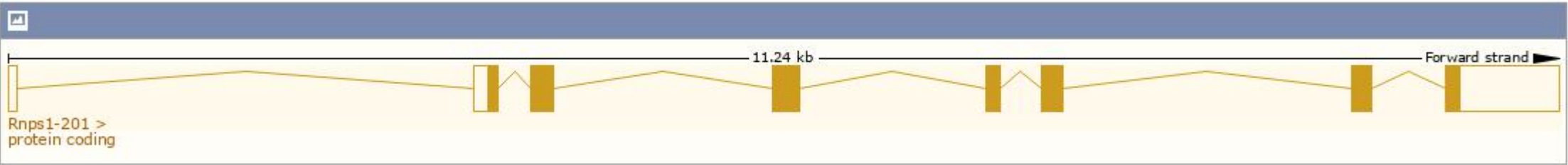
Official Symbol	Rnps1 provided by MGI
Official Full Name	ribonucleic acid binding protein S1 provided by MGI
Primary source	MGI:MGI:97960
See related	Ensembl:ENSMUSG000000034681
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Expression	Ubiquitous expression in CNS E11.5 (RPKM 88.5), CNS E14 (RPKM 86.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

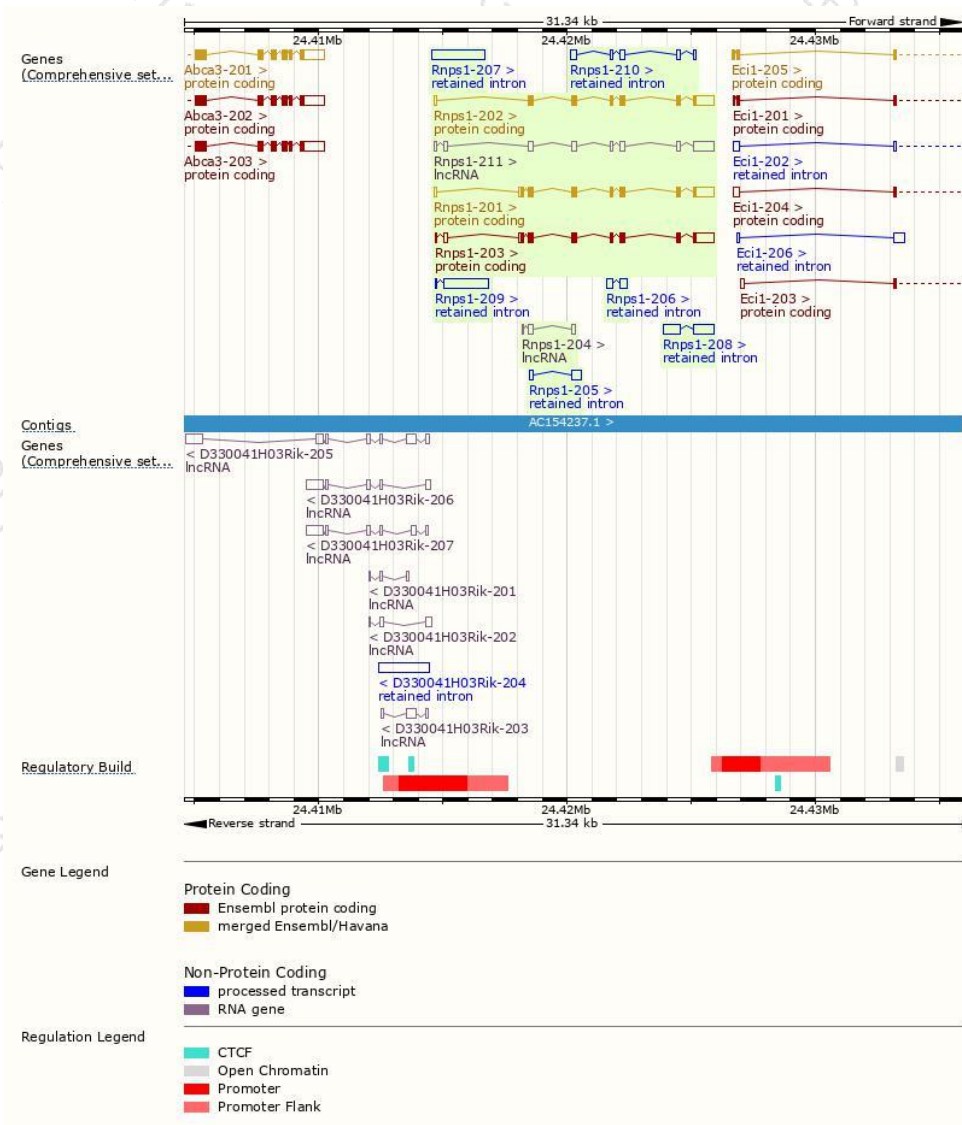
The gene has 11 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rnps1-203	ENSMUST00000163717.1	1920	305aa	Protein coding	CCDS37488	Q99M28	TSL:5 GENCODE basic APPRIS P4
Rnps1-201	ENSMUST00000088512.12	1816	305aa	Protein coding	CCDS37488	Q99M28	TSL:1 GENCODE basic APPRIS P4
