

Hnrnpm Cas9-CKO Strategy

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Date: 2019/11/11

Project Overview

Project Name

Hnrnpm

Project type

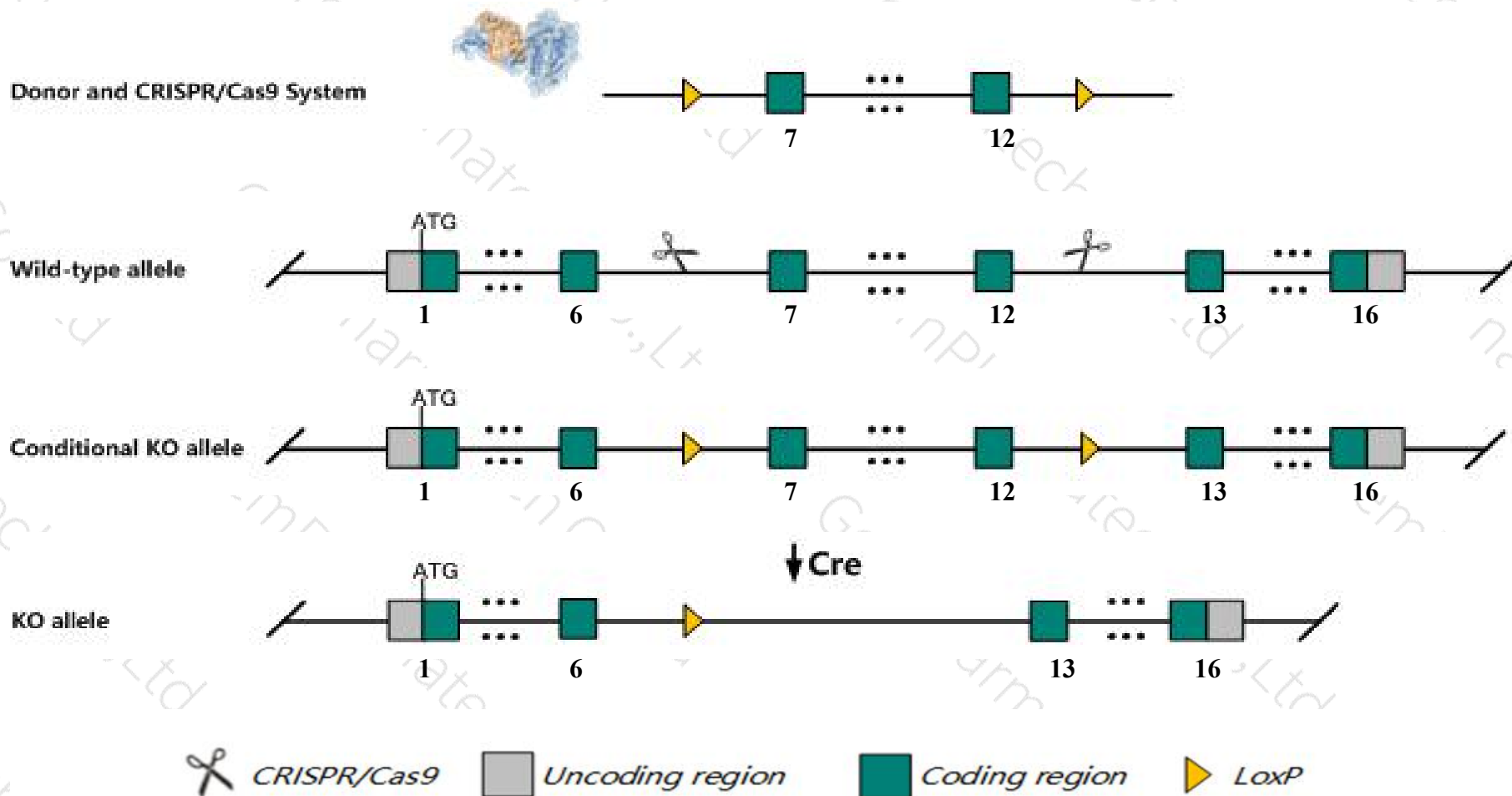
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



- The *Hnrnp* gene has 15 transcripts. According to the structure of *Hnrnp* gene, exon7-exon12 of *Hnrnp*-206 (ENSMUST00000148178.7) transcript is recommended as the knockout region. The region contains 490bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Hnrnp* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Hnrnpm* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Hnrnpm heterogeneous nuclear ribonucleoprotein M [Mus musculus (house mouse)]

