

Hnrnpf Cas9-KO Strategy

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Project Overview

Project Name

Hnrnpf

Project type

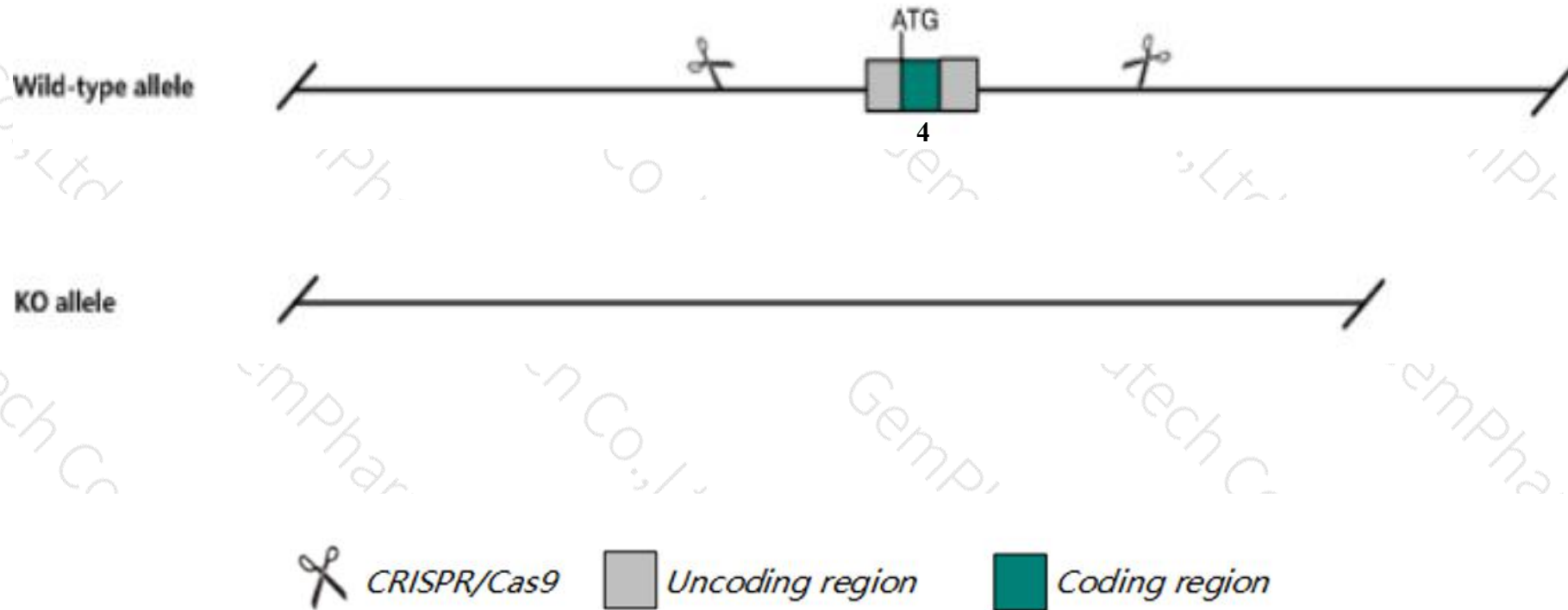
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Hnrnpf* gene has 10 transcripts. According to the structure of *Hnrnpf* gene, exon4 of *Hnrnpf*-201(ENSMUST00000035493.13) 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 *Hnrnpf* 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 *Hnrnpf* gene is located on the Chr6. 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)

Hnrnpf heterogeneous nuclear ribonucleoprotein F [Mus musculus (house mouse)]

Gene ID: 98758, updated on 13-Mar-2020

Summary



Official Symbol	Hnrnpf provided by MGI
Official Full Name	heterogeneous nuclear ribonucleoprotein F provided by MGI
Primary source	MGI:MGI:2138741
See related	Ensembl:ENSMUSG00000042079
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	4833420I20Rik, AA407306, Hnrpf
Expression	Ubiquitous expression in liver E14 (RPKM 143.4), liver E14.5 (RPKM 122.6) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

