

Mpp3 Cas9-KO Strategy

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Project Overview

Project Name

Mpp3

Project type

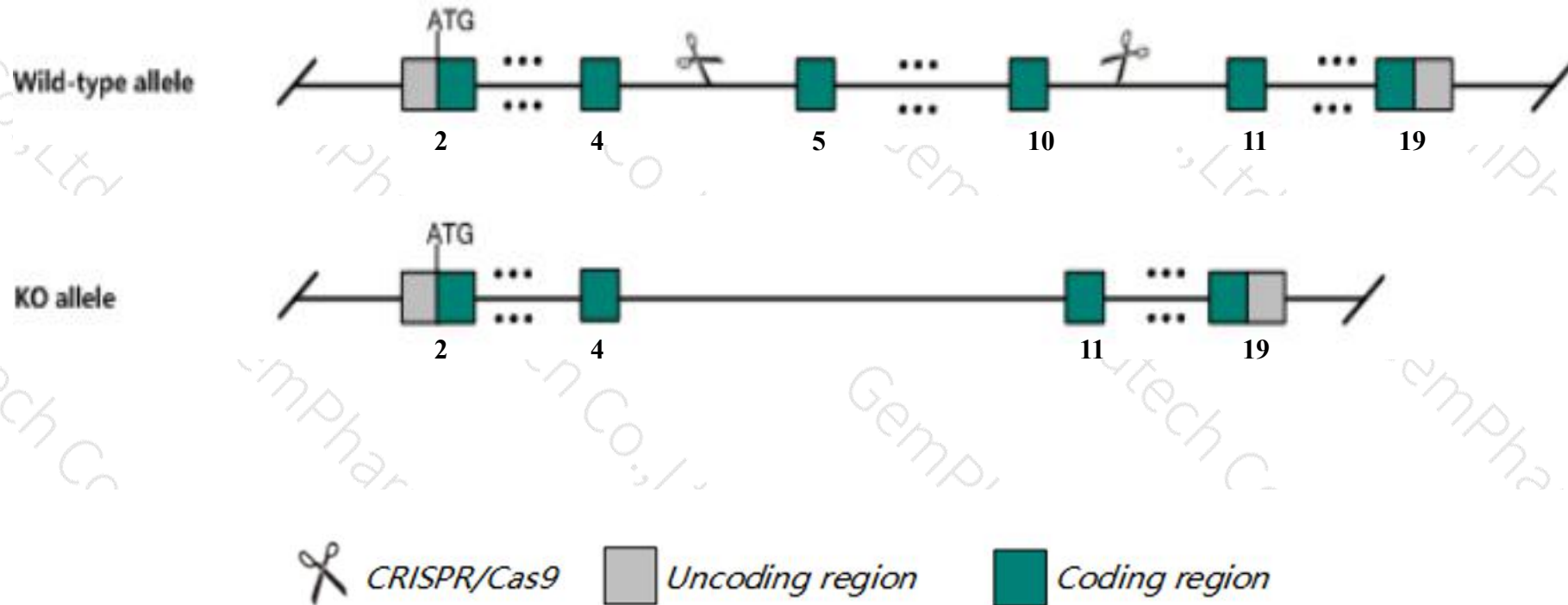
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Mpp3* gene. The schematic diagram is as follows:



- The *Mpp3* gene has 9 transcripts. According to the structure of *Mpp3* gene, exon5-exon10 of *Mpp3-204* (ENSMUST00000107168.7) transcript is recommended as the knockout region. The region contains 659bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Mpp3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Mpp3* 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)

Mpp3 membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3) [Mus musculus (house mouse)]

