

Lrp12 Cas9-KO Strategy

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Project Overview

Project Name

Lrp12

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Lrp12* gene. The schematic diagram is as follows:



- The *Lrp12* gene has 4 transcripts. According to the structure of *Lrp12* gene, exon2 of *Lrp12-202* (ENSMUST00000110305.2) transcript is recommended as the knockout region. The region contains 136bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Lrp12* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Lrp12* 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)

Lrp12 low density lipoprotein-related protein 12 [Mus musculus (house mouse)]

Gene ID: 239393, updated on 31-Jan-2019

Summary



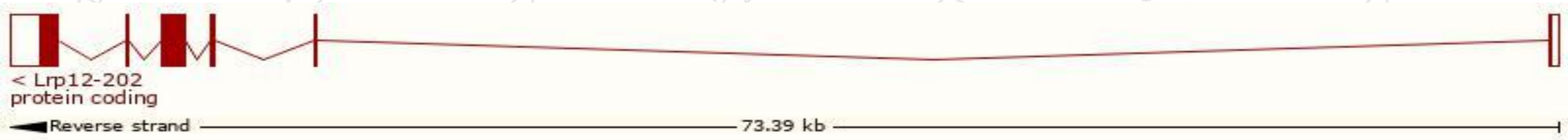
Official Symbol	Lrp12 provided by MGI
Official Full Name	low density lipoprotein-related protein 12 provided by MGI
Primary source	MGI:MGI:2443132
See related	Ensembl:ENSMUSG00000022305
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI848829, C820005L12Rik, LRP-12
Expression	Broad expression in CNS E14 (RPKM 8.6), whole brain E14.5 (RPKM 7.7) and 25 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

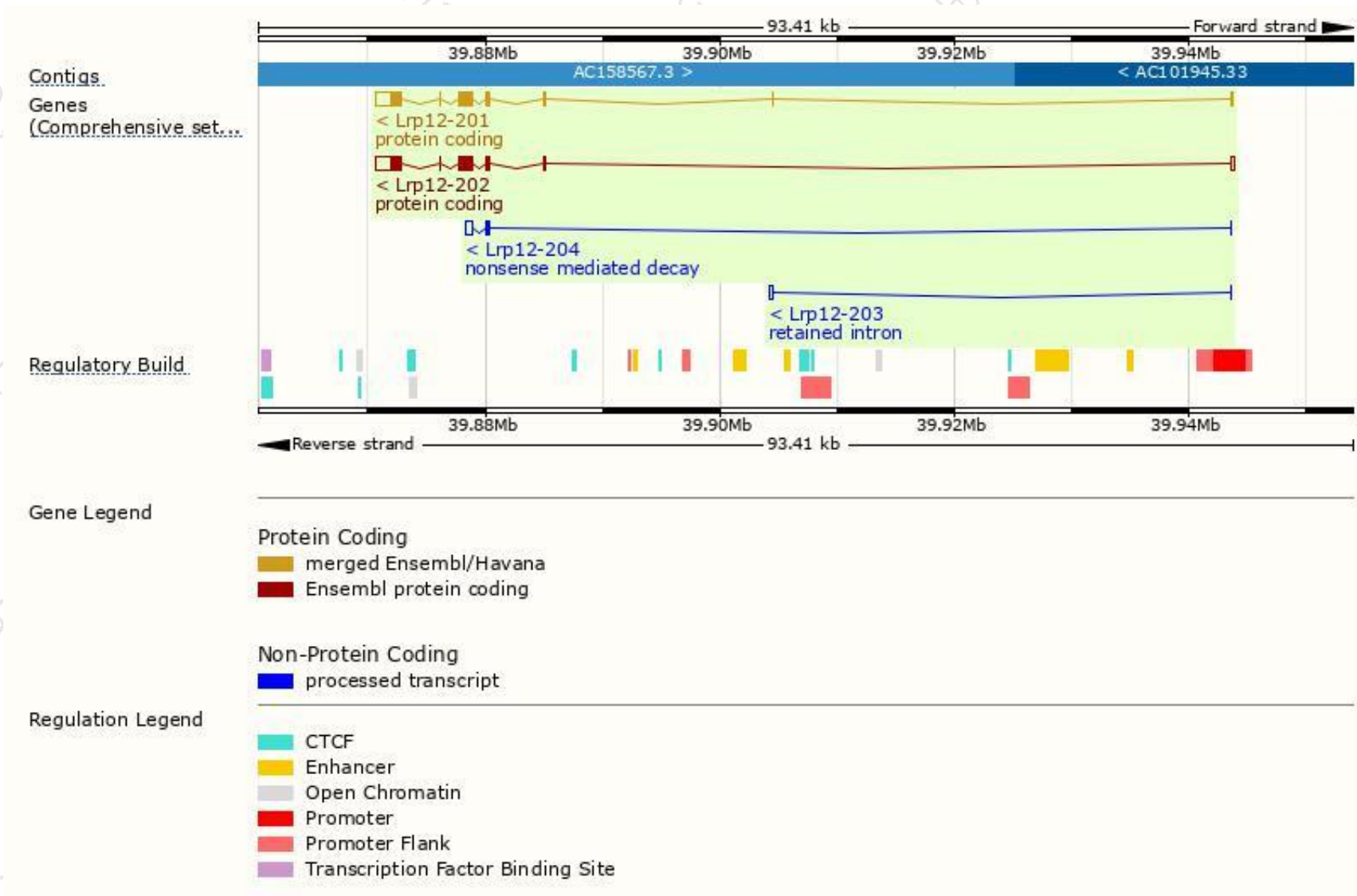
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Lrp12-202	ENSMUST00000110305.2	4244	839aa	Protein coding	CCDS84168	Q8BUJ9	TSL:1 GENCODE basic APPRIS ALT 1
Lrp12-201	ENSMUST00000022916.12	4109	858aa	Protein coding	CCDS27446	Q8BUJ9	TSL:1 GENCODE basic APPRIS P3
Lrp12-204	ENSMUST00000228575.1	806	43aa	Nonsense mediated decay	-	A0A2I3BQR2	
Lrp12-203	ENSMUST00000146714.1	433	No protein	Retained intron	-	-	TSL:3

