

Plekha2 Cas9-KO Strategy

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Project Overview

Project Name

Plekha2

Project type

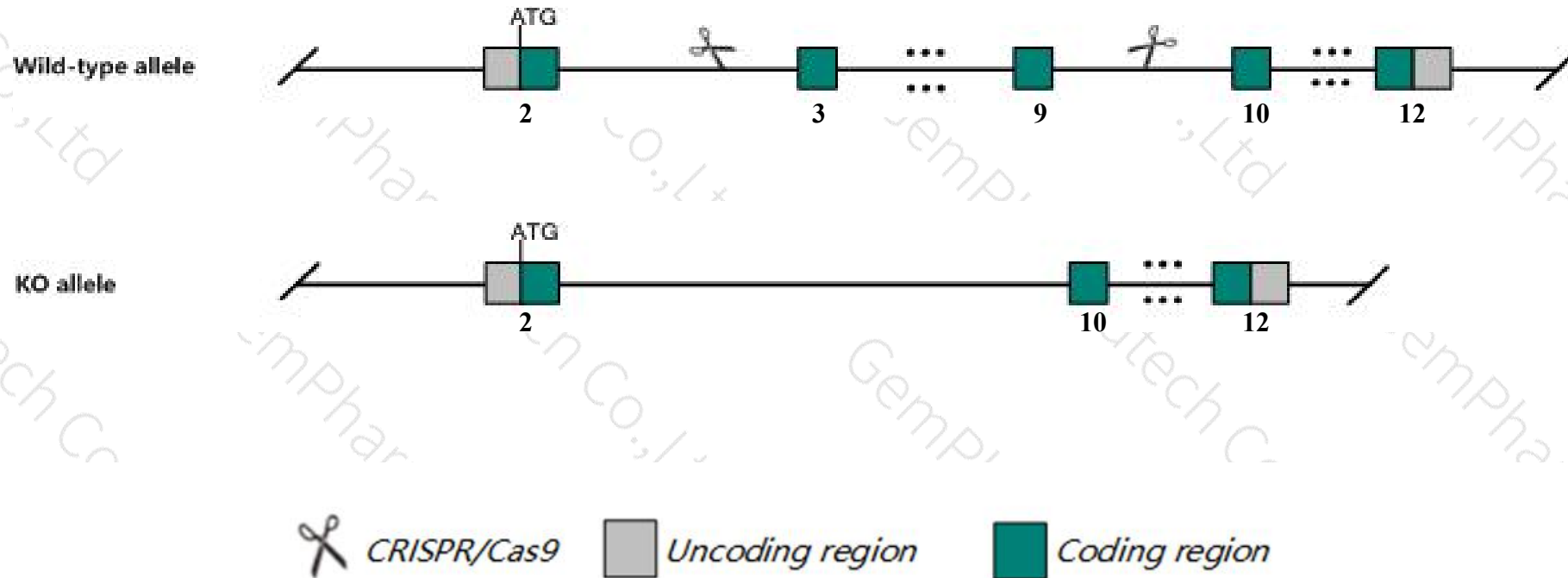
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Plekha2* gene. The schematic diagram is as follows:



- The *Plekha2* gene has 5 transcripts. According to the structure of *Plekha2* gene, exon3-exon9 of *Plekha2-201* (ENSMUST00000064883.13) transcript is recommended as the knockout region. The region contains 632bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Plekha2* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a knock-in allele are viable.
- The *Plekha2* gene is located on the Chr8. 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)

Plekha2 pleckstrin homology domain-containing, family A (phosphoinositide binding specific) member 2 [*Mus musculus* (house mouse)]

Gene ID: 83436, updated on 12-Aug-2019

Summary

- Official Symbol** Plekha2 provided by MGI
- Official Full Name** pleckstrin homology domain-containing, family A (phosphoinositide binding specific) member 2 provided by MGI
- Primary source** MGI:MGI:1928144
- See related** Ensembl:ENSMUSG000000031557
- 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** TAPP2; W91773; AI851530; AU041791; 6430512N22Rik
- Expression** Broad expression in spleen adult (RPKM 8.9), bladder adult (RPKM 7.3) and 25 other tissues [See more](#)
- Orthologs** [human](#) [all](#)

Genomic context

Location: 8; 8 A2 [See Plekha2 in Genome Data Viewer](#)