Gene ID: 76936, updated on 31-Jan-2019

Summary



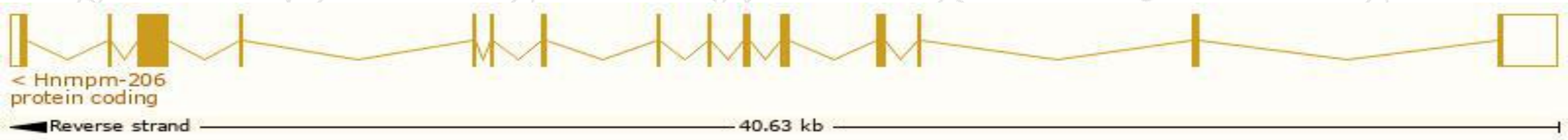
Official Symbol	Hnrnpm provided by MGI
Official Full Name	heterogeneous nuclear ribonucleoprotein M provided by MGI
Primary source	MGI:MGI:1926465
See related	Ensembl:ENSMUSG00000059208
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2610023M21Rik, AA409009, Hnrpm, mKIAA4193
Expression	Ubiquitous expression in CNS E11.5 (RPKM 154.1), liver E14 (RPKM 82.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

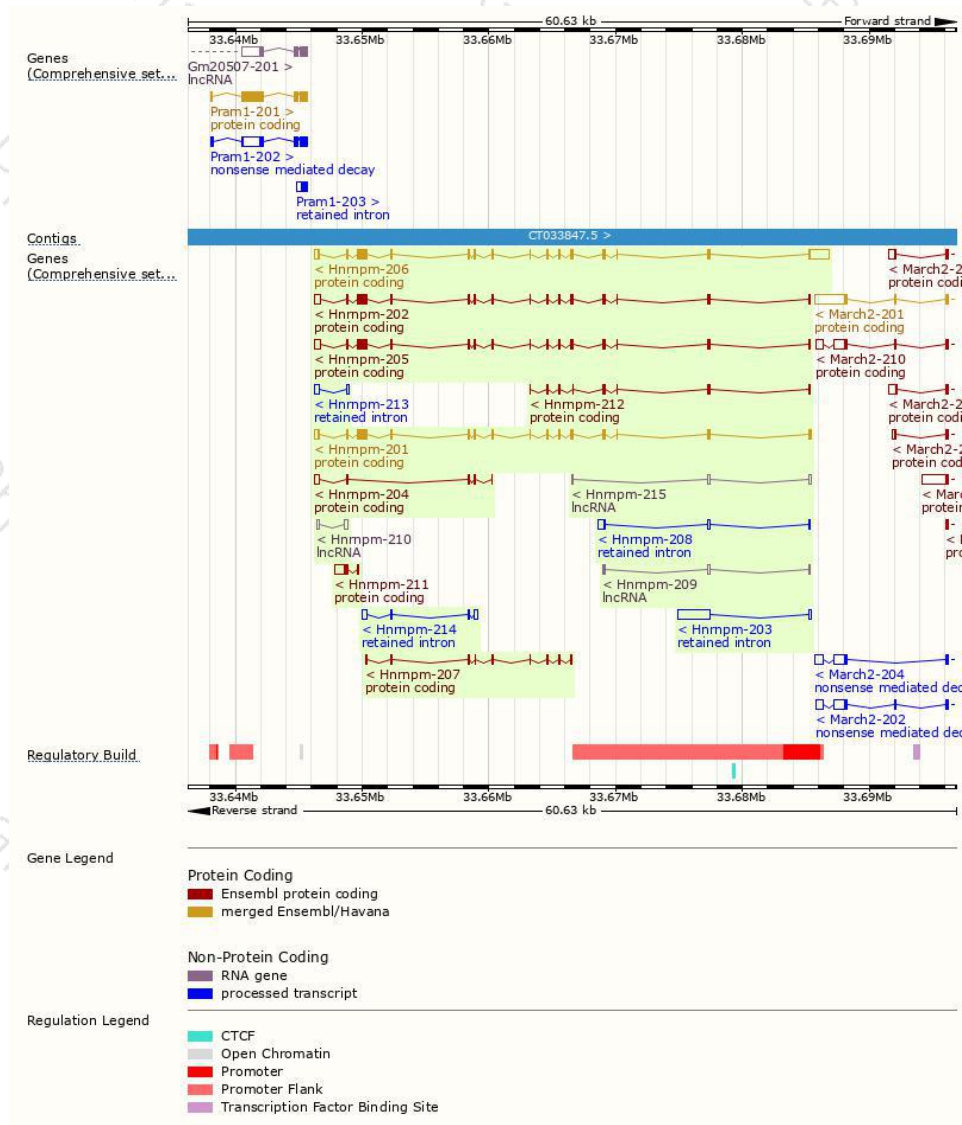
The gene has 15 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Hnrnmp-206	ENSMUST00000148178.7	3934	729aa	Protein coding	CCDS37570	Q9D0E1	TSL:1 GENCODE basic APPRIS P3
Hnrnmp-201	ENSMUST00000087582.12	2370	690aa	Protein coding	CCDS50068	Q3THB3 Q9D0E1	TSL:1 GENCODE basic APPRIS ALT2
Hnrnmp-202	ENSMUST00000114385.8	2550	679aa	Protein coding	-	B8JK32	TSL:2 GENCODE basic
Hnrnmp-205	ENSMUST00000139302.7	2428	640aa	Protein coding	-	B8JK33	TSL:1 GENCODE basic
Hnrnmp-211	ENSMUST00000234297.1	1130	123aa	Protein coding	-	-	CDS 5' incomplete
Hnrnmp-207	ENSMUST00000148258.1	729	243aa	Protein coding	-	F6W322	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:3
Hnrnmp-212	ENSMUST00000234474.1	711	237aa	Protein coding	-	-	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete
Hnrnmp-204	ENSMUST00000130946.7	634	57aa	Protein coding	-	F7C9U3	CDS 5' incomplete TSL:3
Hnrnmp-203	ENSMUST00000127598.2	2626	No protein	Retained intron	-	-	TSL:1
Hnrnmp-214	ENSMUST00000234960.1	761	No protein	Retained intron	-	-	
Hnrnmp-208	ENSMUST00000153608.1	735	No protein	Retained intron	-	-	TSL:2
Hnrnmp-213	ENSMUST00000234893.1	591	No protein	Retained intron	-	-	
Hnrnmp-215	ENSMUST00000235089.1	401	No protein	lncRNA	-	-	
Hnrnmp-210	ENSMUST00000234099.1	391	No protein	lncRNA	-	-	
Hnrnmp-209	ENSMUST00000234043.1	380	No protein	lncRNA	-	-	

