

Map1lc3a Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Map1lc3a

Project type

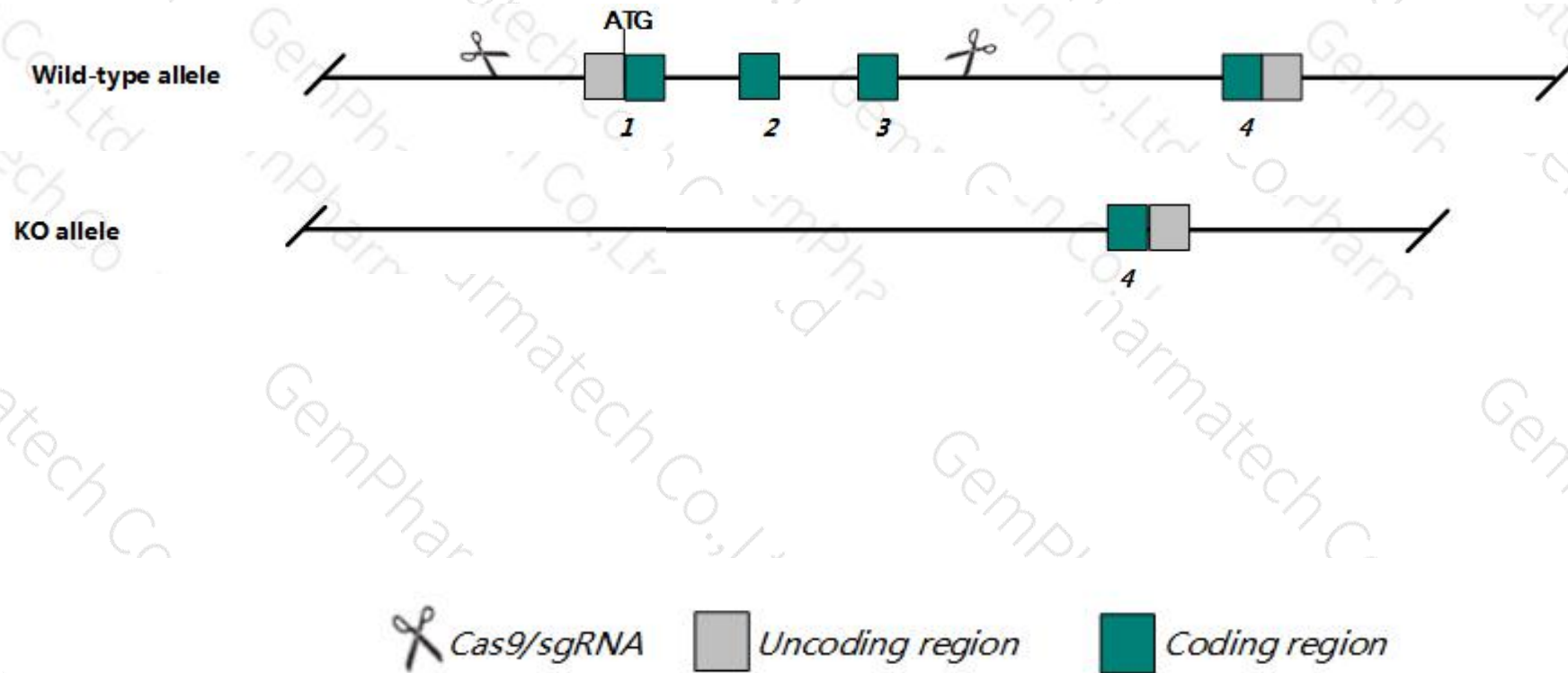
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Map1lc3a* gene. The schematic diagram is as follows:



- The *Map1lc3a* gene has 3 transcripts. According to the structure of *Map1lc3a* gene, exon1-exon3 of *Map1lc3a-201* (ENSMUST00000029128.3) transcript is recommended as the knockout region. The region contains 350bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Map1lc3a* gene. The brief process is as follows: CRISPR/Cas9 sys

- The *Map1lc3a* gene is located on the Chr2. 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)

Map1lc3a microtubule-associated protein 1 light chain 3 alpha [*Mus musculus* (house mouse)]

Gene ID: 66734, updated on 9-Sep-2018

Summary



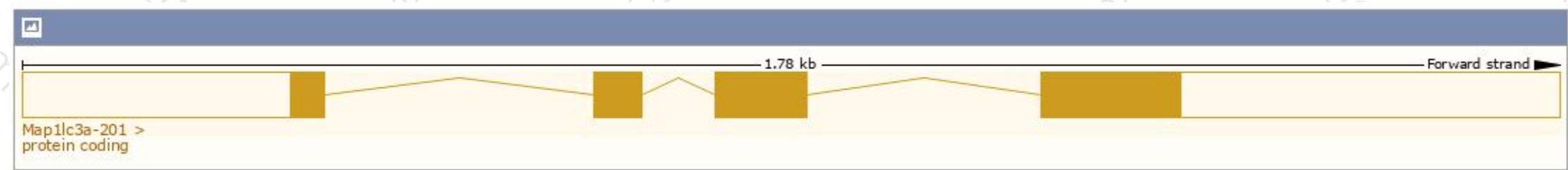
Official Symbol	Map1lc3a provided by MGI
Official Full Name	microtubule-associated protein 1 light chain 3 alpha provided by MGI
Primary source	MGI:MGI:1915661
See related	Ensembl:ENSMUSG000000027602 Vega:OTTMUSG000000016007
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	LC3; LC3a; 1010001H21Rik; 4922501H04Rik
Expression	Biased expression in adrenal adult (RPKM 1282.1), testis adult (RPKM 360.7) and 14 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

