

Lhfpl1 Cas9-KO Strategy

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Design Date: 2021-3-1

Project Overview

Project Name

Lhfpl1

Project type

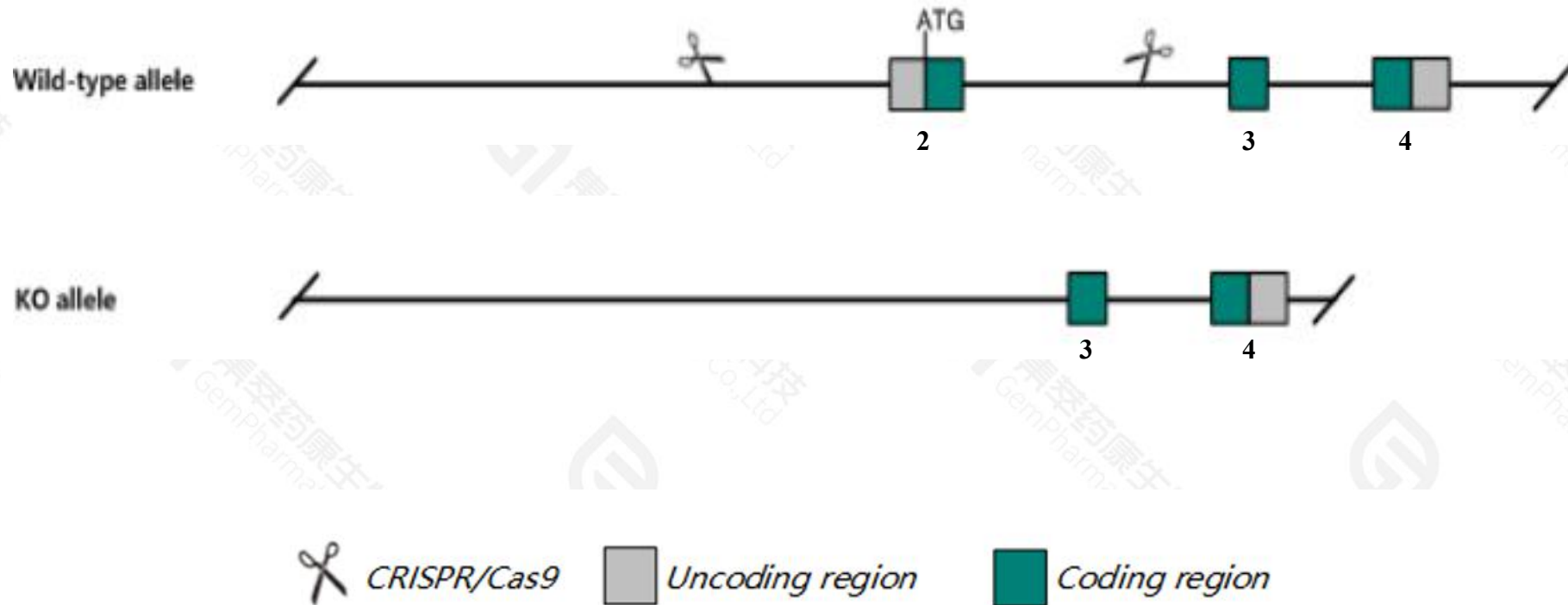
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Lhfpl1* gene. The schematic diagram is as follows:



- The *Lhfpl1* gene has 2 transcripts. According to the structure of *Lhfpl1* gene, exon2 of *Lhfpl1*-201(ENSMUST00000040084.9) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Lhfpl1* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The *Lhfpl1* gene is located on the ChrX. 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.

Lhfp1 lipoma HMGIC fusion partner-like 1 [Mus musculus (house mouse)]

Gene ID: 237091, updated on 13-Mar-2020

Summary



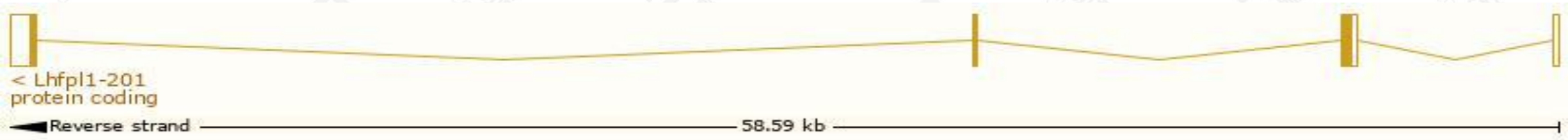
Official Symbol	Lhfp1 provided by MGI
Official Full Name	lipoma HMGIC fusion partner-like 1 provided by MGI
Primary source	MGI:MGI:1891214
See related	Ensembl:ENSMUSG00000041700
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Lhfp
Expression	Biased expression in limb E14.5 (RPKM 1.9), bladder adult (RPKM 0.4) and 7 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

