

Mpp2 Cas9-KO Strategy

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Project Overview

Project Name

Mpp2

Project type

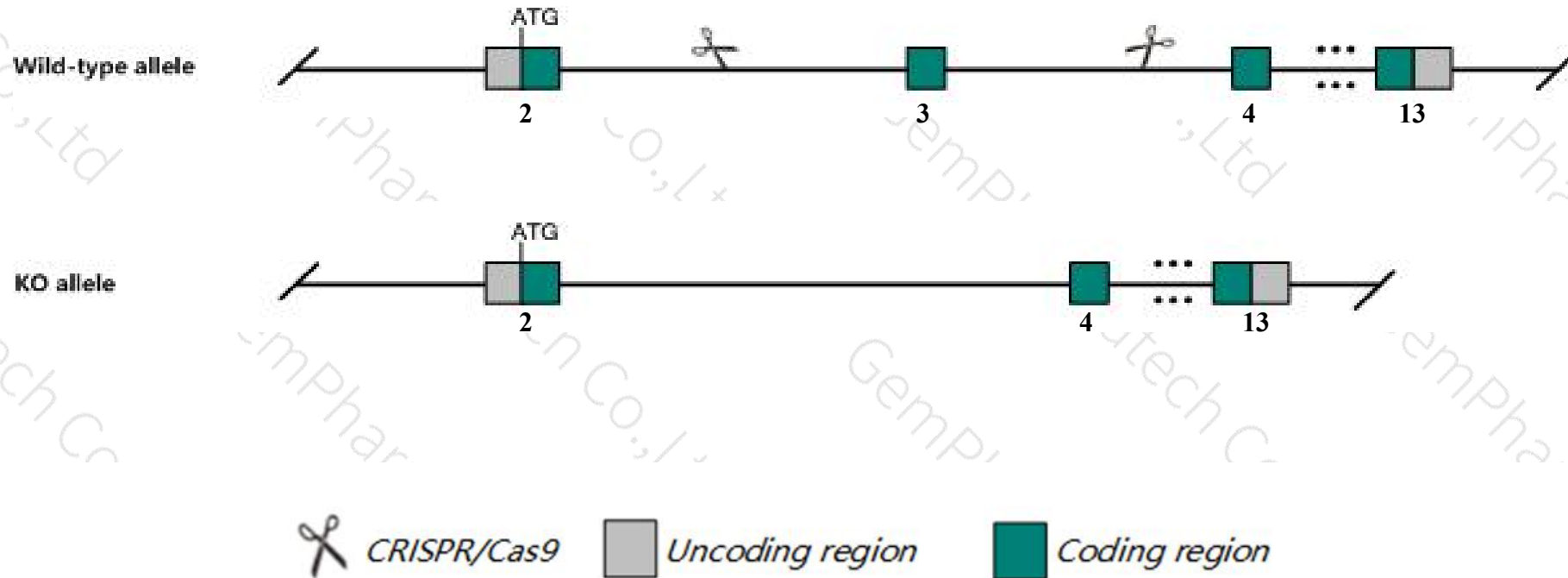
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Mpp2* gene. The schematic diagram is as follows:



- The *Mpp2* gene has 6 transcripts. According to the structure of *Mpp2* gene, exon3 of *Mpp2-201* (ENSMUST00000017458.10) transcript is recommended as the knockout region. The region contains 119bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Mpp2* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Mpp2* gene is located on the Chr11. 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)

Mpp2 membrane protein, palmitoylated 2 (MAGUK p55 subfamily member 2) [Mus musculus (house mouse)]

Gene ID: 50997, updated on 31-Jan-2019

Summary



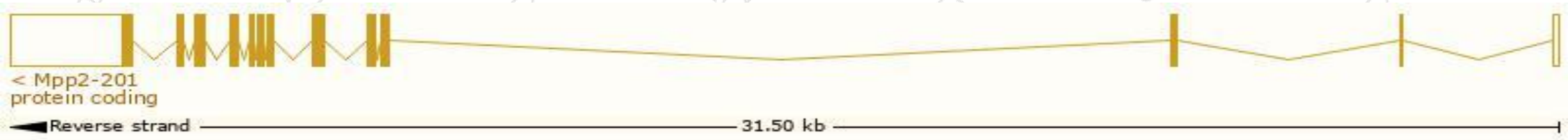
Official Symbol	Mpp2 provided by MGI
Official Full Name	membrane protein, palmitoylated 2 (MAGUK p55 subfamily member 2) provided by MGI
Primary source	MGI:MGI:1858257
See related	Ensembl:ENSMUSG00000017314
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	D11Bwg0652e, Dlg2, Dlg2, Pals4
Expression	Broad expression in frontal lobe adult (RPKM 33.8), cortex adult (RPKM 27.2) and 20 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

