

Larp4 Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Larp4

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Larp4* gene. The schematic diagram is as follows:



- The *Larp4* gene has 9 transcripts. According to the structure of *Larp4* gene, exon4-exon7 of *Larp4-202* (ENSMUST00000100206.3) transcript is recommended as the knockout region. The region contains 428bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Larp4* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Larp4* gene is located on the Chr15. 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)

Larp4 La ribonucleoprotein domain family, member 4 [Mus musculus (house mouse)]

Gene ID: 207214, updated on 31-Jan-2019

Summary



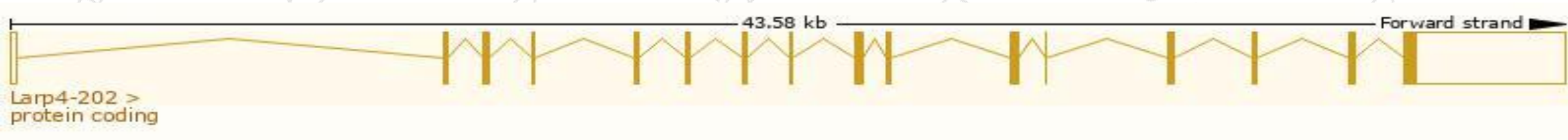
Official Symbol	Larp4 provided by MGI
Official Full Name	La ribonucleoprotein domain family, member 4 provided by MGI
Primary source	MGI:MGI:2443114
See related	Ensembl:ENSMUSG00000023025
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	DXErt793, DXErt793e
Expression	Ubiquitous expression in placenta adult (RPKM 11.6), CNS E11.5 (RPKM 5.7) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

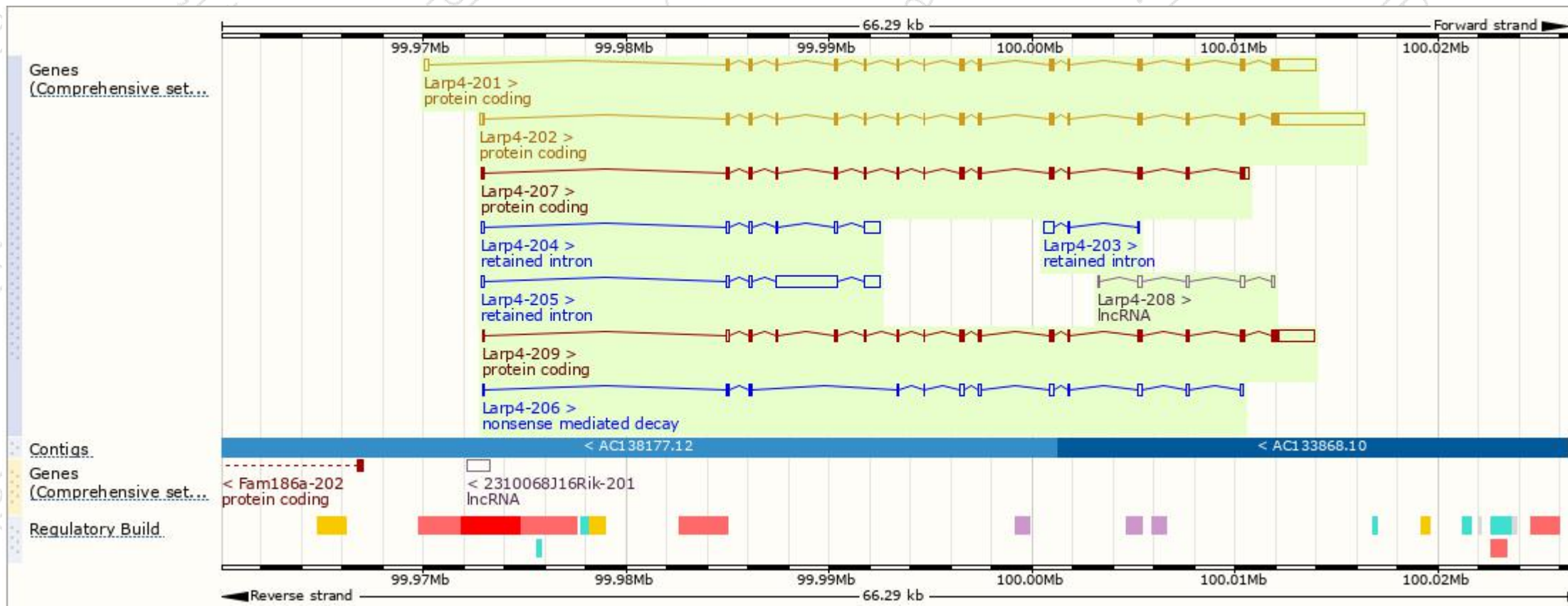
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Larp4-202	ENSMUST00000100206.3	6530	719aa	Protein coding	CCDS37208	G3X9Q6	TSL:1 GENCODE basic APPRIS P3
Larp4-201	ENSMUST00000057632.15	4196	718aa	Protein coding	CCDS49730	E9Q066	TSL:1 GENCODE basic APPRIS ALT2
Larp4-209	ENSMUST00000231160.1	3935	660aa	Protein coding	-	A0A2R8VKL5	GENCODE basic APPRIS ALT2
Larp4-207	ENSMUST00000230956.1	2192	610aa	Protein coding	-	A0A2R8W6Y5	GENCODE basic APPRIS ALT2
Larp4-206	ENSMUST00000230521.1	1499	107aa	Nonsense mediated decay	-	A0A2R8VHW8	-
Larp4-205	ENSMUST00000229891.1	4207	No protein	Retained intron	-	-	-
Larp4-204	ENSMUST00000229553.1	1420	No protein	Retained intron	-	-	-
Larp4-203	ENSMUST00000229426.1	606	No protein	Retained intron	-	-	-
Larp4-208	ENSMUST00000231128.1	643	No protein	lncRNA	-	-	-

