

Gipc2 Cas9-KO Strategy

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Project Overview

Project Name

Gipc2

Project type

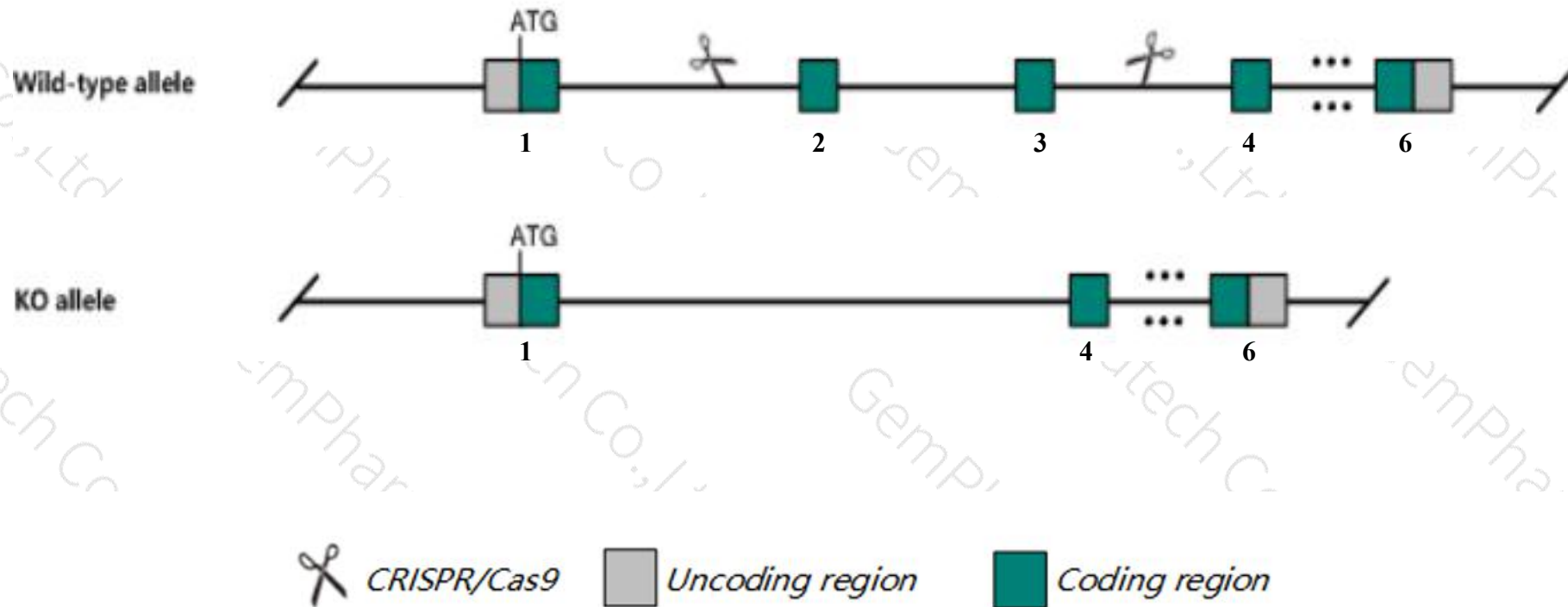
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Gipc2* gene. The schematic diagram is as follows:



- The *Gipc2* gene has 9 transcripts. According to the structure of *Gipc2* gene, exon2-exon3 of *Gipc2*-201(ENSMUST00000046614.9) transcript is recommended as the knockout region. The region contains 367bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Gipc2* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt 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/6JGpt mice.

- The *Gipc2* gene is located on the Chr3. 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)

Gipc2 GIPC PDZ domain containing family, member 2 [Mus musculus (house mouse)]

Gene ID: 54120, updated on 13-Mar-2020

Summary



Official Symbol [Gipc2](#) provided by [MGI](#)

Official Full Name [GIPC PDZ domain containing family, member 2](#) provided by [MGI](#)

Primary source [MGI:MGI:1889209](#)

See related [Ensembl:ENSMUSG00000039131](#)

Gene type protein coding

RefSeq status PROVISIONAL

Organism [Mus musculus](#)

Lineage Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus

Also known as [2200002N01Rik](#), [AU021850](#), [Semcap2](#)

Expression Biased expression in colon adult (RPKM 43.0), placenta adult (RPKM 43.0) and 10 other tissues [See more](#)

