

Lhpp Cas9-KO Strategy

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Project Overview

Project Name

Lhpp

Project type

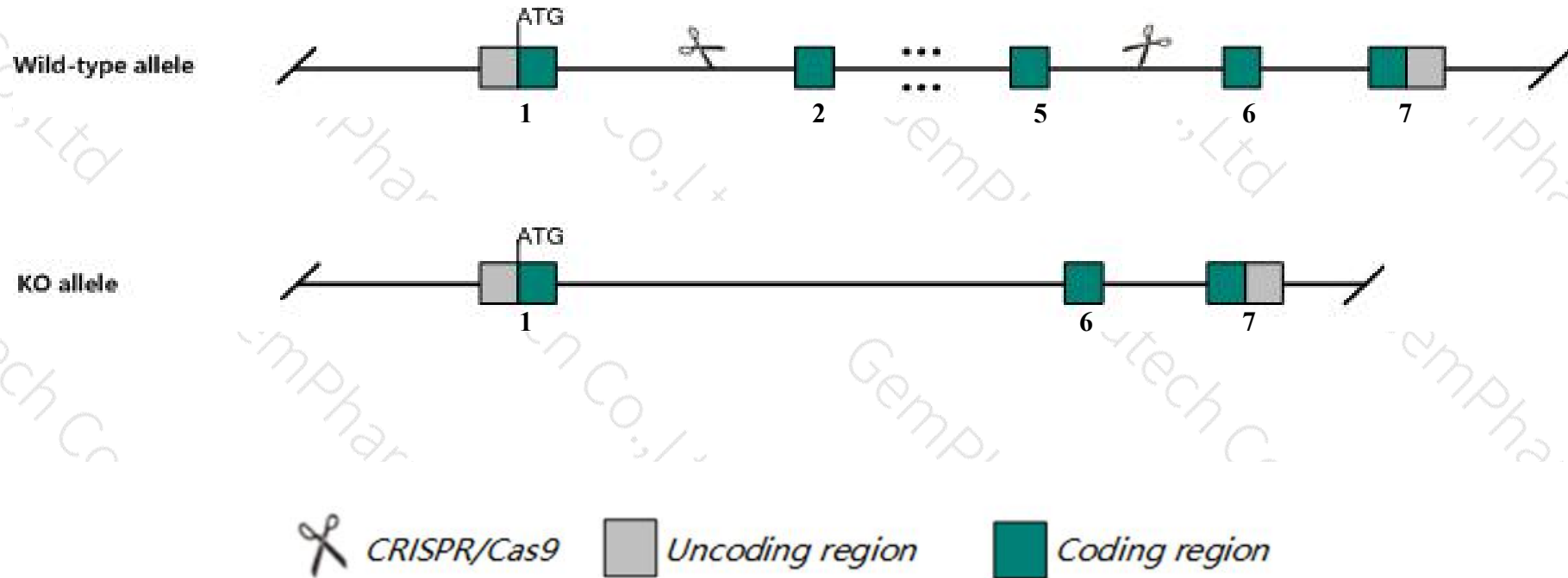
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Lhpp* gene has 7 transcripts. According to the structure of *Lhpp* gene, exon2-exon5 of *Lhpp*-201 (ENSMUST00000033241.5) transcript is recommended as the knockout region. The region contains 499bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Lhpp* gene. The brief process is as follows: CRISPR/Cas9 system v

- The *Lhpp* gene is located on the Chr7. 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.
- *Lhpp* is located in the intron2-3 of *Fgfr2-217*, so part intron of *Fgfr2-217* will be deleted together.
- 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)

Lhpp phospholysine phosphohistidine inorganic pyrophosphate phosphatase [Mus musculus (house mouse)]

Gene ID: 76429, updated on 31-Jan-2019

Summary



Official Symbol	Lhpp provided by MGI
Official Full Name	phospholysine phosphohistidine inorganic pyrophosphate phosphatase provided by MGI
Primary source	MGI:MGI:1923679
See related	Ensembl:ENSMUSG00000030946
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	2310007H09Rik
Expression	Ubiquitous expression in liver adult (RPKM 55.0), subcutaneous fat pad adult (RPKM 18.0) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