Rnps1-202	ENSMUST00000115371.8	1646	282aa	Protein coding	CCDS37487	Q99M28	TSL:1 GENCODE basic APPRIS ALT 1
Rnps1-207	ENSMUST00000234342.1	2106	No protein	Retained intron	-	-	
Rnps1-209	ENSMUST00000234729.1	1839	No protein	Retained intron	-	-	
Rnps1-208	ENSMUST00000234630.1	1486	No protein	Retained intron	-	-	
Rnps1-210	ENSMUST00000234832.1	777	No protein	Retained intron	-	-	
Rnps1-206	ENSMUST00000234233.1	548	No protein	Retained intron	-	-	
Rnps1-205	ENSMUST00000234154.1	501	No protein	Retained intron	-	-	
Rnps1-211	ENSMUST00000234977.1	1769	No protein	lncRNA	-	-	
Rnps1-204	ENSMUST00000234089.1	341	No protein	lncRNA	-	-	

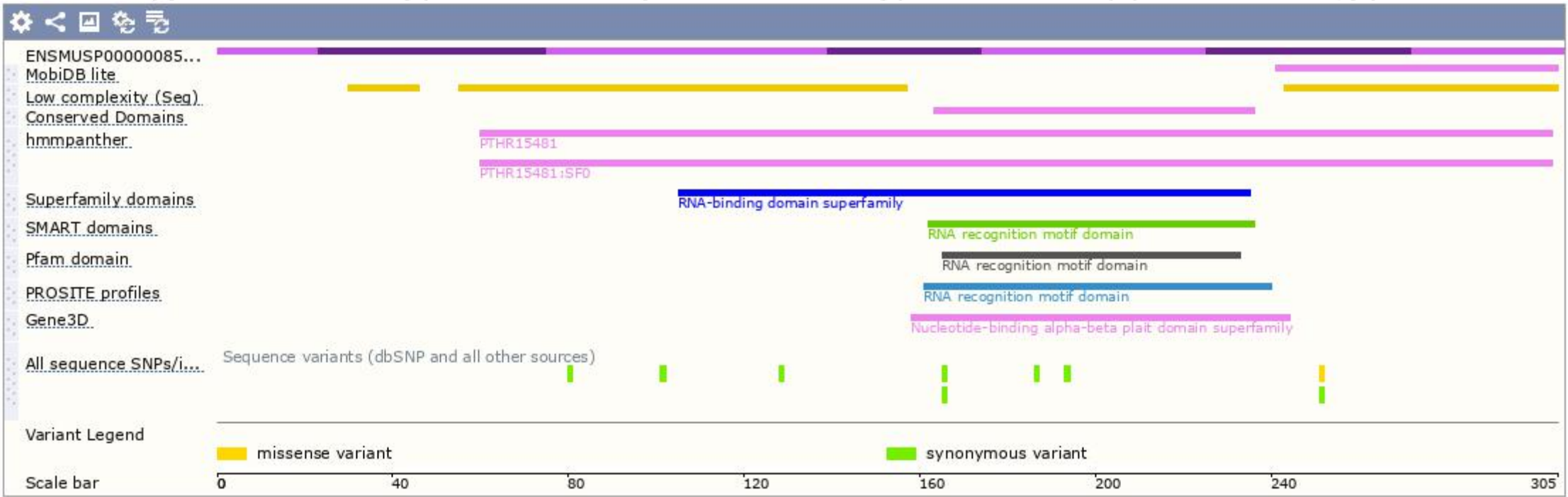
The strategy is based on the design of *Rnps1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