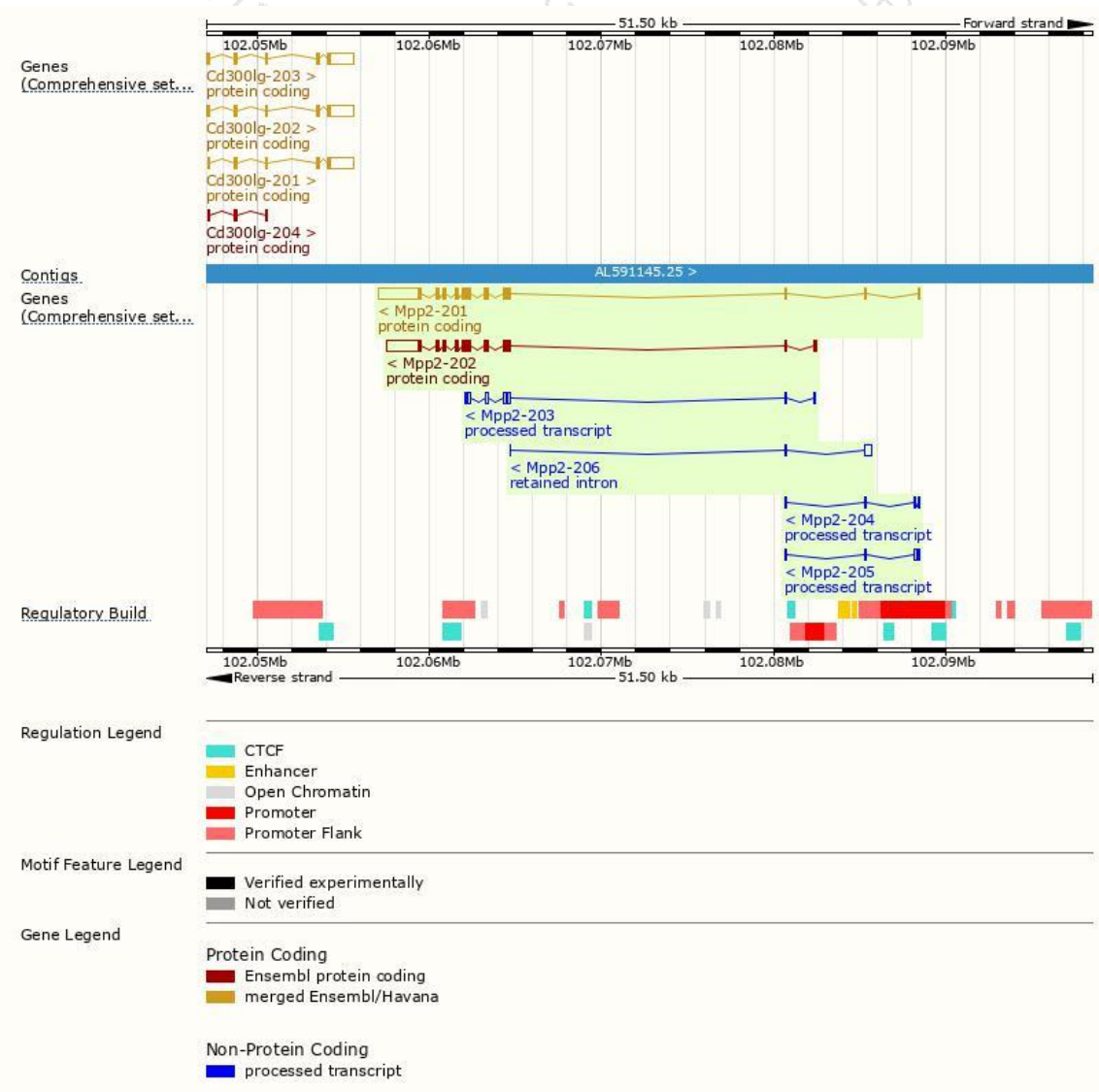
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Mpp2-201	ENSMUST00000017458.10	4089	552aa	Protein coding	CCDS25485	Q9WV34	TSL:1 GENCODE basic APPRIS P2
Mpp2-202	ENSMUST00000100398.4	3577	569aa	Protein coding	-	Q9WV34	TSL:1 GENCODE basic APPRIS ALT 1
Mpp2-203	ENSMUST00000127522.7	830	No protein	Processed transcript	-	-	TSL:5
Mpp2-204	ENSMUST00000130903.7	368	No protein	Processed transcript	-	-	TSL:3
Mpp2-205	ENSMUST00000132687.1	350	No protein	Processed transcript	-	-	TSL:3
Mpp2-206	ENSMUST00000147126.7	612	No protein	Retained intron	-	-	TSL:5

