

Lamp3 Cas9-KO Strategy

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Project Overview

Project Name

Lamp3

Project type

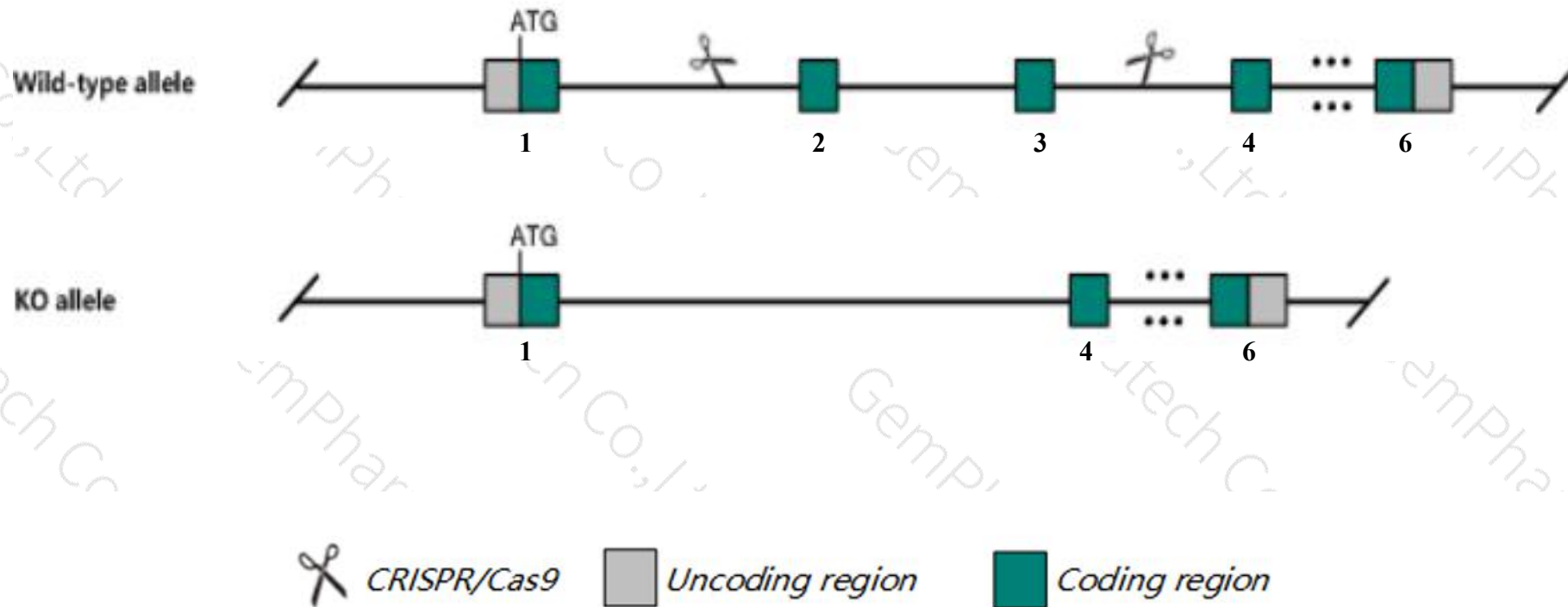
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Lamp3* gene. The schematic diagram is as follows:



- The *Lamp3* gene has 1 transcript. According to the structure of *Lamp3* gene, exon2-exon3 of *Lamp3-201* (ENSMUST00000081880.6) transcript is recommended as the knockout region. The region contains 824bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Lamp3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Lamp3* gene is located on the Chr16. 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)

Lamp3 lysosomal-associated membrane protein 3 [Mus musculus (house mouse)]

Gene ID: 239739, updated on 13-Mar-2020

Summary



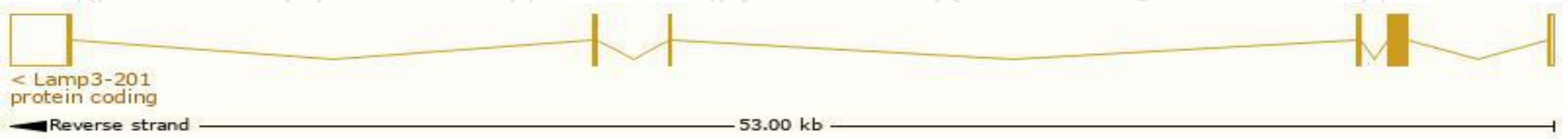
Official Symbol	Lamp3 provided by MGI
Official Full Name	lysosomal-associated membrane protein 3 provided by MGI
Primary source	MGI:MGI:2441659
See related	Ensembl:ENSMUSG00000041247
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1200002D17Rik, Cd208, DC-LAMP, DCLAMP, LAMP, TSC403
Expression	Restricted expression toward lung adult (RPKM 35.6) See more
Orthologs	human all

Transcript information (Ensembl)

