

# *Ppp1r12b* Cas9-KO Strategy

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**Reviewer:**

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# Project Overview

**Project Name**

*Ppp1r12b*

**Project type**

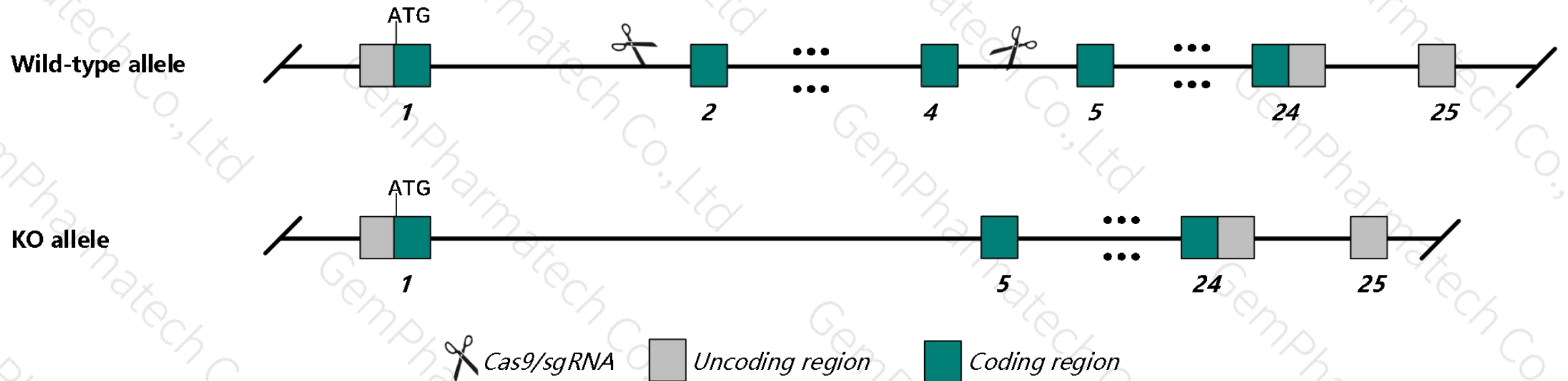
**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ppp1r12b* gene. The schematic diagram is as follows:



- The *Ppp1r12b* gene has 10 transcripts. According to the structure of *Ppp1r12b* gene, exon2-exon4 of *Ppp1r12b*-209 (ENSMUST00000168381.7) transcript is recommended as the knockout region. The region contains 410bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ppp1r12b* gene. The brief process is as follows: CRISPR/Cas9 sys

- The *Ppp1r12b* gene is located on the Chr1. 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.
- Transcript *Ppp1r12b-211* may not be affected.
- 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)

## Ppp1r12b protein phosphatase 1, regulatory subunit 12B [ *Mus musculus* (house mouse) ]

Gene ID: 329251, updated on 14-Aug-2019

### Summary



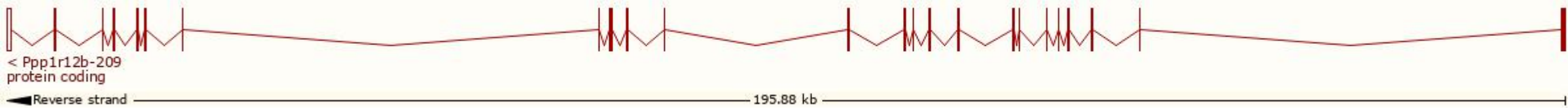
Official Symbol	Ppp1r12b provided by MGI
Official Full Name	protein phosphatase 1, regulatory subunit 12B provided by MGI
Primary source	<a href="#">MGI:MGI:1916417</a>
See related	<a href="#">Ensembl:ENSMUSG00000073557</a>
Gene type	protein coding
RefSeq status	VALIDATED
Organism	<a href="#">Mus musculus</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Mypt2; AI132431; 1810037O03Rik; 9530009M10Rik
Expression	Broad expression in bladder adult (RPKM 30.2), heart adult (RPKM 14.8) and 21 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