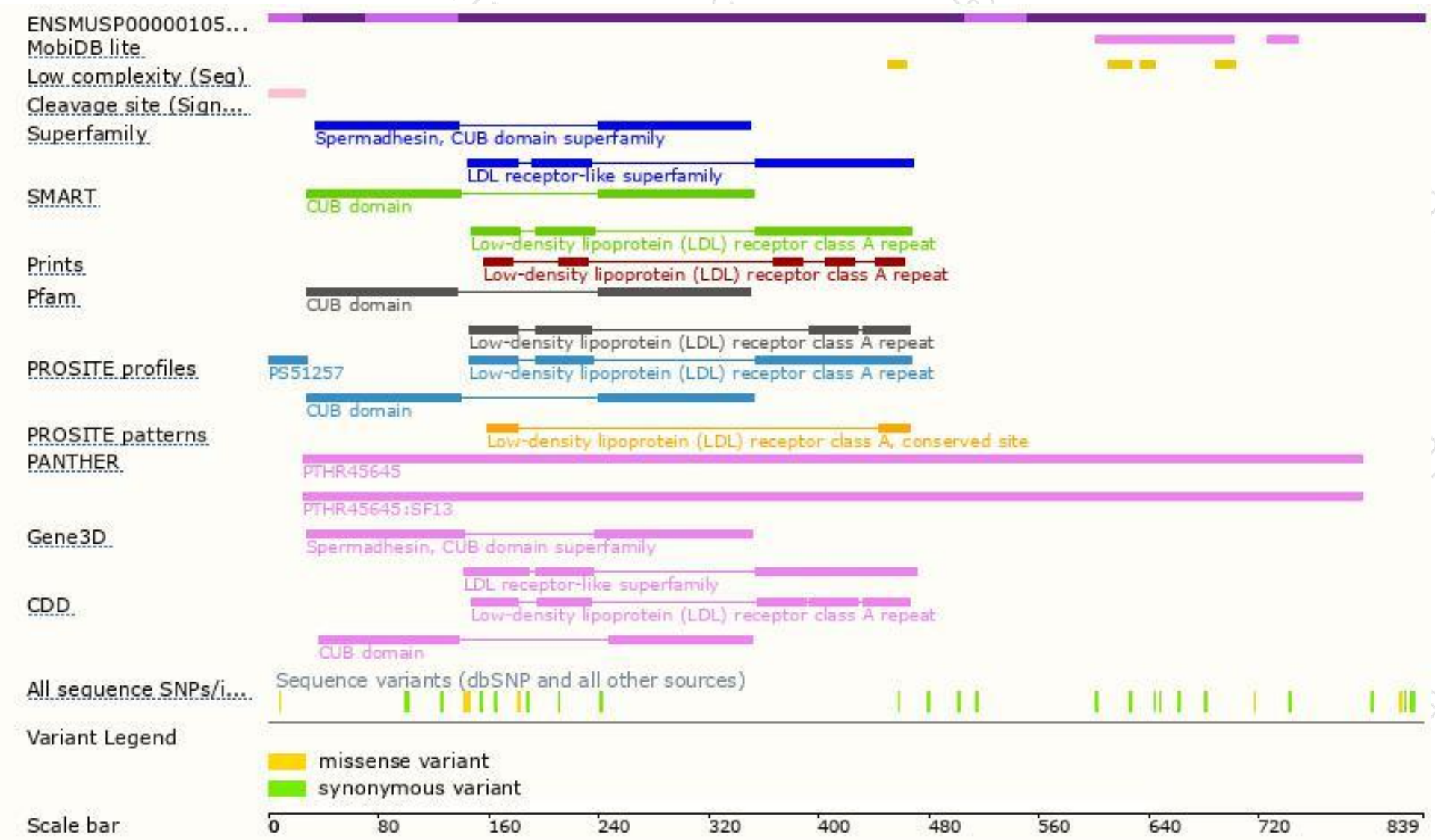
The strategy is based on the design of *Lrp12-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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