

Lin7a Cas9-KO Strategy

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Design Date:

2019-11-4

Project Overview

Project Name

Lin7a

Project type

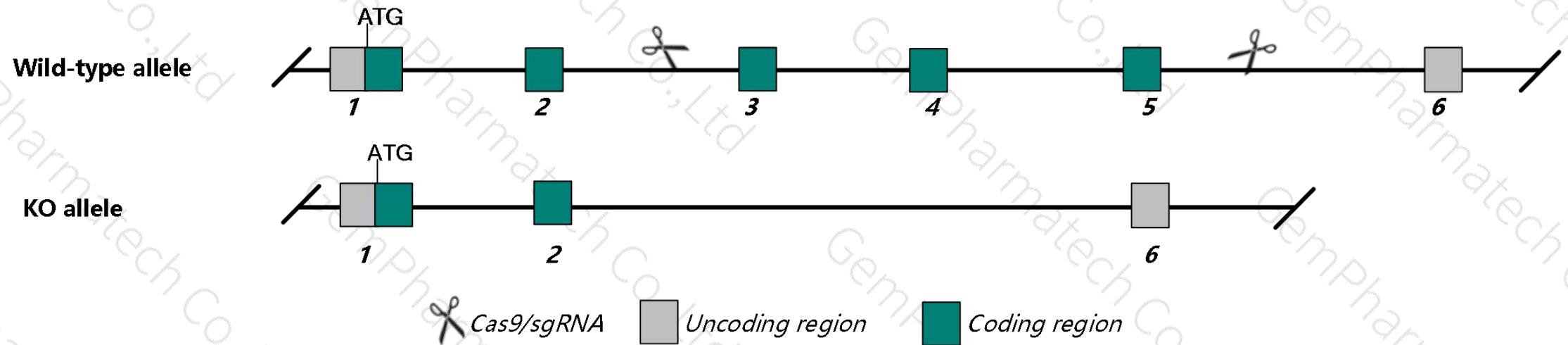
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Lin7a* gene. The schematic diagram is as follows:



- The *Lin7a* gene has 3 transcripts. According to the structure of *Lin7a* gene, exon3-exon5 of *Lin7a-201* (ENSMUST00000020057.15) transcript is recommended as the knockout region. The region contains most 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 *Lin7a* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, mice homozygous for disruptions in this gene display a normal phenotype.
- The *Lin7a* gene is located on the Chr10. 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)

Lin7a lin-7 homolog A (C. elegans) [*Mus musculus* (house mouse)]

Gene ID: 108030, updated on 12-Aug-2019

Summary

Official Symbol	Lin7a provided by MGI
Official Full Name	lin-7 homolog A (C. elegans) provided by MGI
Primary source	MGI:MGI:2135609
See related	Ensembl:ENSMUSG00000019906
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	Veli; Veli1; LIN-7A; MALS-1; TIP-33; AI848705
Expression	Biased expression in cerebellum adult (RPKM 13.2), testis adult (RPKM 8.6) and 8 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

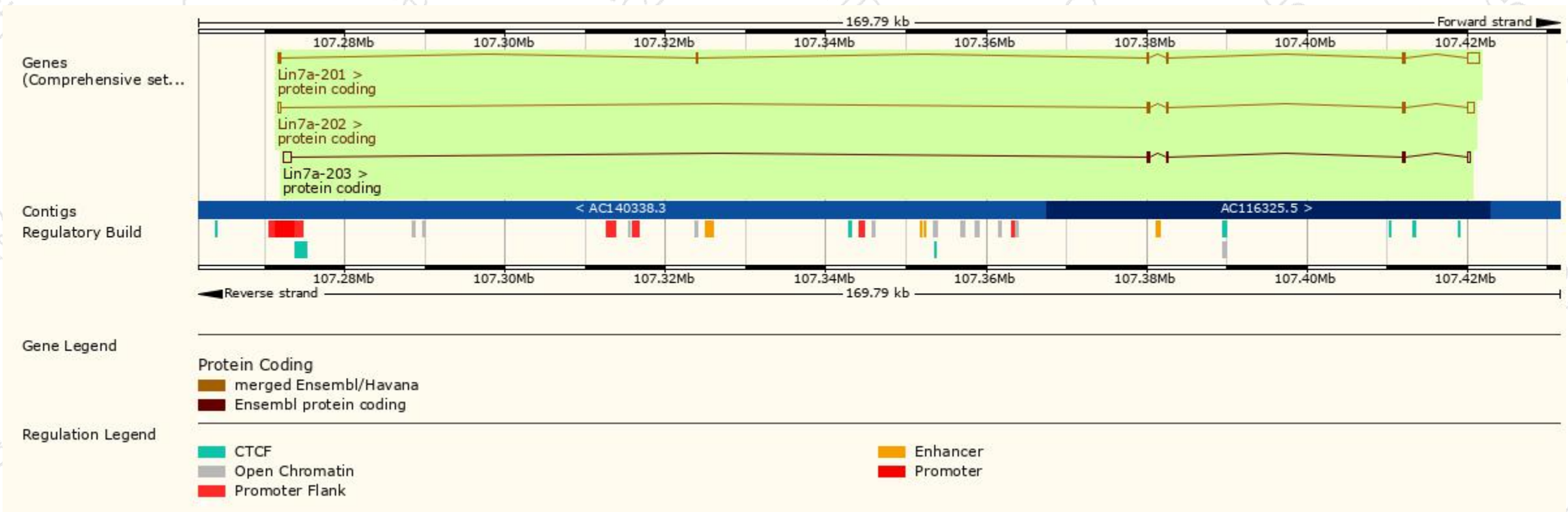
The gene has 3 transcripts,all transcripts are shown below:

Name ▲	Transcript ID ▲	bp ▲	Protein ▲	Biotype ▲	CCDS ▲	UniProt ▲	Flags ▲
Lin7a-201	ENSMUST00000020057.15	2363	233aa	 Protein coding	CCDS24160 	Q8JZS0 	TSL:1 GENCODE basic APPRIS P1
Lin7a-202	ENSMUST00000105280.4	1634	111aa	 Protein coding	CCDS36050 	Q3TUM0 	TSL:1 GENCODE basic
Lin7a-203	ENSMUST00000218031.1	1769	111aa	 Protein coding	CCDS36050 	Q3TUM0 	TSL:1 GENCODE basic

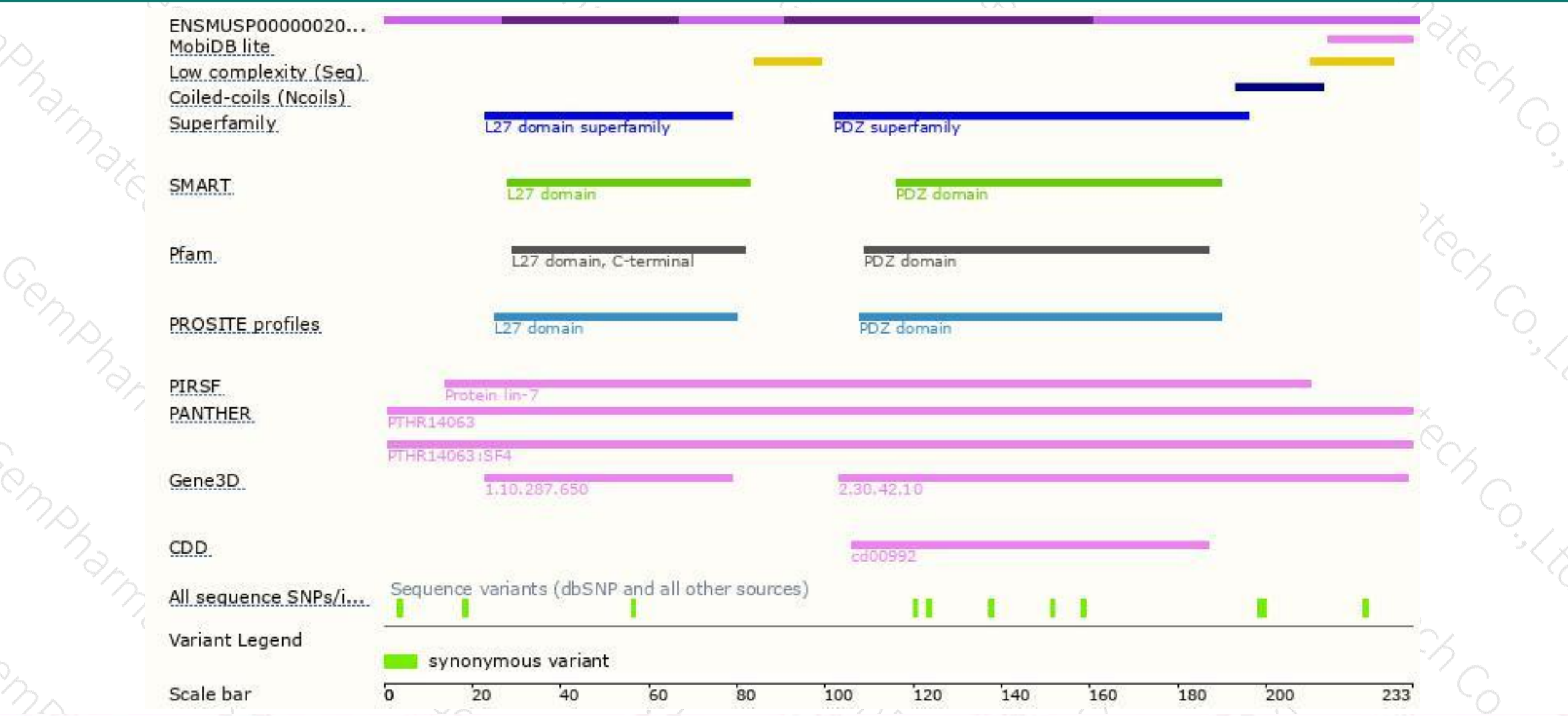
The strategy is based on the design of *Lin7a-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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