Gene ID: 13384, updated on 31-Jan-2019

Summary



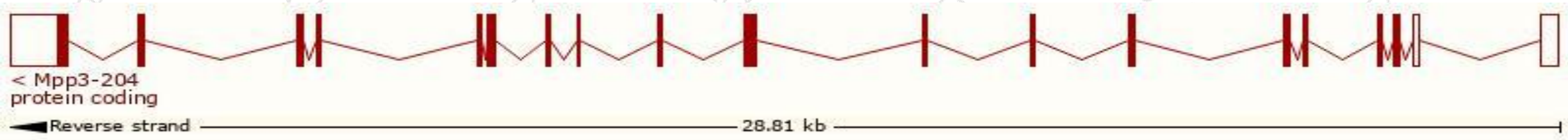
Official Symbol	Mpp3 provided by MGI
Official Full Name	membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3) provided by MGI
Primary source	MGI:MGI:1328354
See related	Ensembl:ENSMUSG00000052373
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	6430514B01, Dlgh3
Expression	Biased expression in cerebellum adult (RPKM 30.7), CNS E18 (RPKM 12.5) and 11 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

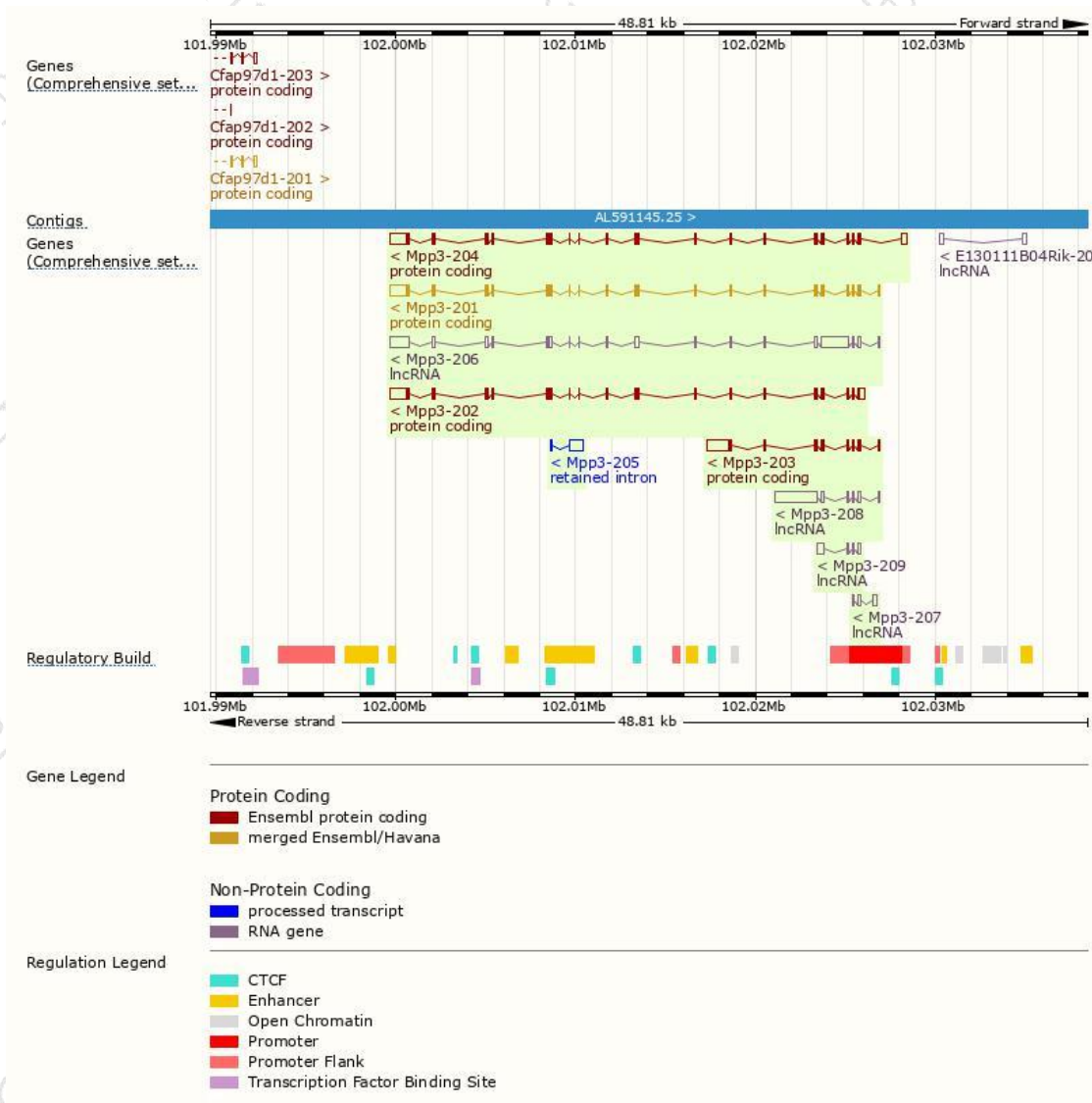
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Mpp3-204	ENSMUST00000107168.7	3094	585aa	Protein coding	CCDS36338	Q6XE40	TSL:5 GENCODE basic APPRIS P1
Mpp3-202	ENSMUST00000100400.8	2997	585aa	Protein coding	CCDS36338	Q6XE40	TSL:1 GENCODE basic APPRIS P1
Mpp3-201	ENSMUST00000062801.10	2848	585aa	Protein coding	CCDS36338	Q6XE40	TSL:1 GENCODE basic APPRIS P1
Mpp3-203	ENSMUST00000107167.1	2066	231aa	Protein coding	-	B1AQF7	TSL:1 GENCODE basic
Mpp3-205	ENSMUST00000127053.1	813	No protein	Retained intron	-	-	TSL:5
Mpp3-206	ENSMUST00000132094.7	4121	No protein	lncRNA	-	-	TSL:2
Mpp3-208	ENSMUST00000147838.7	2834	No protein	lncRNA	-	-	TSL:1
Mpp3-209	ENSMUST00000155751.1	672	No protein	lncRNA	-	-	TSL:2
Mpp3-207	ENSMUST00000141403.1	455	No protein	lncRNA	-	-	TSL:3