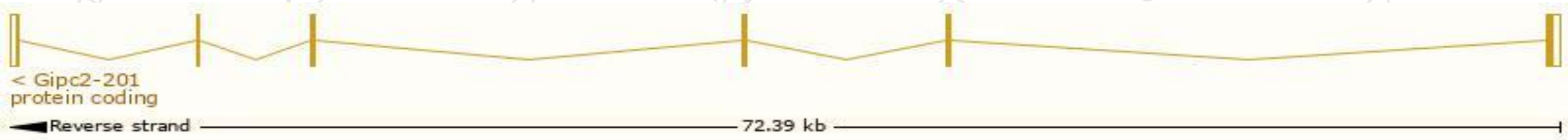
Orthologs [human all](#)

Transcript information (Ensembl)

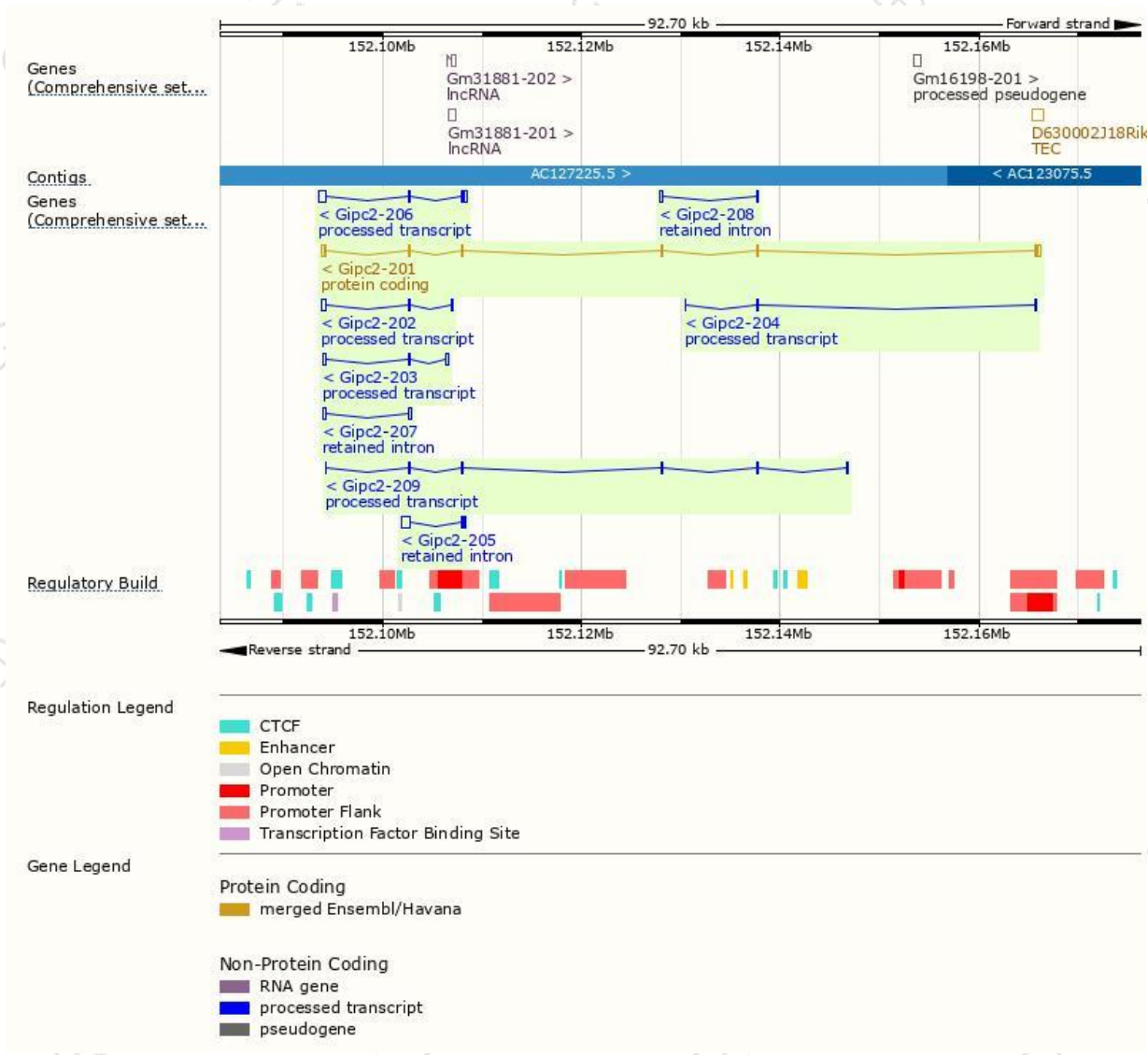
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Gipc2-201	ENSMUST00000046614.9	1596	314aa	Protein coding	CCDS17914	Q9Z2H7	TSL:1 GENCODE basic APPRIS P1
Gipc2-206	ENSMUST00000152283.7	1268	No protein	Processed transcript	-	-	TSL:1
Gipc2-209	ENSMUST00000200501.4	755	No protein	Processed transcript	-	-	TSL:3
Gipc2-202	ENSMUST00000128741.5	739	No protein	Processed transcript	-	-	TSL:2
Gipc2-203	ENSMUST00000130196.1	693	No protein	Processed transcript	-	-	TSL:5
Gipc2-204	ENSMUST00000133102.1	347	No protein	Processed transcript	-	-	TSL:3
Gipc2-205	ENSMUST00000133672.1	1064	No protein	Retained intron	-	-	TSL:1
Gipc2-208	ENSMUST00000197813.1	525	No protein	Retained intron	-	-	TSL:2
Gipc2-207	ENSMUST00000152680.1	513	No protein	Retained intron	-	-	TSL:2

