

***Snrpb2* Cas9-KO Strategy**

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Project Overview

Project Name

Snrpb2

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Snrpb2* gene. The schematic diagram is as follows:



- The *Snrpb2* gene has 5 transcripts. According to the structure of *Snrpb2* gene, exon2-exon7 of *Snrpb2-201* (ENSMUST00000008477.12) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Snrpb2* gene. The brief process is as follows: CRISPR/Cas9 system

- The knockout region is near to the N-terminal of *Otor* gene, this strategy may influence the regulatory function of the N-terminal of *Otor* gene.
- The *Snrpb2* 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)

Snrpb2 U2 small nuclear ribonucleoprotein B [*Mus musculus* (house mouse)]

Gene ID: 20639, updated on 10-Oct-2019

Summary

Official Symbol	Snrpb2 provided by MGI
Official Full Name	U2 small nuclear ribonucleoprotein B provided by MGI
Primary source	MGI:MGI:104805
See related	Ensembl:ENSMUSG00000008333
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	2810052G09Rik
Expression	Broad expression in CNS E11.5 (RPKM 38.4), CNS E14 (RPKM 22.6) and 19 other tissues See more
Orthologs	human all

Genomic context

Location: 2; 2 G1

See Snrpb2 in [Genome Data Viewer](#)

Exon count: 7

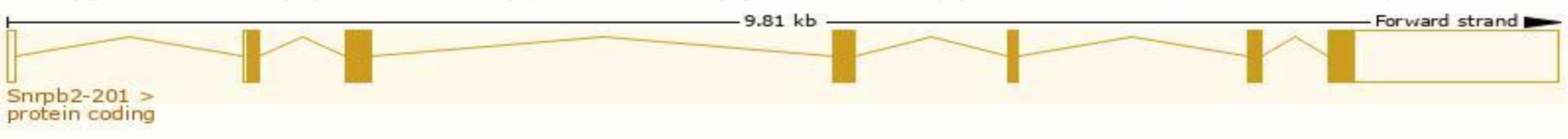
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	2	NC_000068.7 (143063069..143072052)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	2	NC_000068.6 (142888805..142897788)

Transcript information (Ensembl)

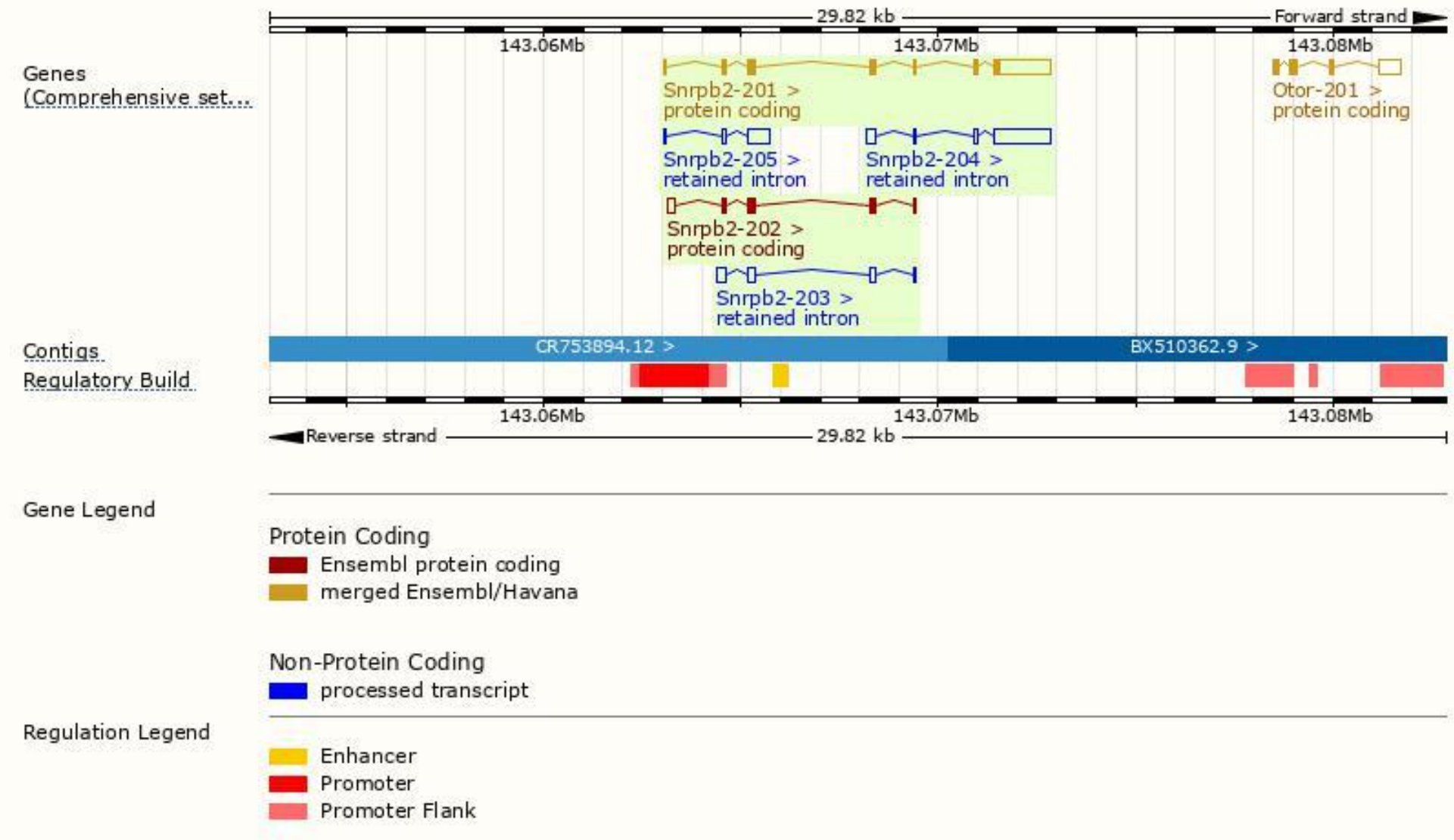
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Snrpb2-201	ENSMUST00000008477.12	2061	225aa	Protein coding	CCDS16808	Q9CQI7	TSL:1 GENCODE basic APPRIS P1
Snrpb2-202	ENSMUST00000126763.2	636	143aa	Protein coding	-	A2CES4	CDS 3' incomplete TSL:3
Snrpb2-204	ENSMUST00000134091.1	1827	No protein	Retained intron	-	-	TSL:1
Snrpb2-205	ENSMUST00000139114.1	686	No protein	Retained intron	-	-	TSL:2
Snrpb2-203	ENSMUST00000127760.7	594	No protein	Retained intron	-	-	TSL:2

