

Cilp2 Cas9-KO Strategy

Designer:

Qiong Zhou

Project Overview

Project Name

Cilp2

Project type

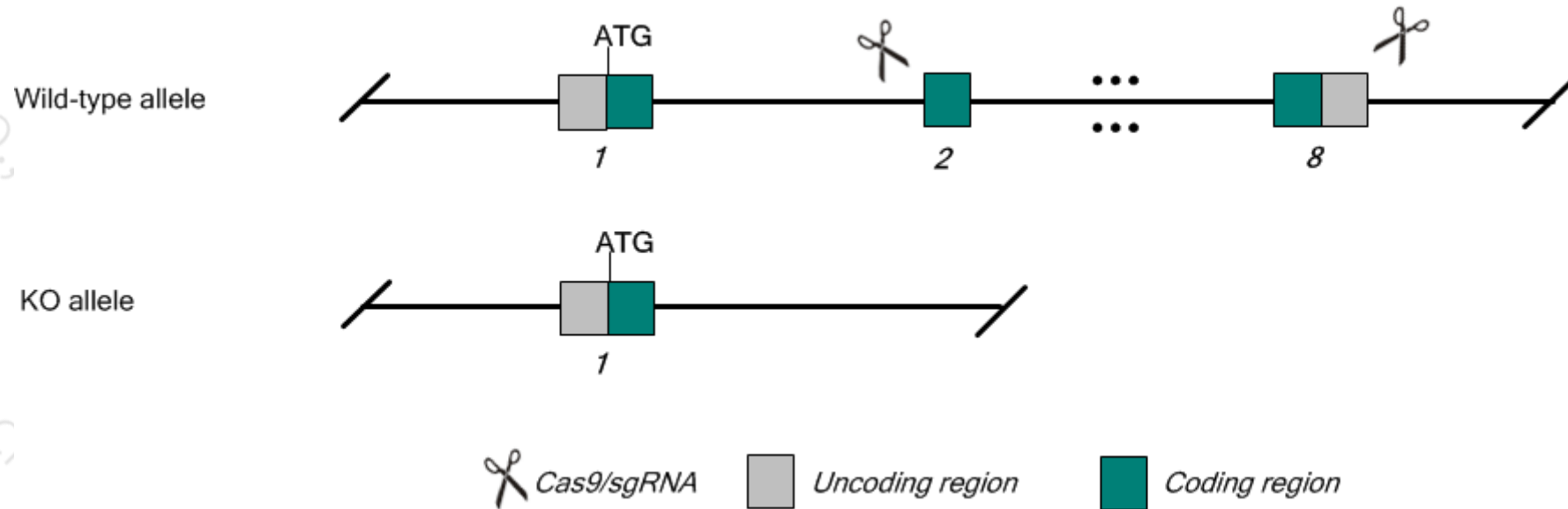
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cilp2* gene. The schematic diagram is as follows:



Technical routes

- The *Cilp2* gene has 1 transcripts, According to the structure of *Cilp2* gene, exon2-8 of *Cilp2-201* transcript is recommended as the knockout region. The region contains most of coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cilp2* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA 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 *Cilp2* gene is located on the Chr8. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Cilp2 cartilage intermediate layer protein 2 [*Mus musculus* (house mouse)]

Gene ID: 68709, updated on 31-Jan-2019

Summary

Official Symbol	Cilp2 provided by MGI
Official Full Name	cartilage intermediate layer protein 2 provided by MGI
Primary source	MGI:MGI:1915959
See related	Ensembl:ENSMUSG00000044006
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	CLIP-2; AA407300; 1110031K21Rik
Expression	Broad expression in heart adult (RPKM 6.0), whole brain E14.5 (RPKM 3.6) and 15 other tissues See more
Orthologs	human all

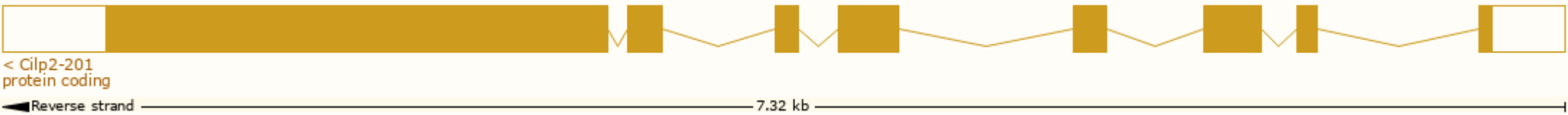
Transcript information (Ensembl)