Exon count: 15

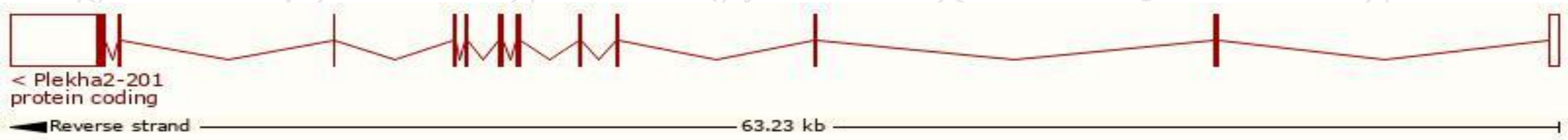
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	8	NC_000074.6 (25039144..25104679, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	8	NC_000074.5 (26149616..26212283, complement)

Transcript information (Ensembl)

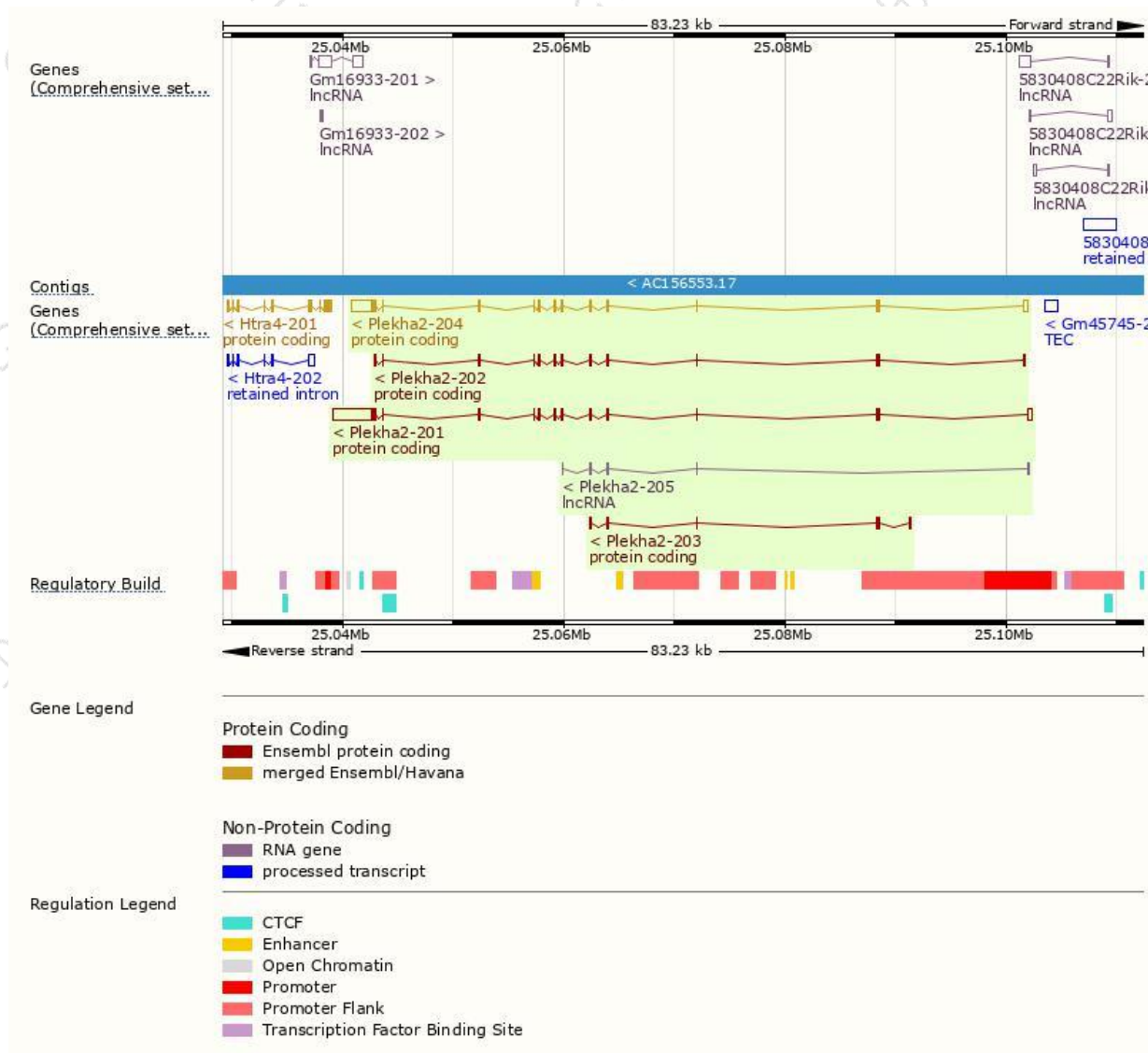
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Plekha2-201	ENSMUST00000064883.13	5176	425aa	Protein coding	CCDS22198	Q9ERS5	TSL:1 GENCODE basic APPRIS P1
Plekha2-204	ENSMUST00000128715.7	3463	425aa	Protein coding	CCDS22198	Q9ERS5	TSL:1 GENCODE basic APPRIS P1
Plekha2-202	ENSMUST00000098866.10	1158	336aa	Protein coding	-	F8WIK5	CDS 3' incomplete TSL:1
Plekha2-203	ENSMUST00000125466.1	374	95aa	Protein coding	-	D3Z3L8	CDS 3' incomplete TSL:5
Plekha2-205	ENSMUST00000211708.1	403	No protein	lncRNA	-	-	TSL:3