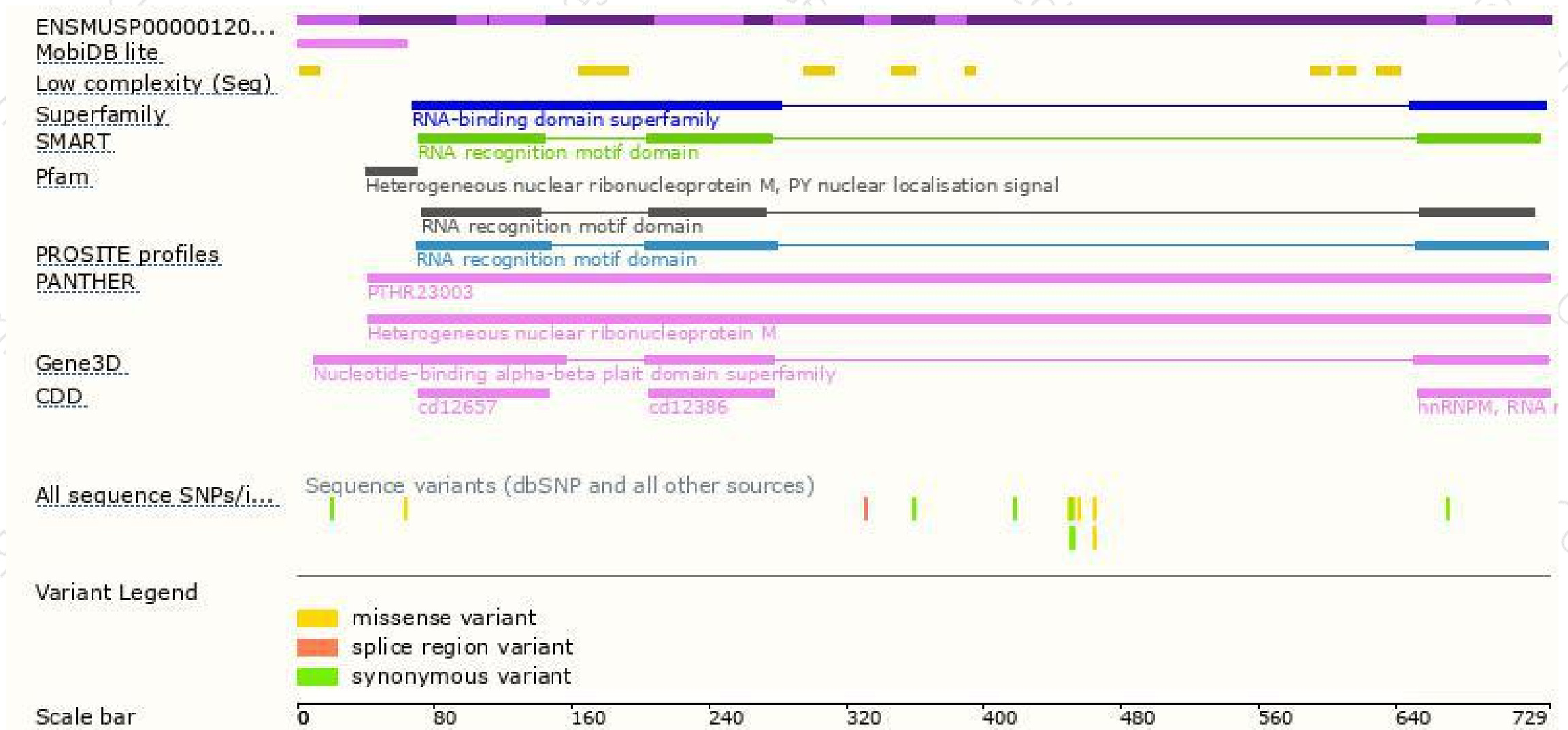
The strategy is based on the design of *Hnrnmp-206* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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