

# *Ppp1cb* Cas9-KO Strategy

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# Project Overview

**Project Name**

*Ppp1cb*

**Project type**

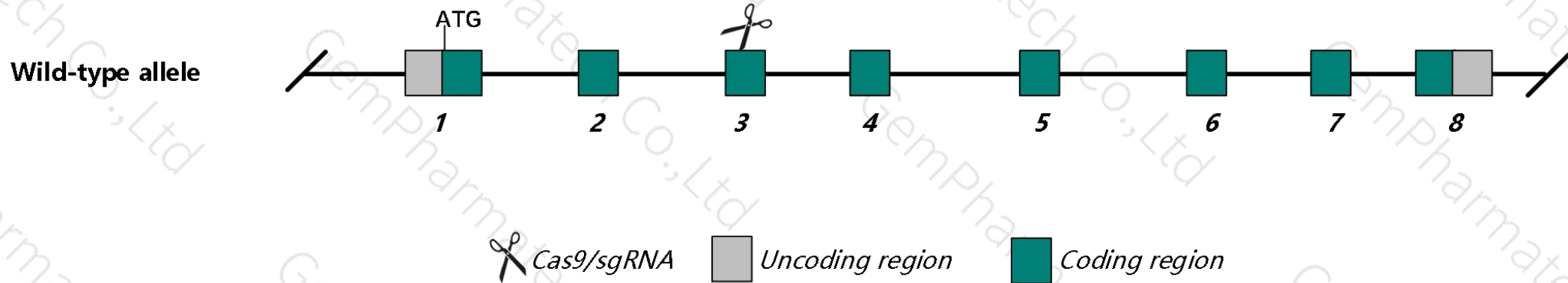
**Cas9-KO**

**Strain background**

**C57BL/6N**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ppp1cb* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Ppp1cb* 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, homozygous mutation of this gene results in lethality before weaning.
- The *Ppp1cb* gene is located on the Chr5. 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)

## Ppp1cb protein phosphatase 1 catalytic subunit beta [ *Mus musculus* (house mouse) ]

Gene ID: 19046, updated on 12-Aug-2019

### Summary

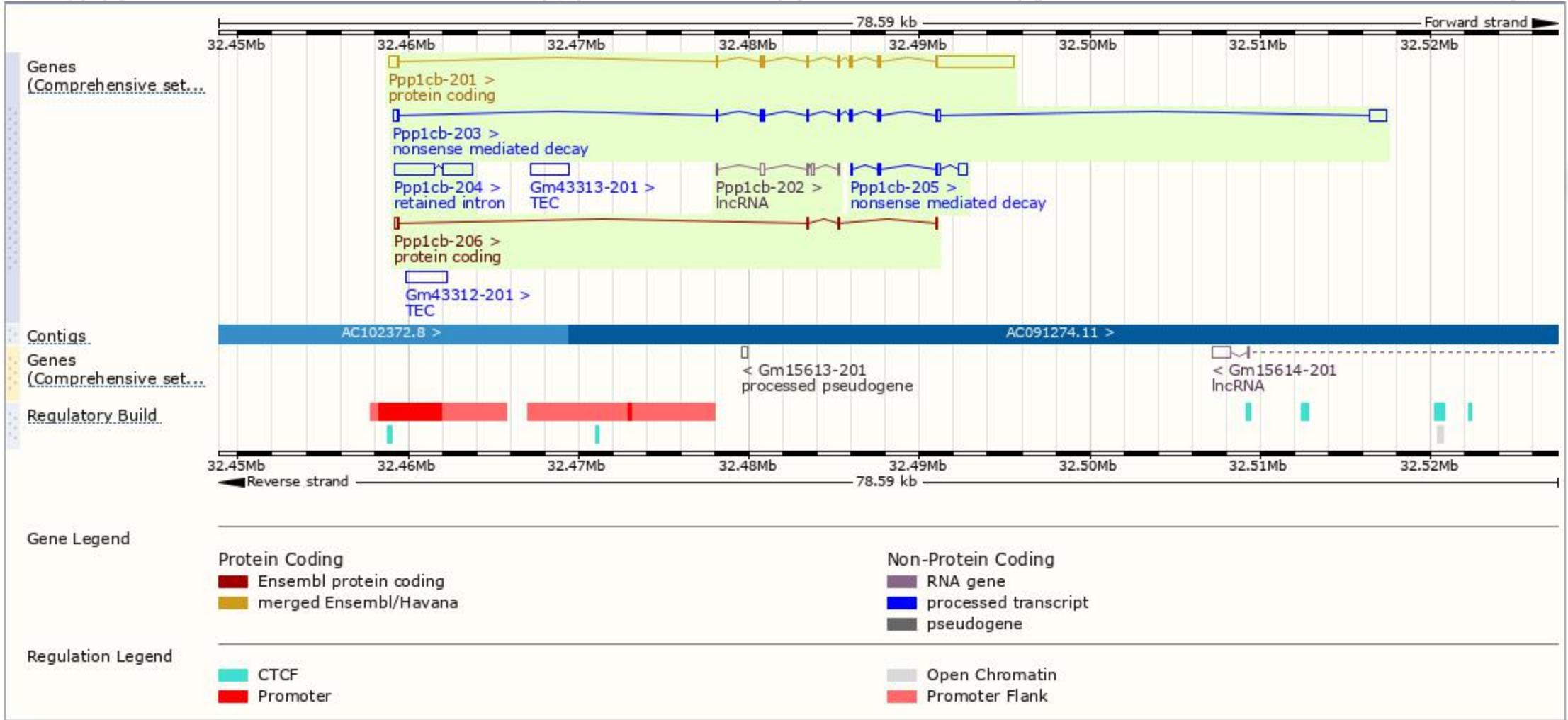
Official Symbol	Ppp1cb provided by <a href="#">MGI</a>
Official Full Name	protein phosphatase 1 catalytic subunit beta provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:104871</a>
See related	<a href="#">Ensembl:ENSMUSG00000014956</a>
Gene type	protein coding
RefSeq status	VALIDATED
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	1200010B19
Expression	Broad expression in bladder adult (RPKM 116.5), liver E14 (RPKM 43.7) and 17 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

