

Ppp2r5d Cas9-KO Strategy

Designer: Yanhua Shen
Reviewer: Xueting Zhang
Design Date: 2019-09-25

Project Overview

Project Name

Ppp2r5d

Project type

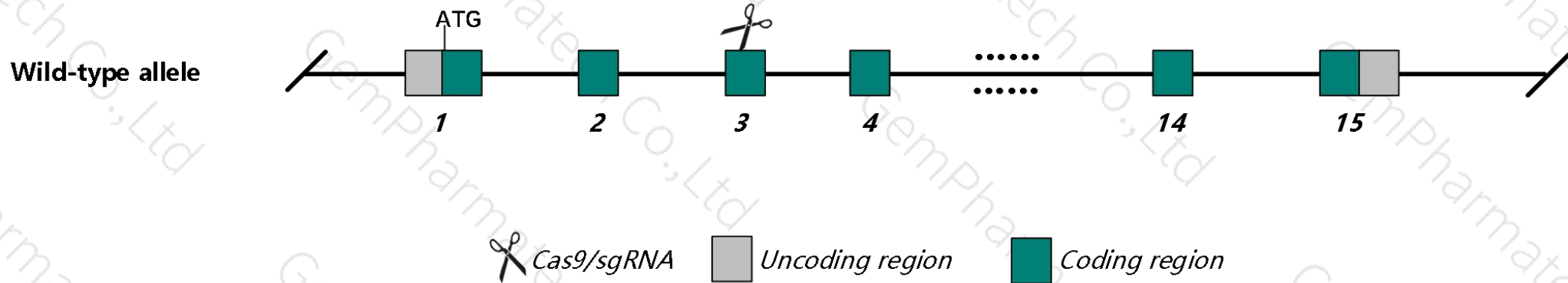
Cas9-KO

Strain background

C57BL/6N

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ppp2r5d* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Ppp2r5d* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6N 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/6N mice.

- According to the existing MGI data, mice homozygous for a gene-trap allele exhibit lethality, while heterozygous mice display decreased prepulse inhibition. Mice homozygous for a targeted knock-out allele exhibit decreased thermal nociception threshold, impaired coordination, and increased latency to removing an adhesive sticker.
- The *Ppp2r5d* gene is located on the Chr17. 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)

Ppp2r5d protein phosphatase 2, regulatory subunit B', delta [*Mus musculus* (house mouse)]

Gene ID: 21770, updated on 14-Aug-2019

Summary

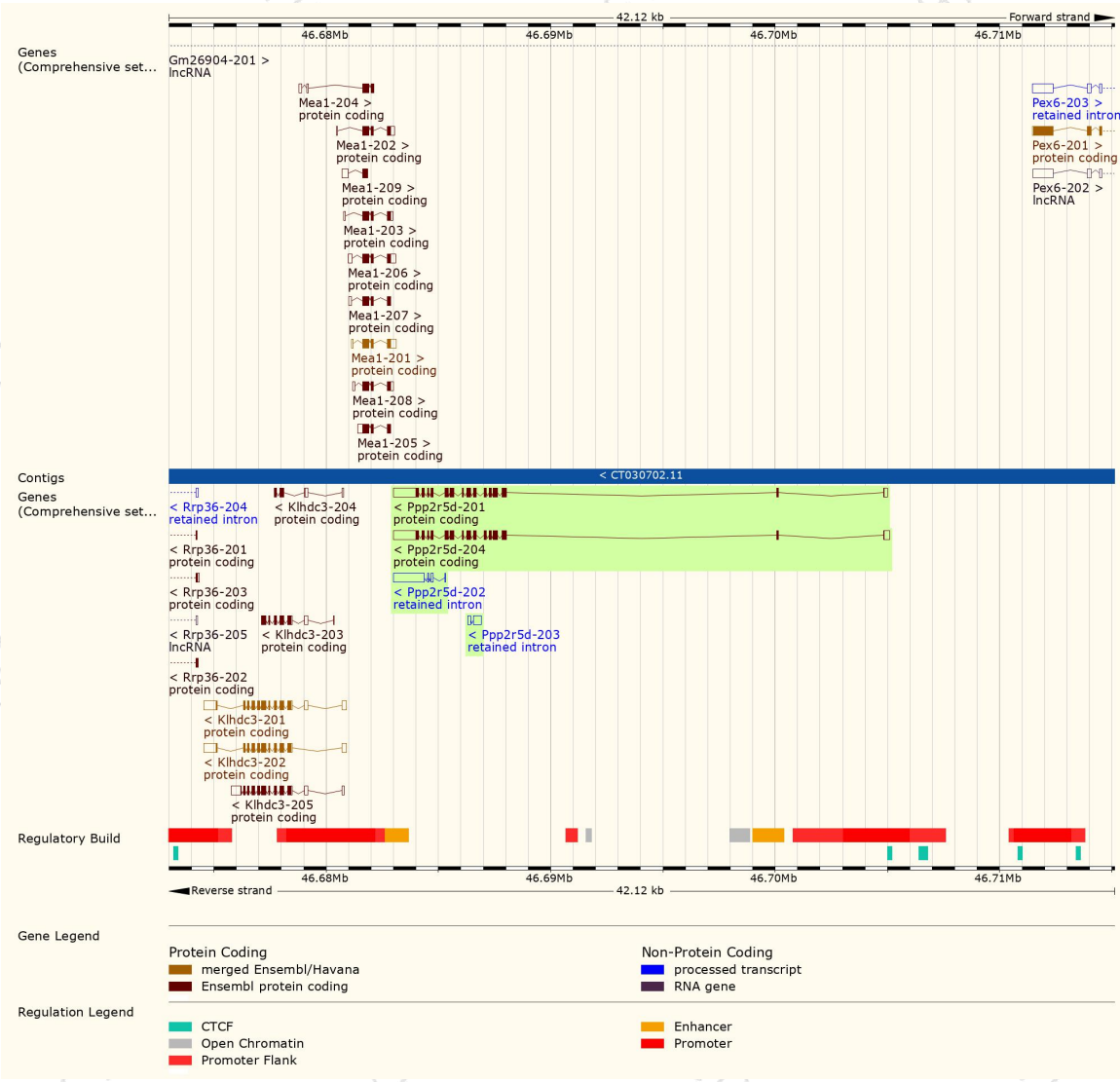
Official Symbol	Ppp2r5d provided by MGI
Official Full Name	protein phosphatase 2, regulatory subunit B', delta provided by MGI
Primary source	MGI:MGI:2388481
See related	Ensembl:ENSMUSG00000059409
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Tex271; B'delta; TEG-271
Expression	Ubiquitous expression in large intestine adult (RPKM 36.1), CNS E11.5 (RPKM 34.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