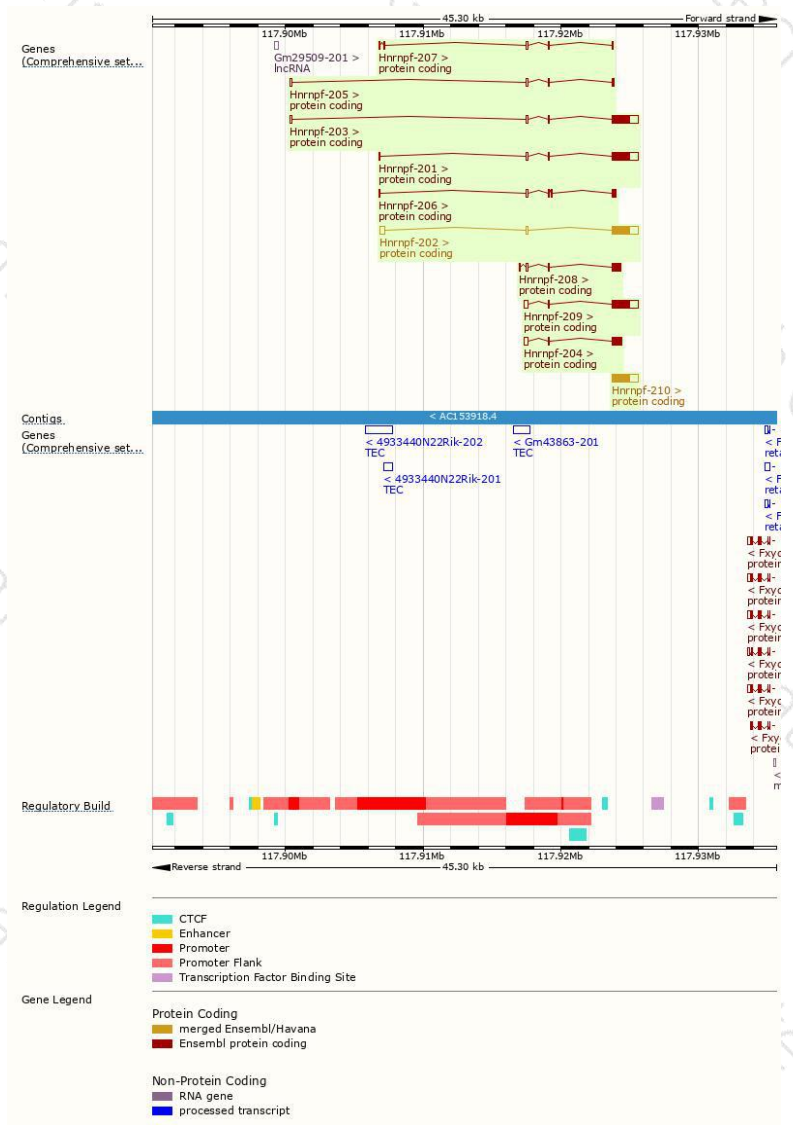
The gene has 10 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Hnrnpf-202	ENSMUST00000163168.8	2401	415aa	Protein coding	CCDS20467	Q9Z2X1	TSL:1 GENCODE basic APPRIS P1
Hnrnpf-209	ENSMUST00000180020.7	2280	415aa	Protein coding	CCDS20467	Q9Z2X1	TSL:1 GENCODE basic APPRIS P1
Hnrnpf-203	ENSMUST00000167182.7	2271	415aa	Protein coding	CCDS20467	Q9Z2X1	TSL:3 GENCODE basic APPRIS P1
Hnrnpf-201	ENSMUST00000035493.13	2147	415aa	Protein coding	CCDS20467	Q9Z2X1	TSL:1 GENCODE basic APPRIS P1
Hnrnpf-210	ENSMUST00000180341.1	1922	415aa	Protein coding	CCDS20467	Q9Z2X1	TSL:NA GENCODE basic APPRIS P1
Hnrnpf-204	ENSMUST00000177570.1	1104	232aa	Protein coding	-	J3QM80	CDS 3' incomplete TSL:1
Hnrnpf-208	ENSMUST00000179478.7	956	208aa	Protein coding	-	J3QMT0	CDS 3' incomplete TSL:2
Hnrnpf-206	ENSMUST00000177918.7	538	70aa	Protein coding	-	J3QP45	CDS 3' incomplete TSL:5
Hnrnpf-205	ENSMUST00000177743.7	515	31aa	Protein coding	-	J3QMV8	CDS 3' incomplete TSL:3
Hnrnpf-207	ENSMUST00000179224.7	391	14aa	Protein coding	-	J3QNH2	CDS 3' incomplete TSL:2