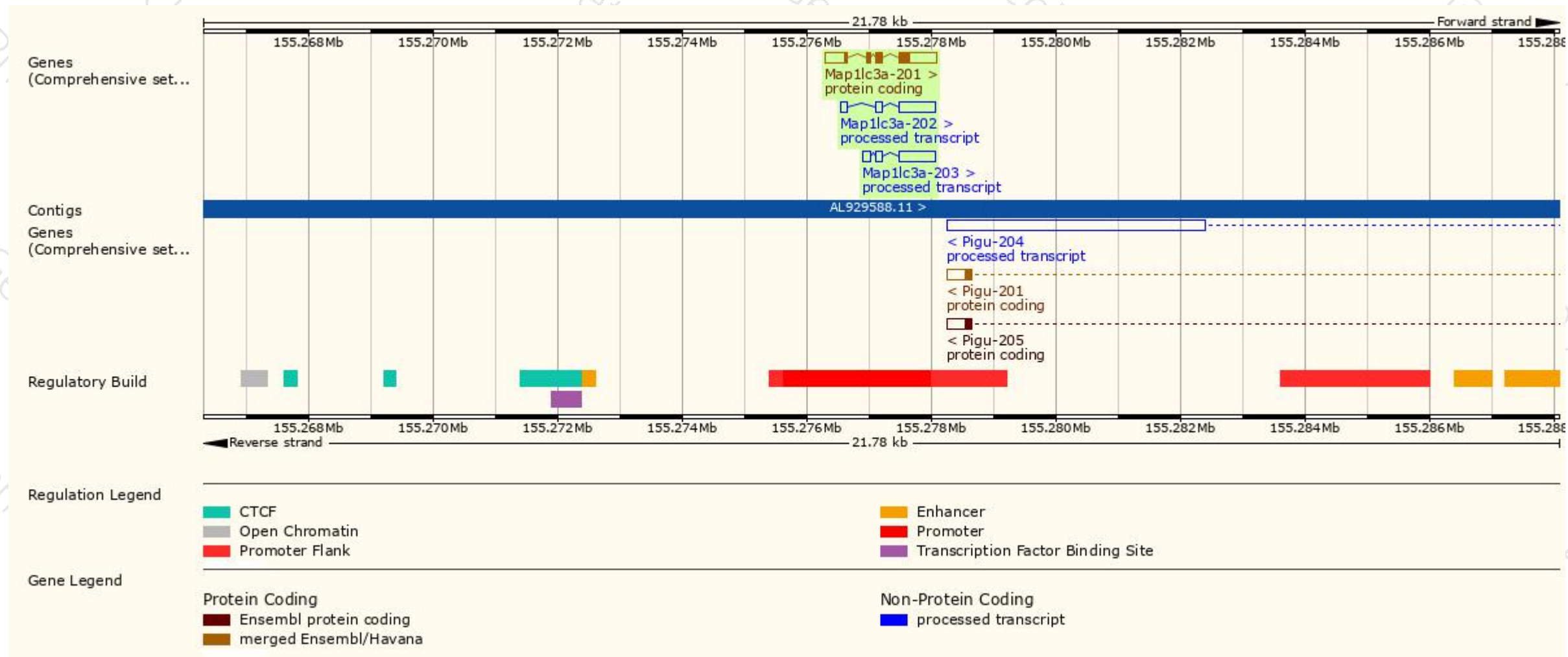
The gene has 3 transcripts,all transcripts are shown below:

Show/hide columns (1 hidden) Filter								
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	RefSeq	Flags
Map1lc3a-201	ENSMUST00000029128.3	1112	121aa	Protein coding	CCDS16945	Q91VR7	NM_025735 NP_080011	TSL:1 GENCODE basic APPRIS P1
Map1lc3a-203	ENSMUST00000154596.1	826	No protein	Processed transcript	-	-	-	TSL:2
Map1lc3a-202	ENSMUST00000145086.7	807	No protein	Processed transcript	-	-	NR_046364	TSL:3

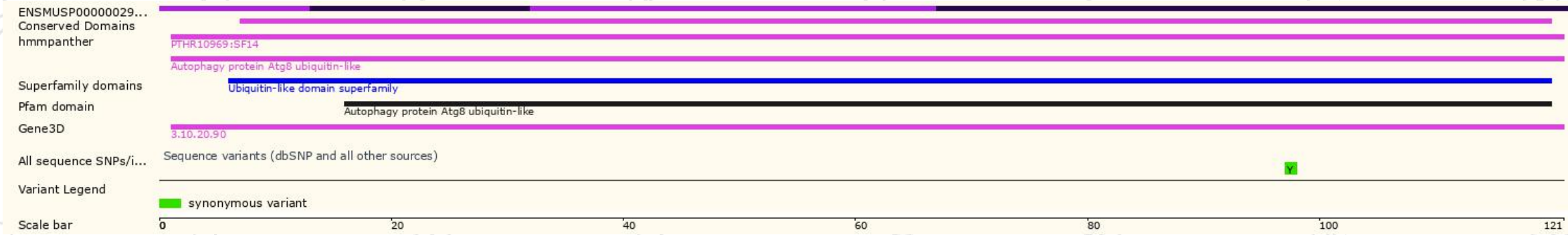
The strategy is based on the design of *Map1lc3a-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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