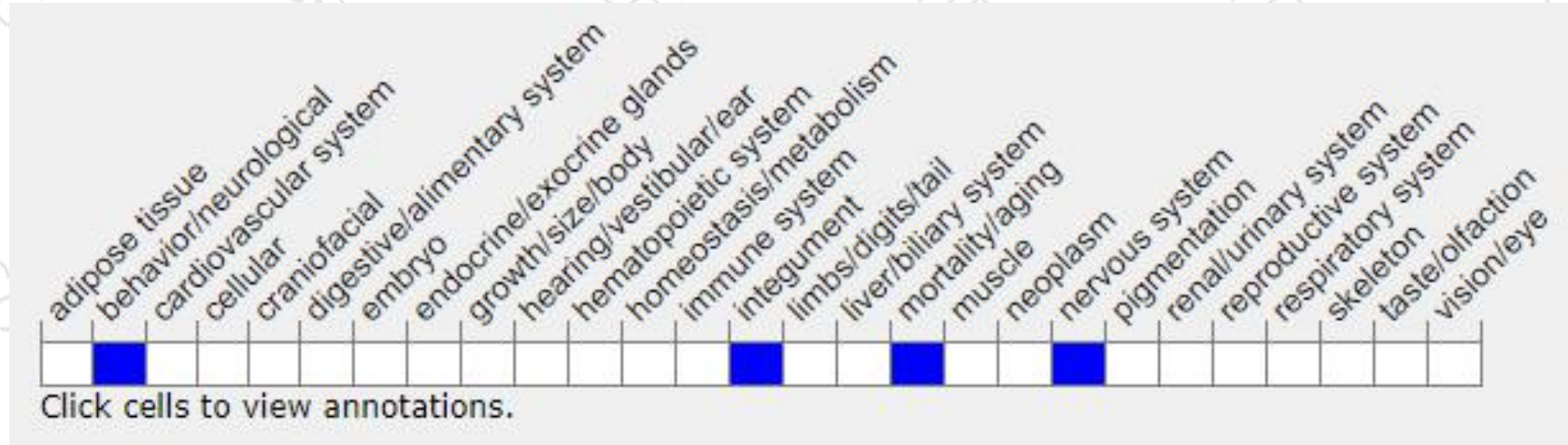
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ppp2r5d-201	ENSMUST00000002839.8	2926	594aa	Protein coding	CCDS28836	Q91V89	TSL:1 GENCODE basic APPRIS P2
Ppp2r5d-204	ENSMUST00000233988.1	3038	595aa	Protein coding	-	Q7TNL5	GENCODE basic APPRIS ALT2
Ppp2r5d-202	ENSMUST00000233082.1	1587	No protein	Retained intron	-	-	-
Ppp2r5d-203	ENSMUST00000233757.1	485	No protein	Retained intron	-	-	-

Genomic location distribution



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

According to the existing MGI data, mice homozygous for a gene-trap allele exhibit lethality, while heterozygous mice display decreased prepulse inhibition. Mice homozygous for a targeted knock-out allele exhibit decreased thermal nociception threshold, impaired coordination, and increased latency to removing an adhesive sticker.

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

Tel: 025-5864 1534

