

Phldb3 Cas9-KO Strategy

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Project Overview

Project Name

Phldb3

Project type

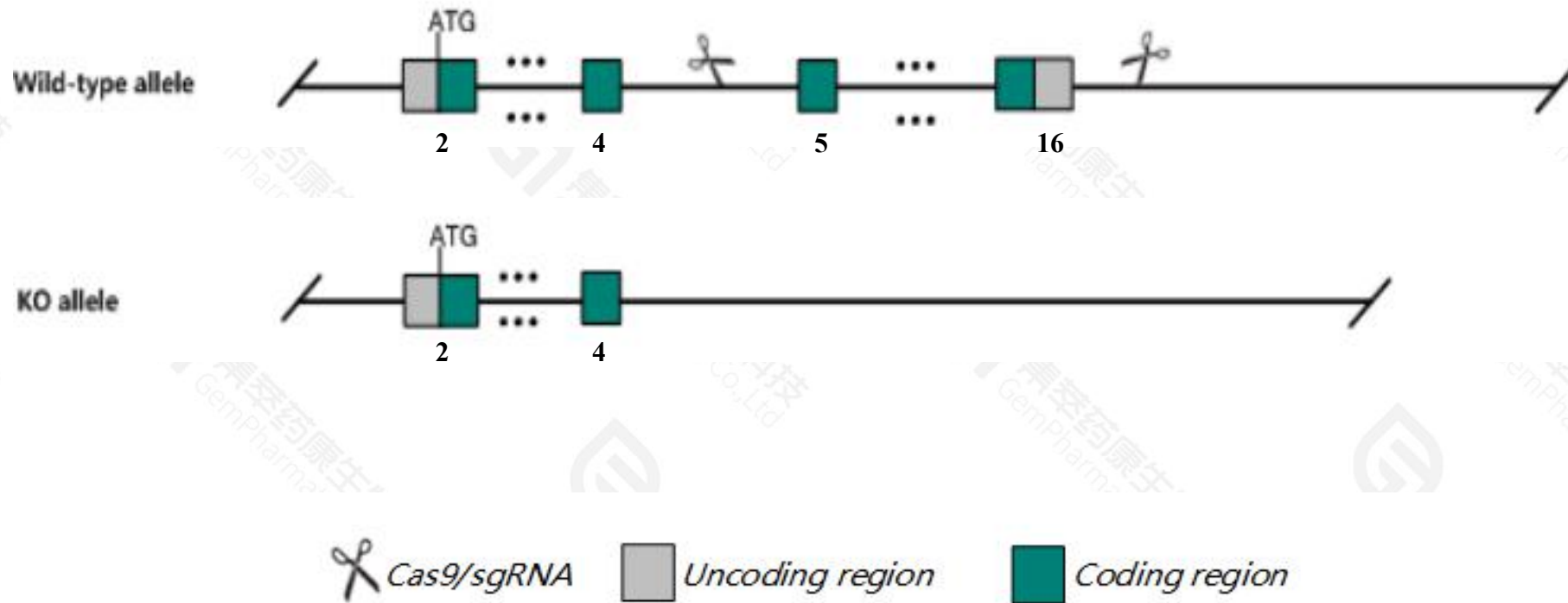
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Phldb3* gene. The schematic diagram is as follows:



- The *Phldb3* gene has 4 transcripts. According to the structure of *Phldb3* gene, exon5-exon16 of *Phldb3*-204(ENSMUST00000206422.2) transcript is recommended as the knockout region. The region contains 1396bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Phldb3* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA 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 *Phldb3* 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.
- 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.

Phldb3 pleckstrin homology like domain, family B, member 3 [Mus musculus (house mouse)]

Gene ID: 232970, updated on 17-Dec-2020

Summary



Official Symbol Phldb3 provided by [MGI](#)

Official Full Name pleckstrin homology like domain, family B, member 3 provided by [MGI](#)

Primary source [MGI:MGI:3642959](#)

See related [Ensembl:ENSMUSG00000074277](#)

Gene type protein coding

RefSeq status PROVISIONAL

Organism [Mus musculus](#)

Lineage Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus

Also known as EG232970, Gm10102

Expression Broad expression in placenta adult (RPKM 3.5), stomach adult (RPKM 3.2) and 20 other tissues [See more](#)