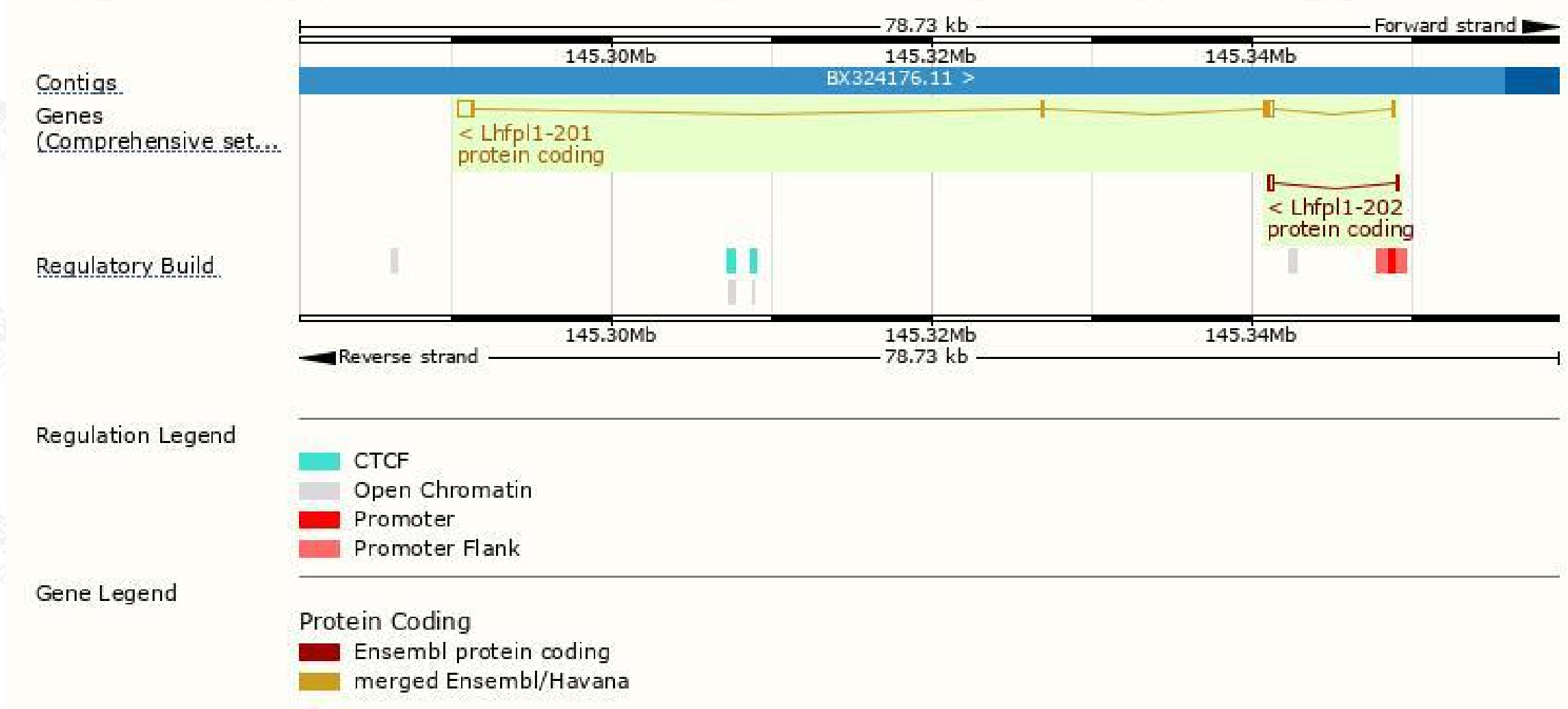
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Lhfpl1-201	ENSMUST00000040084.9	1830	220aa	Protein coding	CCDS30458	Q80SV1	TSL:1 GENCODE basic APPRIS P1
Lhfpl1-202	ENSMUST00000123443.1	397	33aa	Protein coding	-	B1B0D3	CDS 3' incomplete TSL:3