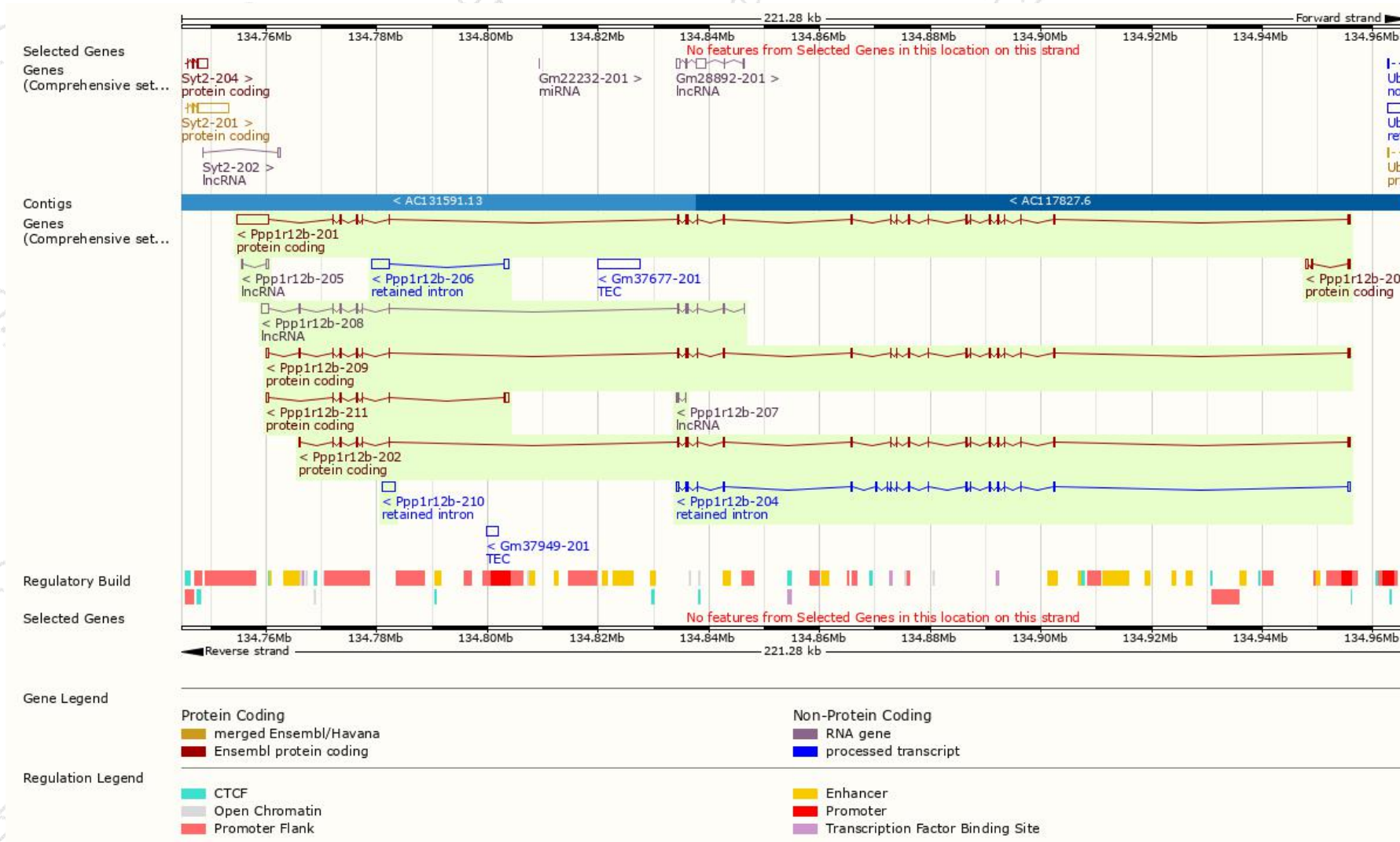
The gene has 11 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ppp1r12b-201	<a href="#">ENSMUST00000045665.12</a>	8840	<a href="#">976aa</a>	Protein coding	-	<a href="#">Q8BG95</a>	TSL:5 GENCODE basic APPRIS ALT2
Ppp1r12b-203	<a href="#">ENSMUST00000112163.1</a>	828	<a href="#">105aa</a>	Protein coding	-	<a href="#">Q8BG95</a>	TSL:1 GENCODE basic
Ppp1r12b-209	<a href="#">ENSMUST00000168381.7</a>	3621	<a href="#">992aa</a>	Protein coding	<a href="#">CCDS35717</a>	<a href="#">A6H644</a>	TSL:1 GENCODE basic APPRIS P2
Ppp1r12b-202	<a href="#">ENSMUST00000086444.5</a>	3137	<a href="#">992aa</a>	Protein coding	<a href="#">CCDS35717</a>	<a href="#">A6H644</a>	TSL:5 GENCODE basic APPRIS P2
Ppp1r12b-211	<a href="#">ENSMUST00000238280.1</a>	1521	<a href="#">186aa</a>	Protein coding	-	-	GENCODE basic
Ppp1r12b-206	<a href="#">ENSMUST00000141419.1</a>	3808	No protein	Retained intron	-	-	TSL:1
Ppp1r12b-204	<a href="#">ENSMUST00000132025.1</a>	3213	No protein	Retained intron	-	-	TSL:1
Ppp1r12b-210	<a href="#">ENSMUST00000191540.1</a>	2351	No protein	Retained intron	-	-	TSL:NA
Ppp1r12b-208	<a href="#">ENSMUST00000156348.7</a>	2671	No protein	lncRNA	-	-	TSL:1
Ppp1r12b-205	<a href="#">ENSMUST00000137022.1</a>	660	No protein	lncRNA	-	-	TSL:2
Ppp1r12b-207	<a href="#">ENSMUST00000146639.1</a>	277	No protein	lncRNA	-	-	TSL:5