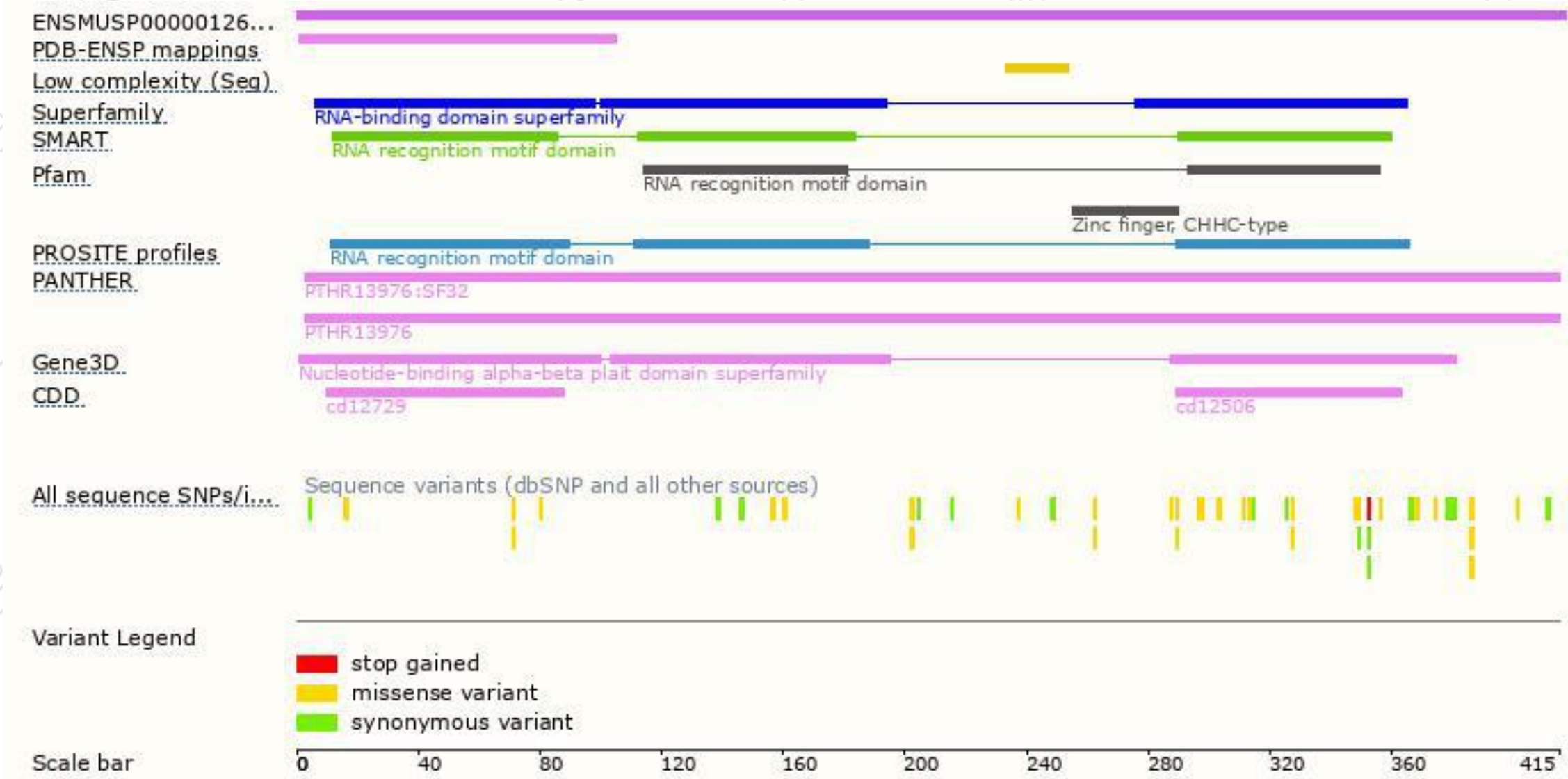
The strategy is based on the design of *Hnrnpf-201* transcript,the transcription is shown below:



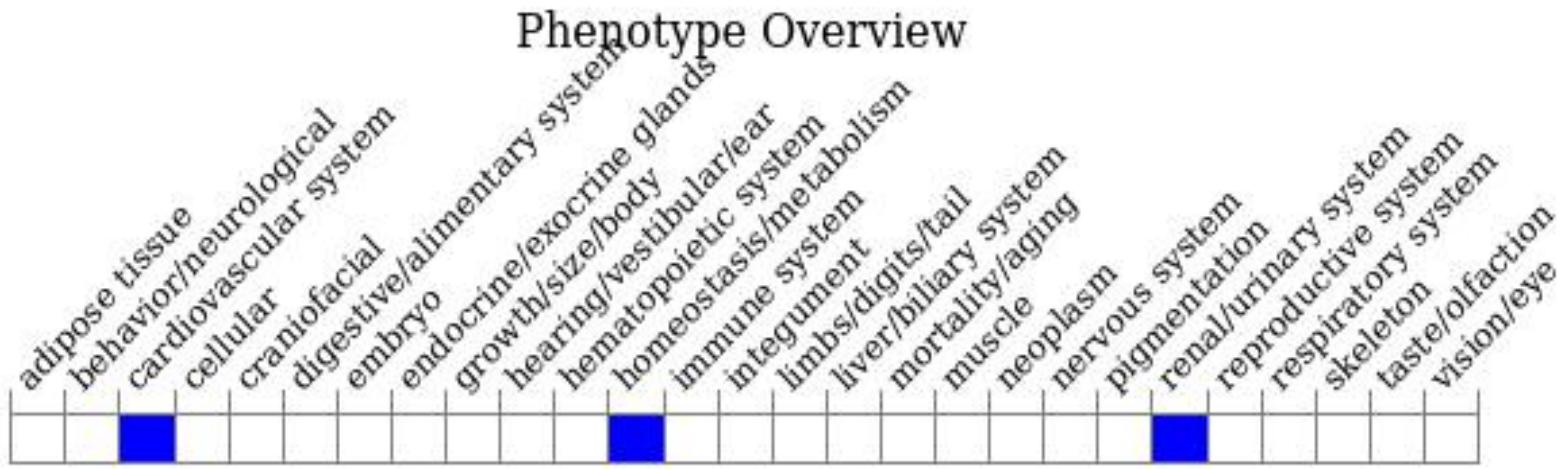
Genomic location distribution



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/>).

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

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