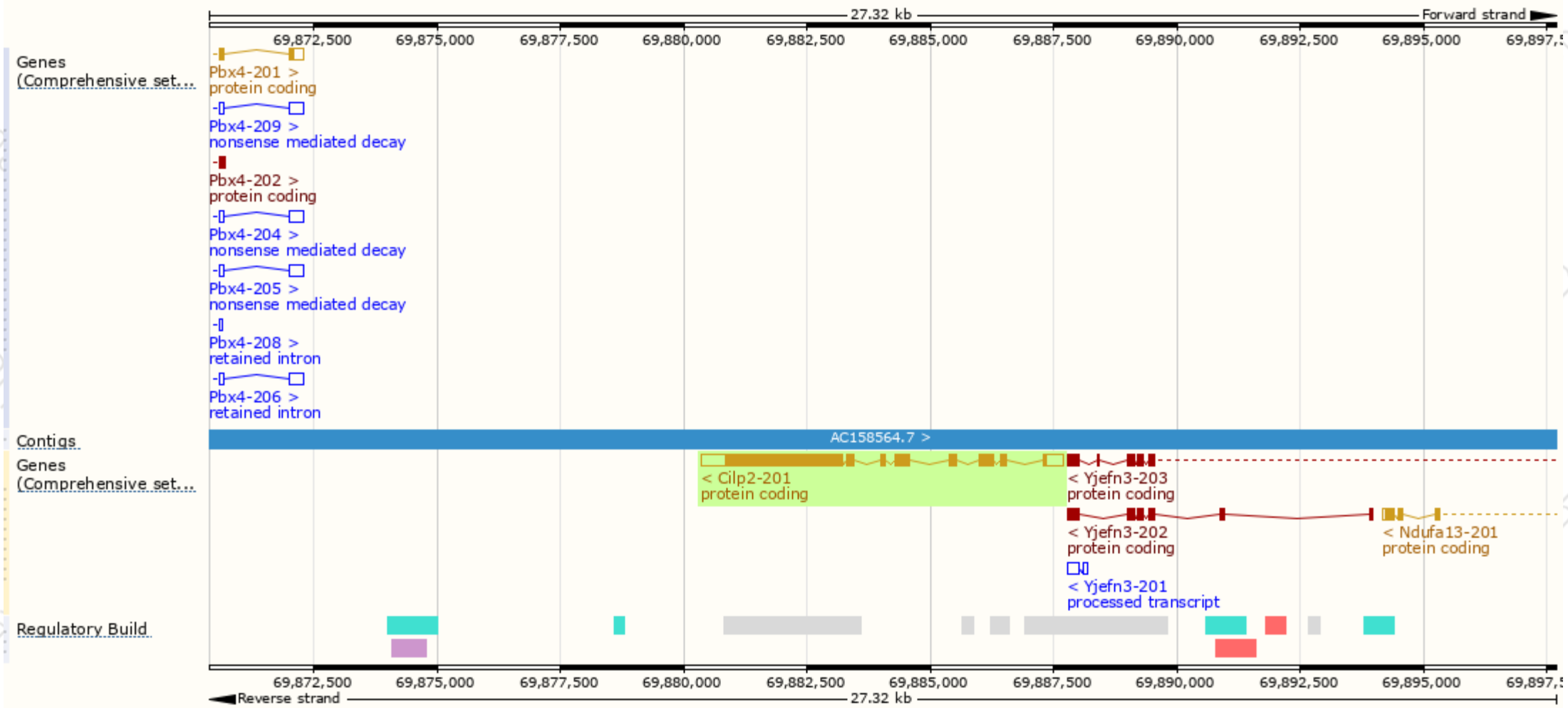
The gene has 1 transcripts, and the transcript is shown below :

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	RefSeq	Flags
Cilp2-201	ENSMUST00000057831.7	4314	1162aa	Protein coding	CCDS40363	D3Z7H8	NM_026818 NP_081094	TSL:5 GENCODE basic APPRIS P1

The strategy is based on the design of *Cilp2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



If you have any questions, you are welcome to inquire.
Tel: 025-5864 1534