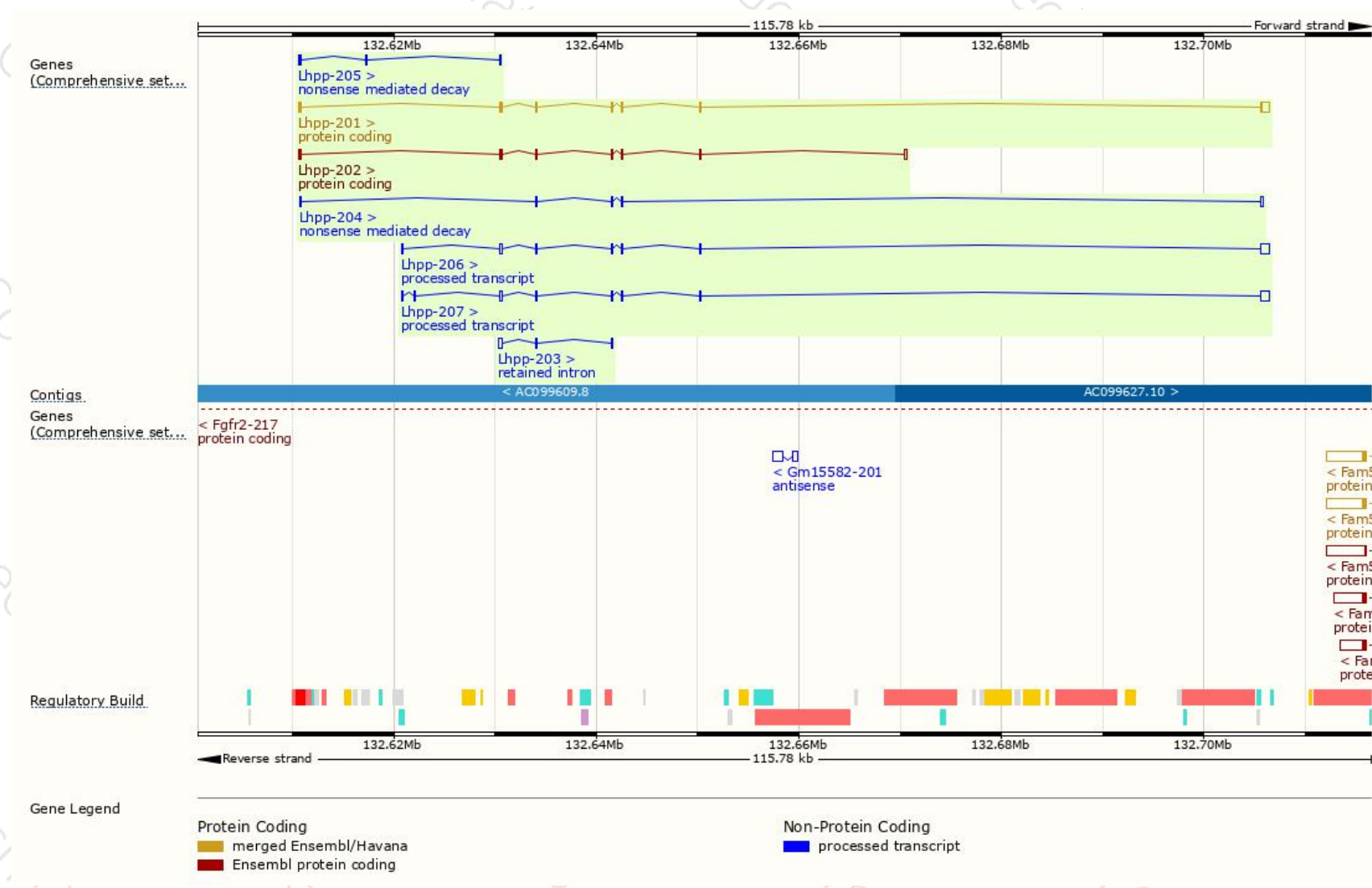
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Lhpp-201	ENSMUST00000033241.5	1612	270aa	Protein coding	CCDS21925	Q9D7I5	TSL:1 GENCODE basic APPRIS P1
Lhpp-202	ENSMUST00000106170.7	999	242aa	Protein coding	-	Q9D7I5	TSL:1 GENCODE basic
Lhpp-204	ENSMUST00000133969.7	620	47aa	Nonsense mediated decay	-	A0A1B0GR58	CDS 5' incomplete TSL:5
Lhpp-205	ENSMUST00000148669.1	455	42aa	Nonsense mediated decay	-	A0A1B0GR73	TSL:3
Lhpp-207	ENSMUST00000210168.1	1733	No protein	Processed transcript	-	-	TSL:5
Lhpp-206	ENSMUST00000209903.1	1590	No protein	Processed transcript	-	-	TSL:5
Lhpp-203	ENSMUST00000130672.1	497	No protein	Retained intron	-	-	TSL:3