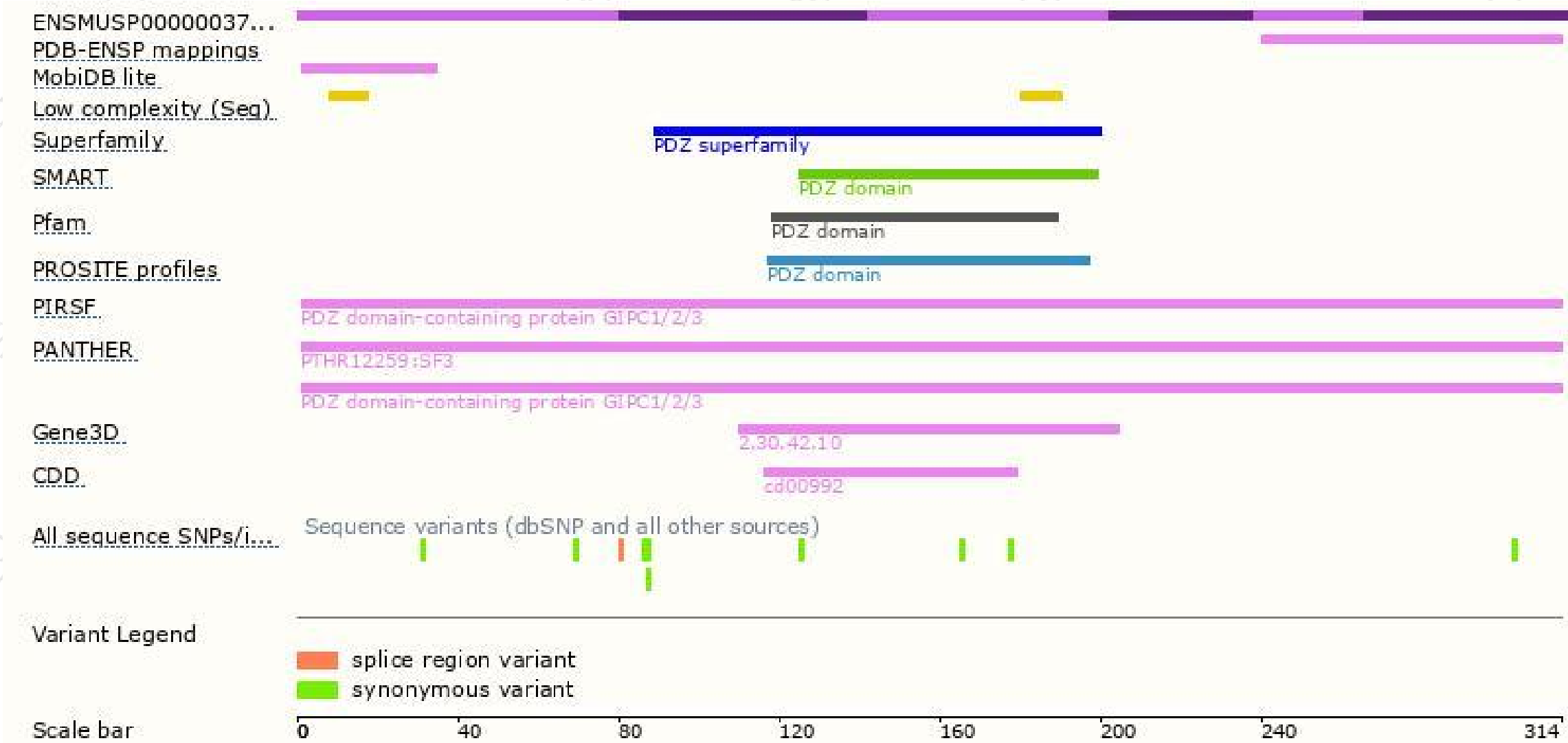
The strategy is based on the design of *Gipc2-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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