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

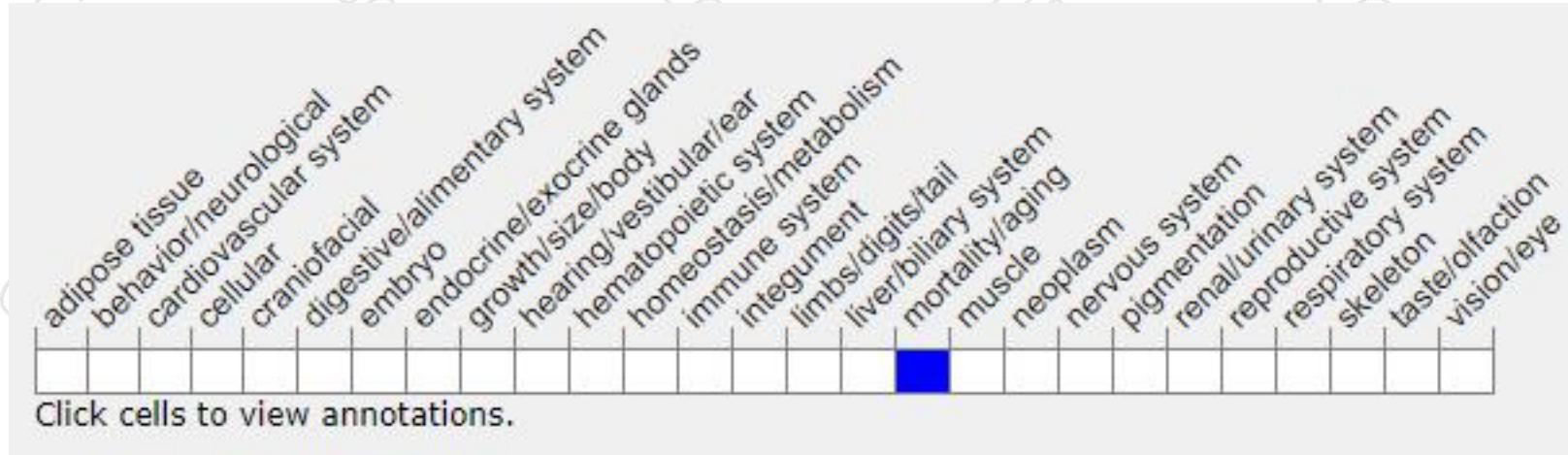
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ppp1cb-201	<a href="#">ENSMUST00000015100.14</a>	5962	<a href="#">327aa</a>	Protein coding	<a href="#">CCDS19193</a>	<a href="#">P62141</a>	TSL:1 GENCODE basic APPRIS P1
Ppp1cb-206	<a href="#">ENSMUST000000202078.1</a>	383	<a href="#">59aa</a>	Protein coding	-	<a href="#">A0A0J9YUG2</a>	TSL:5 GENCODE basic
Ppp1cb-203	<a href="#">ENSMUST000000201360.3</a>	2347	<a href="#">327aa</a>	Nonsense mediated decay	<a href="#">CCDS19193</a>	<a href="#">P62141</a>	TSL:1
Ppp1cb-205	<a href="#">ENSMUST000000201880.1</a>	861	<a href="#">100aa</a>	Nonsense mediated decay	-	<a href="#">A0A0J9YUU8</a>	CDS 5' incomplete TSL:5
Ppp1cb-204	<a href="#">ENSMUST000000201600.1</a>	4000	No protein	Retained intron	-	-	TSL:1
Ppp1cb-202	<a href="#">ENSMUST000000201207.1</a>	638	No protein	lncRNA	-	-	TSL:5

# 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, homozygous mutation of this gene results in lethality before weaning.

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

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