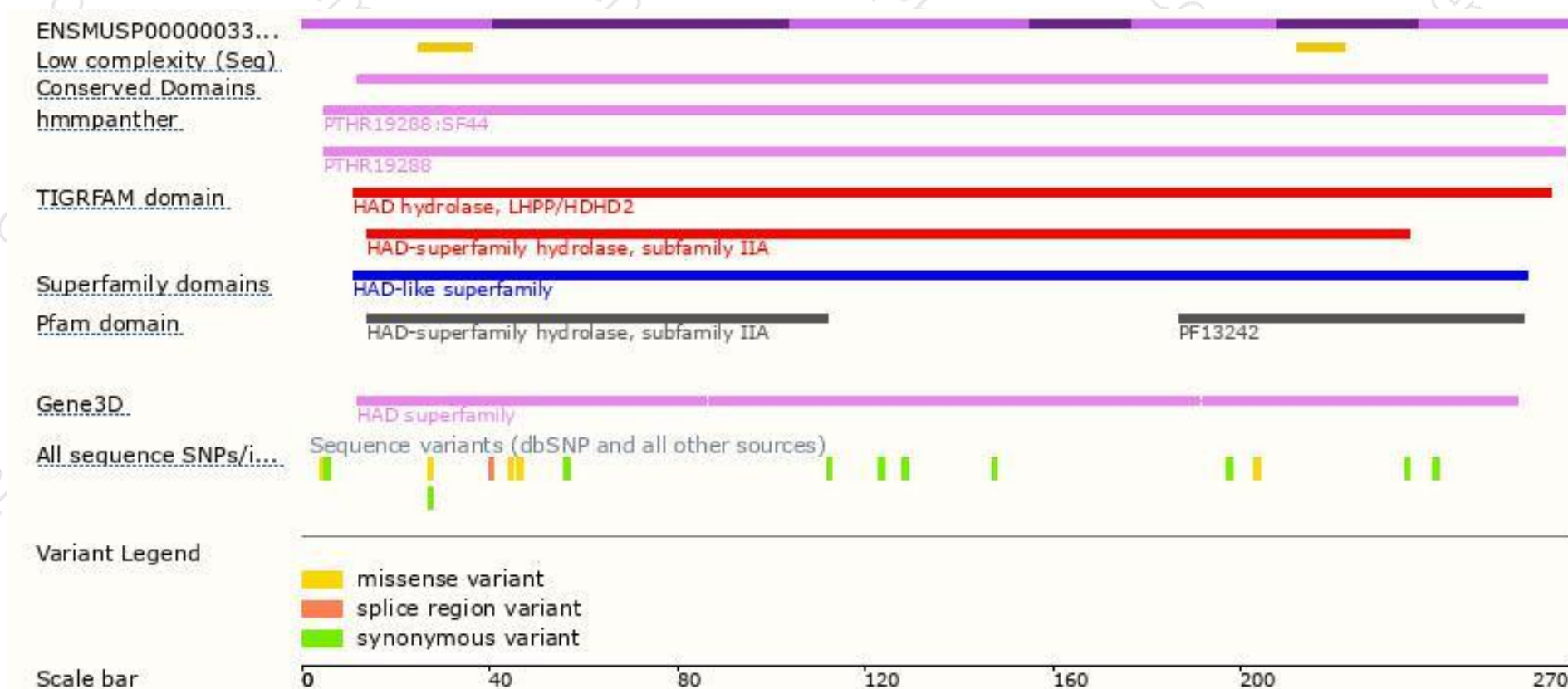
The strategy is based on the design of *Lhpp-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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