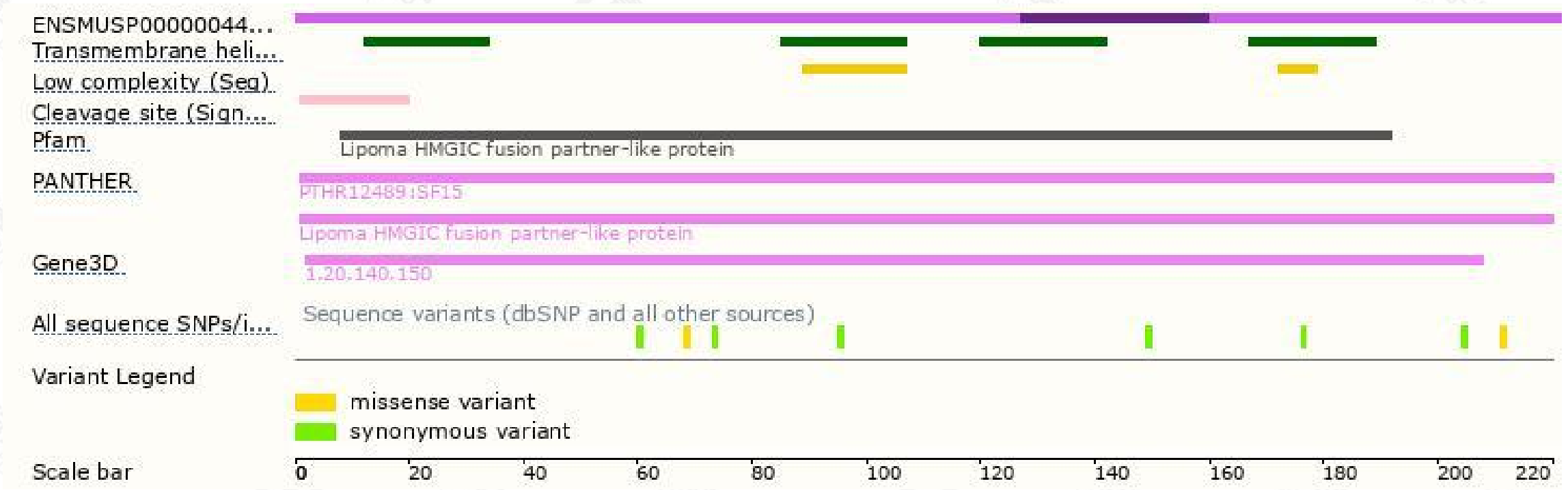
The strategy is based on the design of *Lhfpl1-201* transcript,the transcription is shown below:



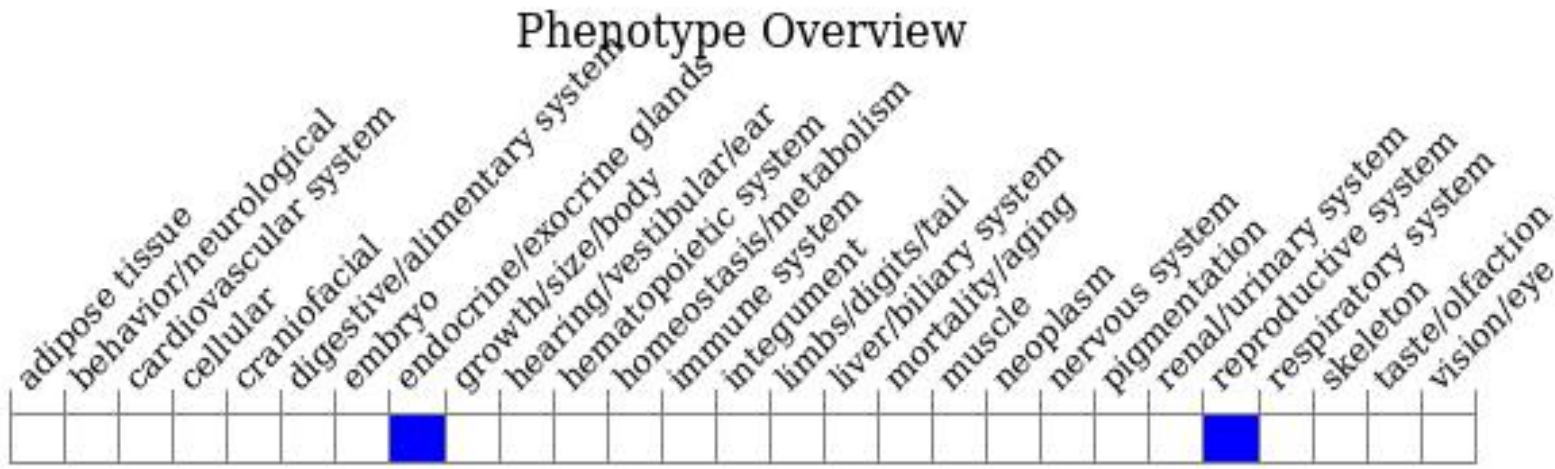
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue.Data quoted from MGI database(<http://www.informatics.jax.org/>).

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