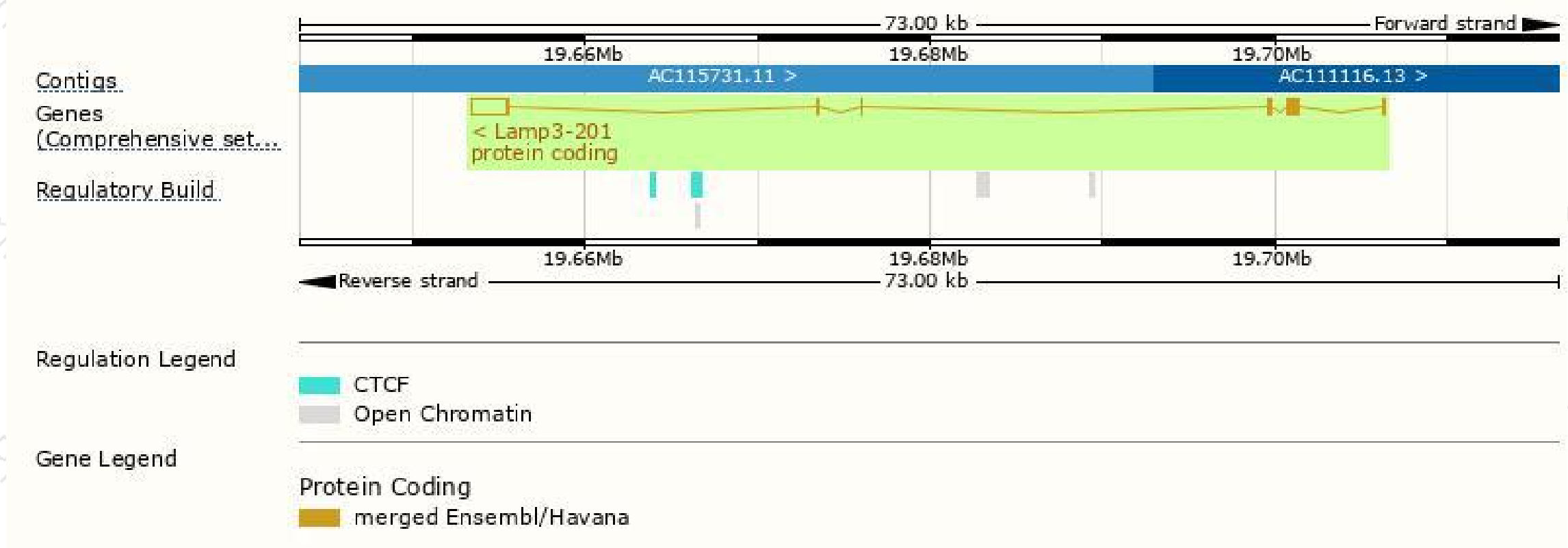
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Lamp3-201	ENSMUST00000081880.6	3356	411aa	Protein coding	CCDS37285	Q7TST5	TSL:1 GENCODE basic APPRIS P1

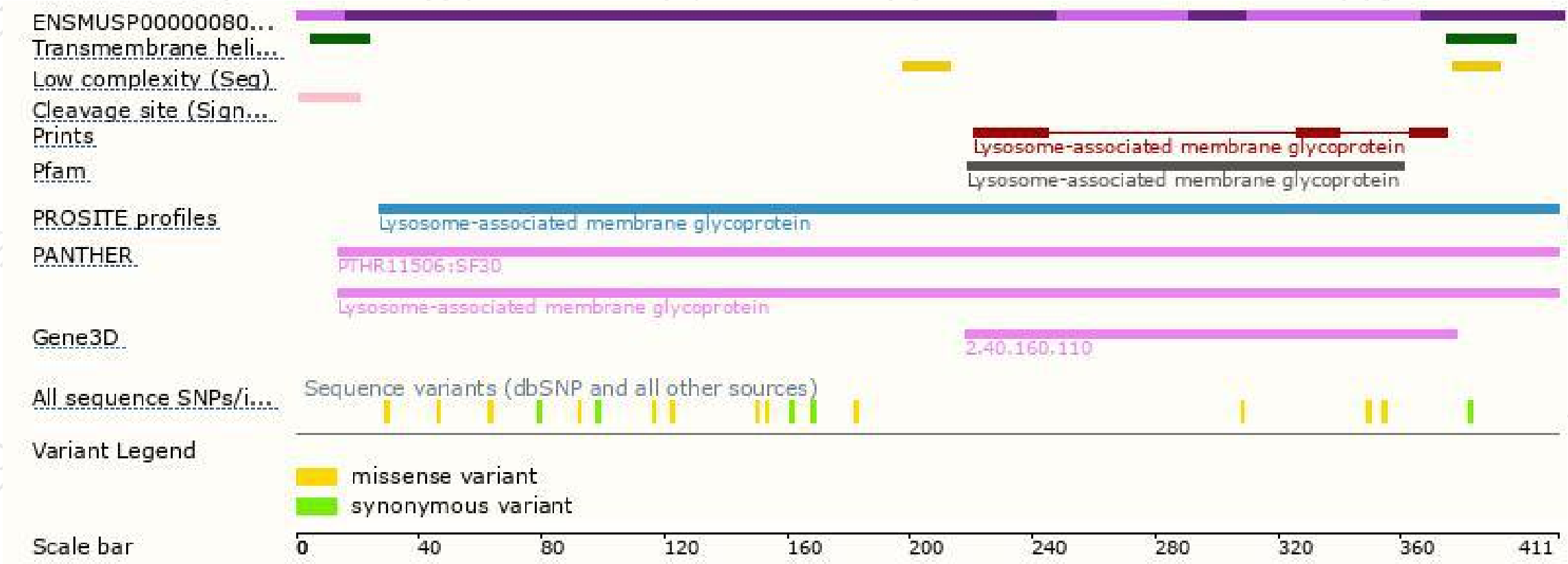
The strategy is based on the design of *Lamp3-201* transcript, the transcription is shown below:



Genomic location distribution



Protein domain



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

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