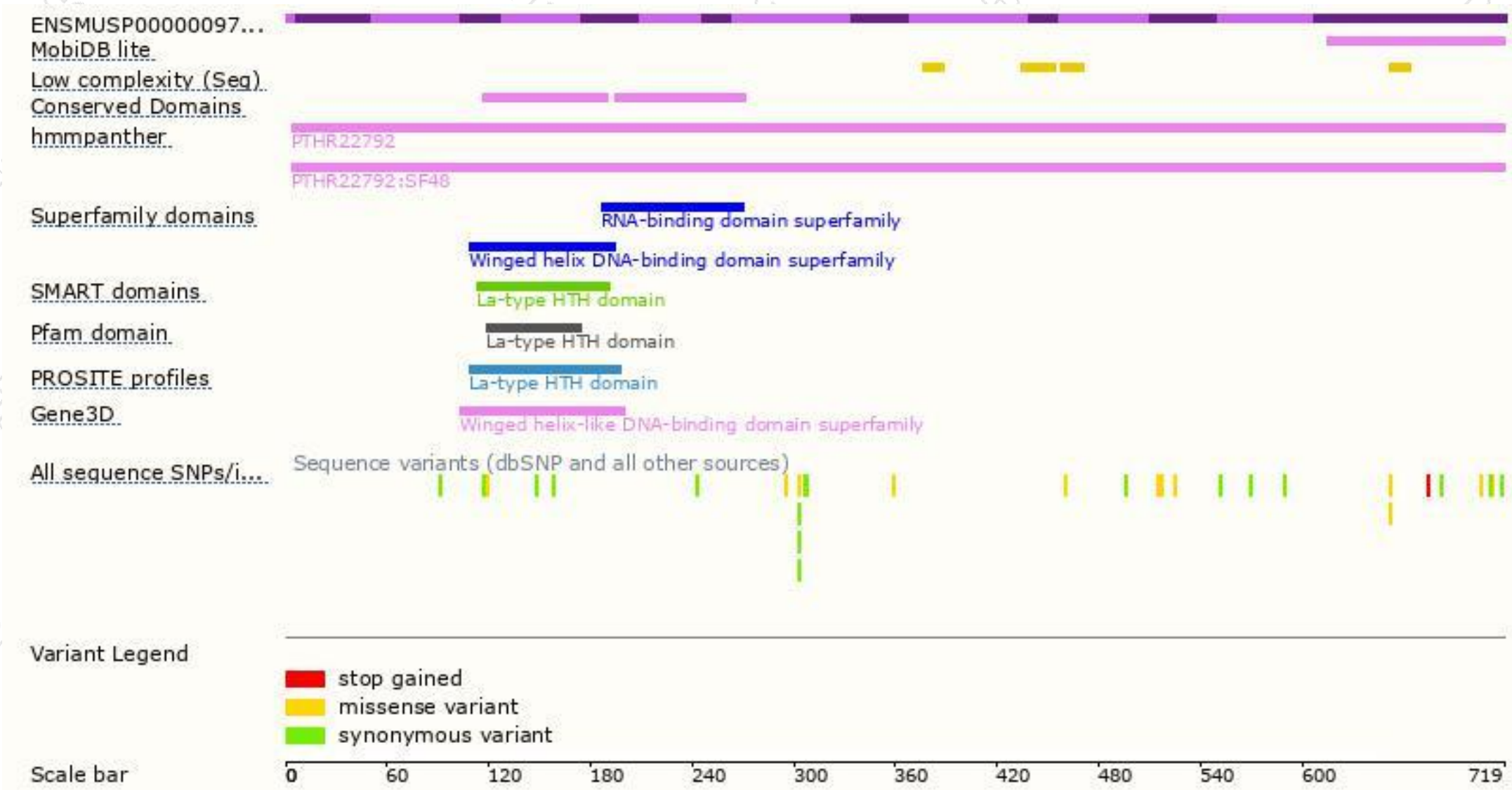
The strategy is based on the design of *Larp4-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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