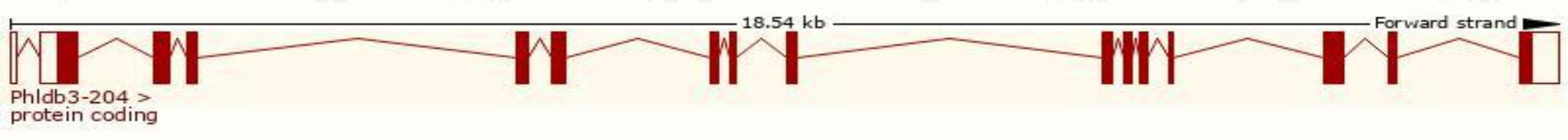
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

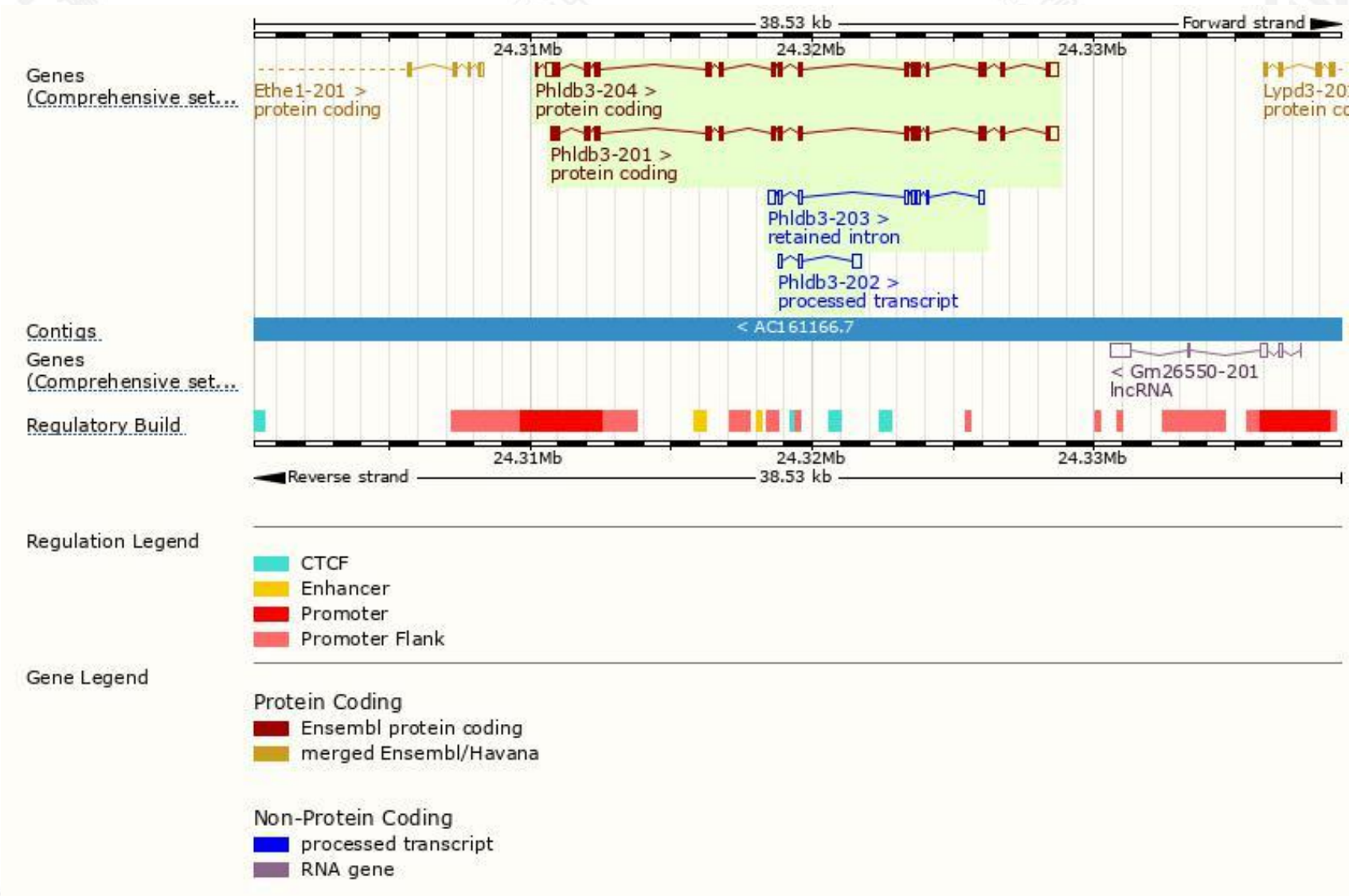
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Phldb3-204	ENSMUST00000206422.2	2564	648aa	Protein coding	CCDS52139		TSL:5 , GENCODE basic , APPRIS P1 ,
Phldb3-201	ENSMUST00000073325.6	2273	648aa	Protein coding	CCDS52139		TSL:5 , GENCODE basic , APPRIS P1 ,
Phldb3-202	ENSMUST00000205330.2	474	No protein	Processed transcript	-		TSL:5 ,
Phldb3-203	ENSMUST00000205857.2	963	No protein	Retained intron	-		TSL:1 ,