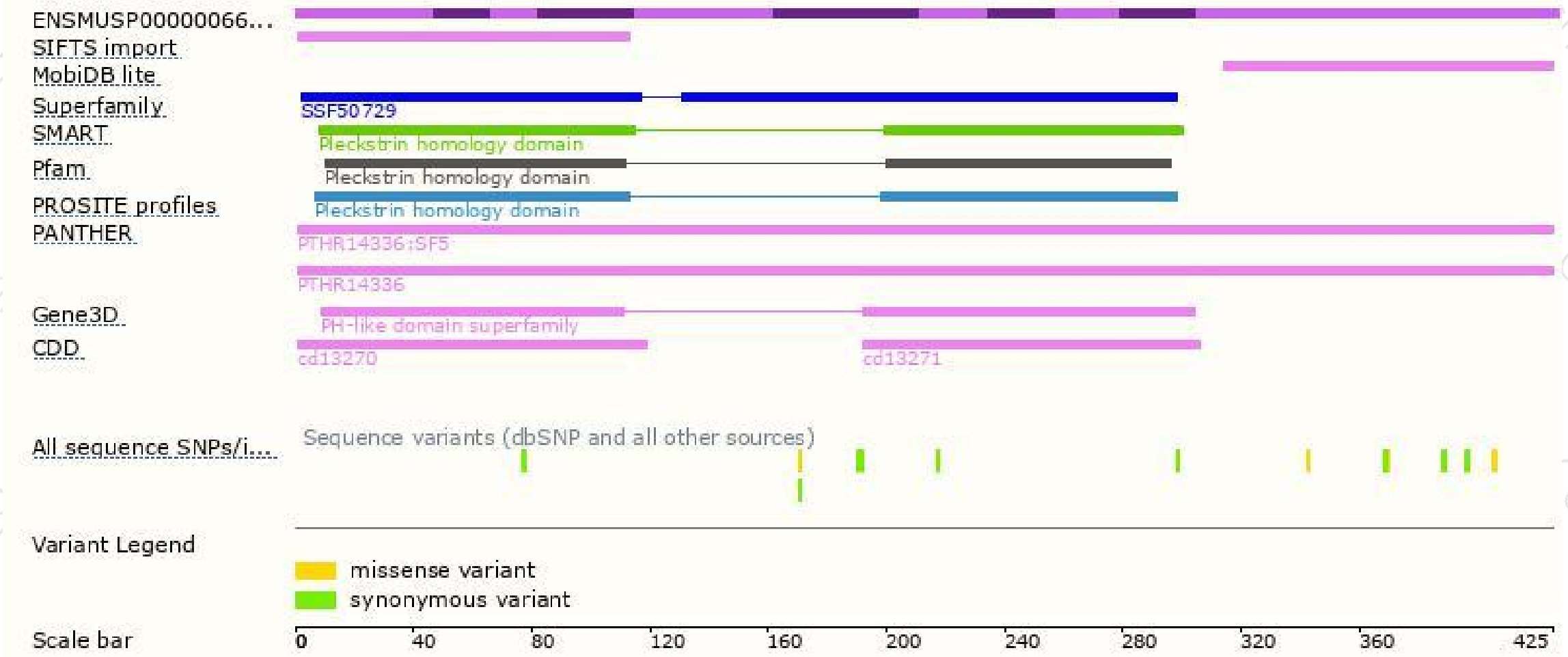
The strategy is based on the design of *Plekha2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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