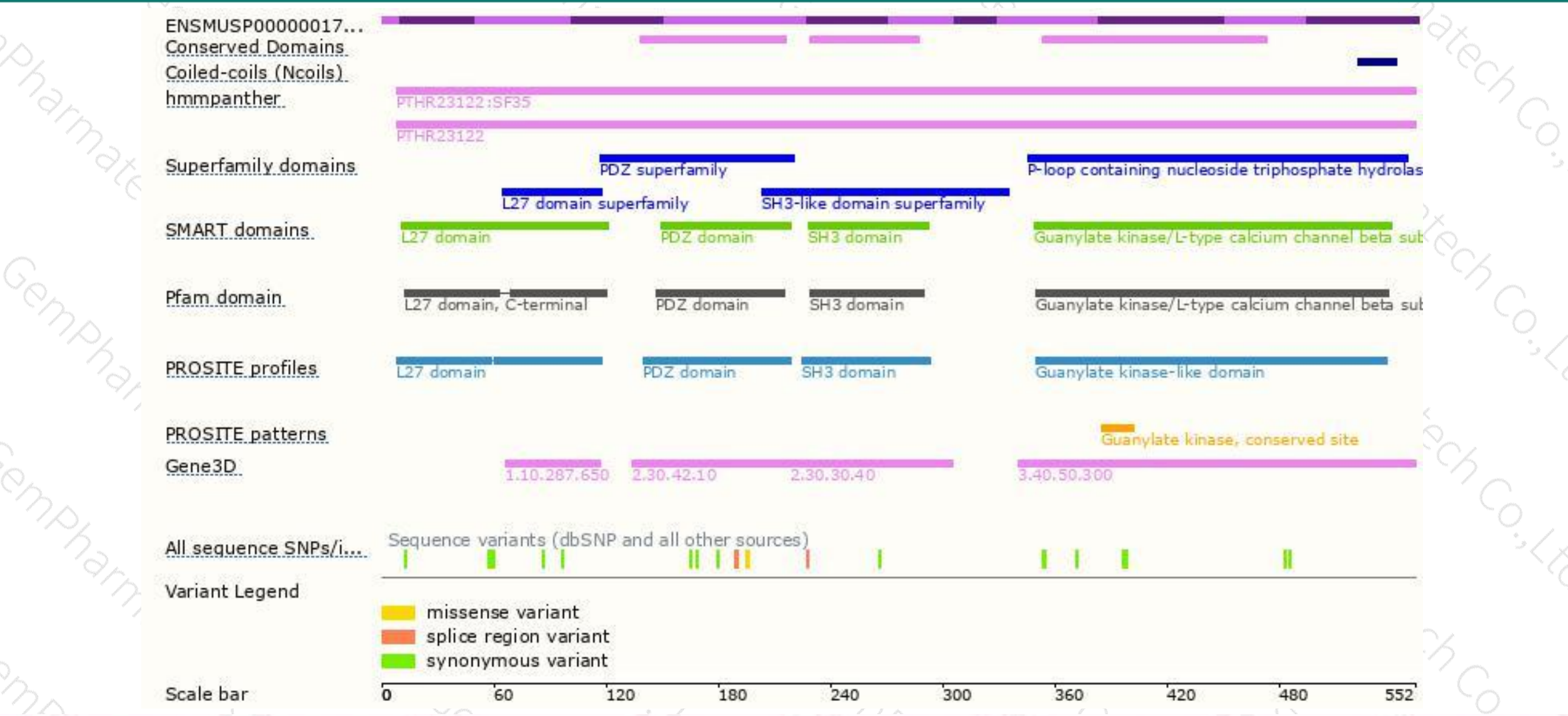
The strategy is based on the design of *Mpp2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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