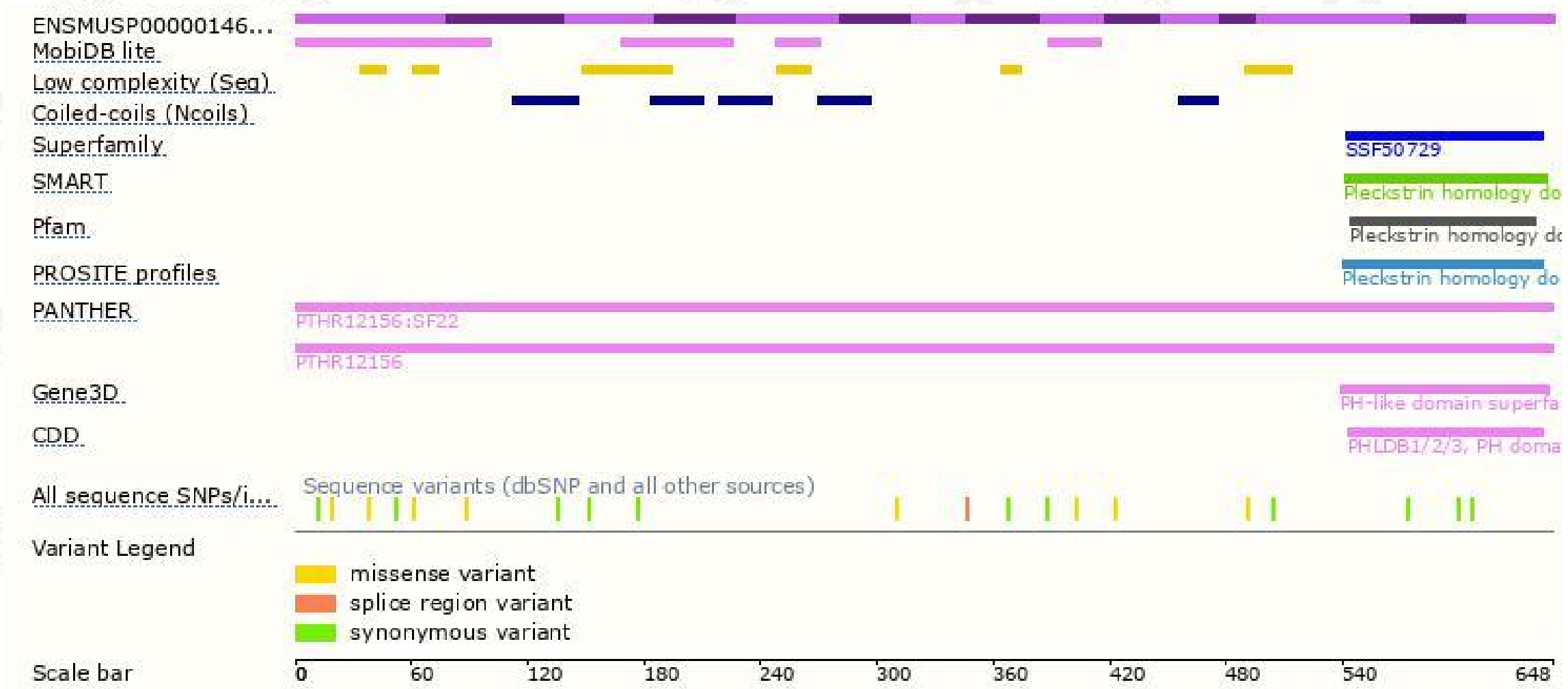
The strategy is based on the design of *Phldb3-204* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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