The strategy is based on the design of *Mpp3-204* transcript,The transcription is shown below



Genomic location distribution



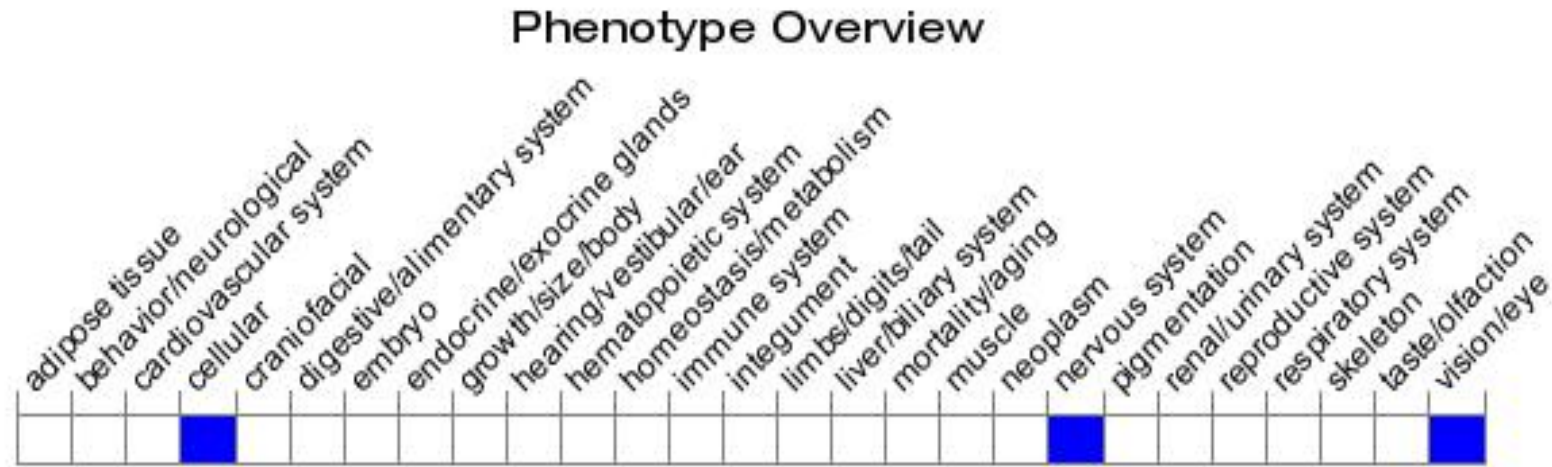
Protein domain



集萃药康
GemPharmatech



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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