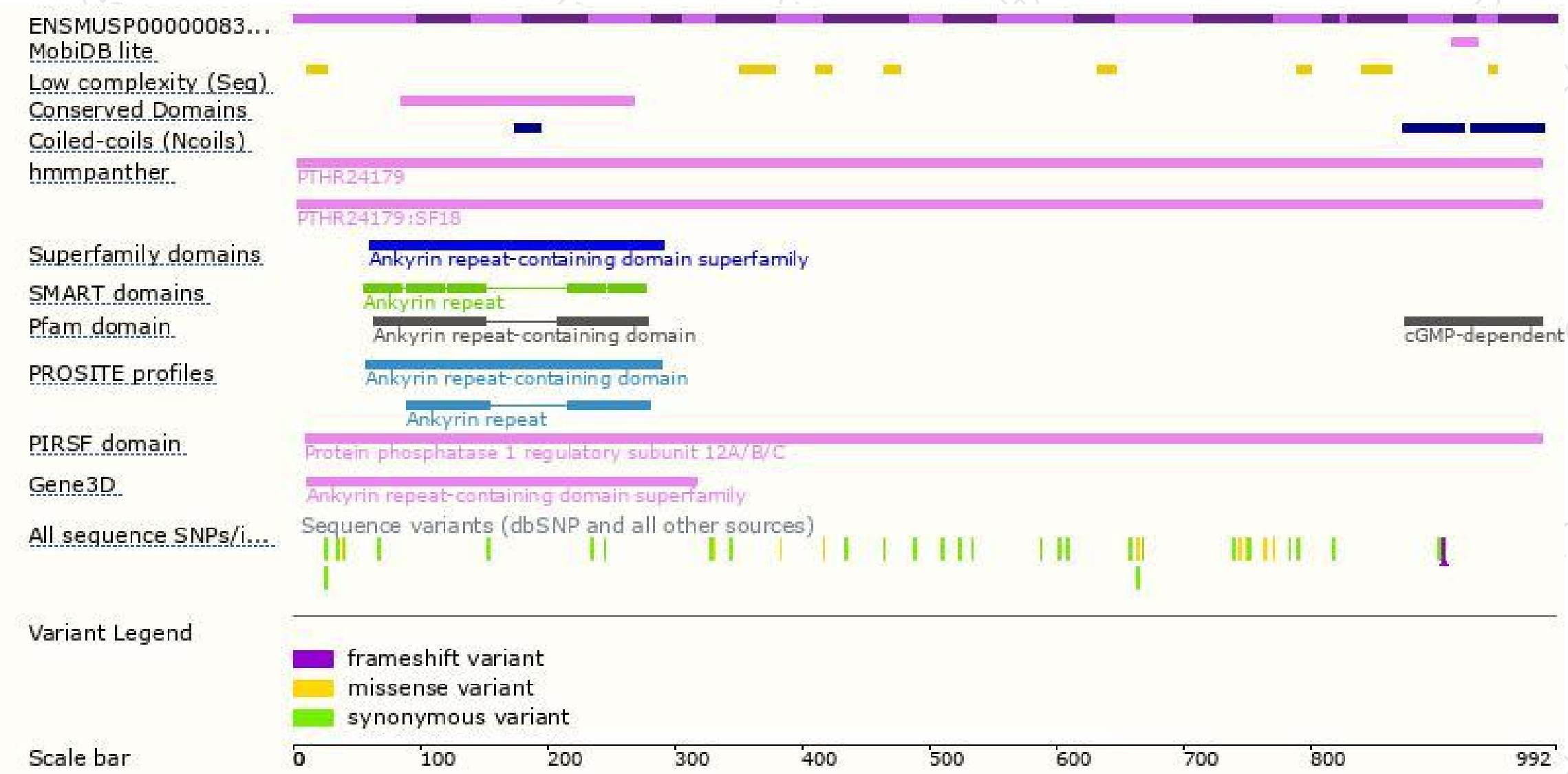
The strategy is based on the design of *Ppp1r12b-209* transcript,The transcription is shown below



# Genomic location distribution



# Protein domain



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

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