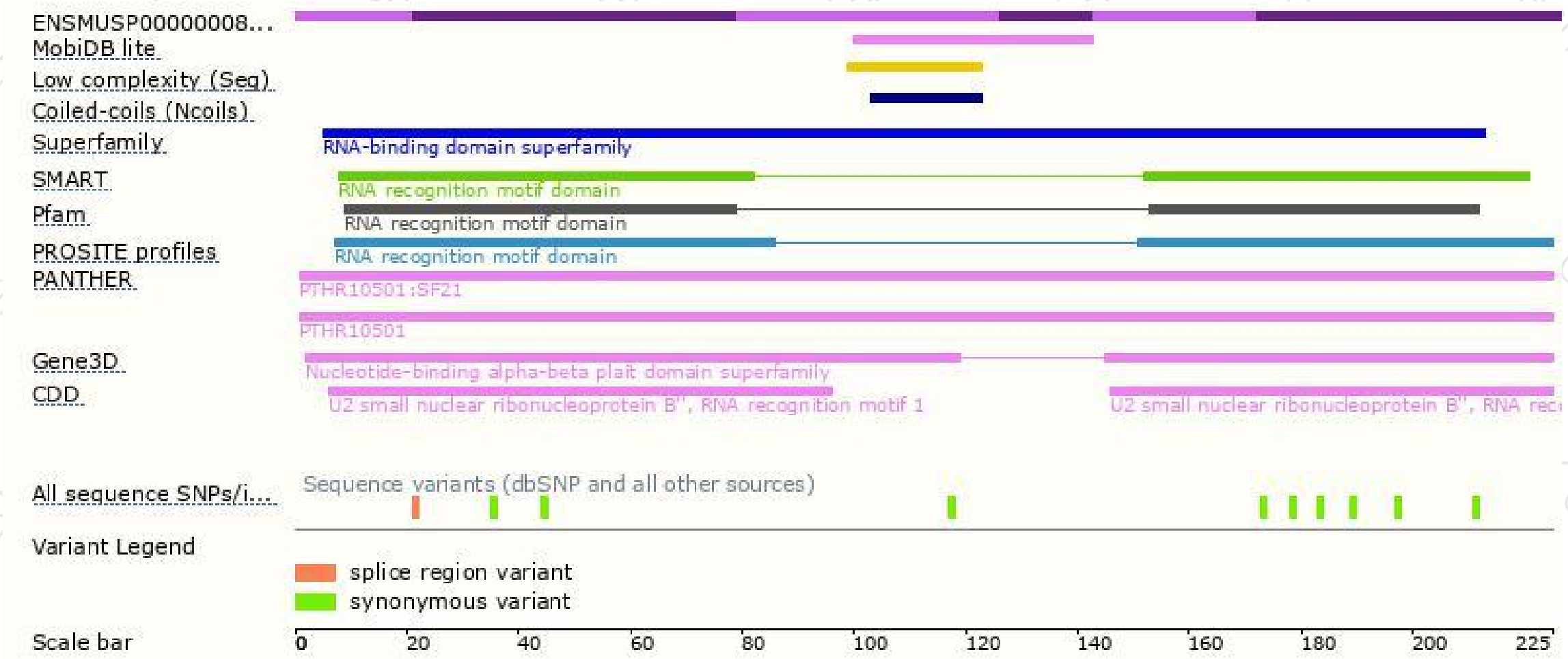
The strategy is based on the design of *Snrpb2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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