

Pcgf6 Cas9-KO Strategy

Designer: Xueting Zhang

Reviewer: Yanhua Shen

Date: 2020-02-14

Project Overview

Project Name

Pcgf6

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Pcgf6* gene. The schematic diagram is as follows:



- The *Pcgef6* gene has 4 transcripts. According to the structure of *Pcgef6* gene, exon2-exon6 of *Pcgef6-201* (ENSMUST00000026032.6) transcript is recommended as the knockout region. The region contains 422bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Pcgef6* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Pcgf6* gene is located on the Chr19. 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)

Pcgf6 polycomb group ring finger 6 [*Mus musculus* (house mouse)]

Gene ID: 71041, updated on 10-Oct-2019

Summary

- Official Symbol** Pcgf6 provided by [MGI](#)
- Official Full Name** polycomb group ring finger 6 provided by [MGI](#)
- Primary source** [MGI:MGI:1918291](#)
- See related** [Ensembl:ENSMUSG00000025050](#)
- 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** MBLR; Rnf134; AI604840; 4933407A11Rik
- Expression** Ubiquitous expression in CNS E18 (RPKM 18.0), whole brain E14.5 (RPKM 15.5) and 27 other tissues [See more](#)
- Orthologs** [human](#) [all](#)

Genomic context

Location: 19; 19 C3 See Pcgf6 in [Genome Data Viewer](#)

Exon count: 12

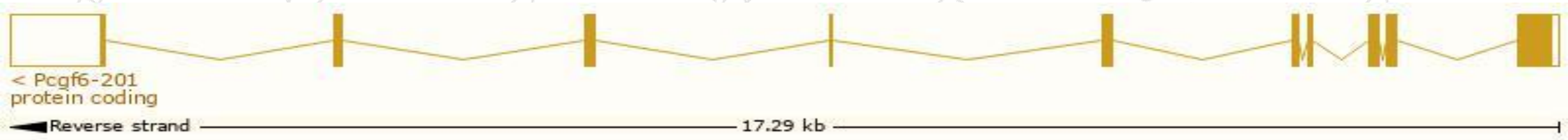
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	19	NC_000085.6 (47033617..47050939, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	19	NC_000085.5 (47108109..47125335, complement)

Transcript information (Ensembl)

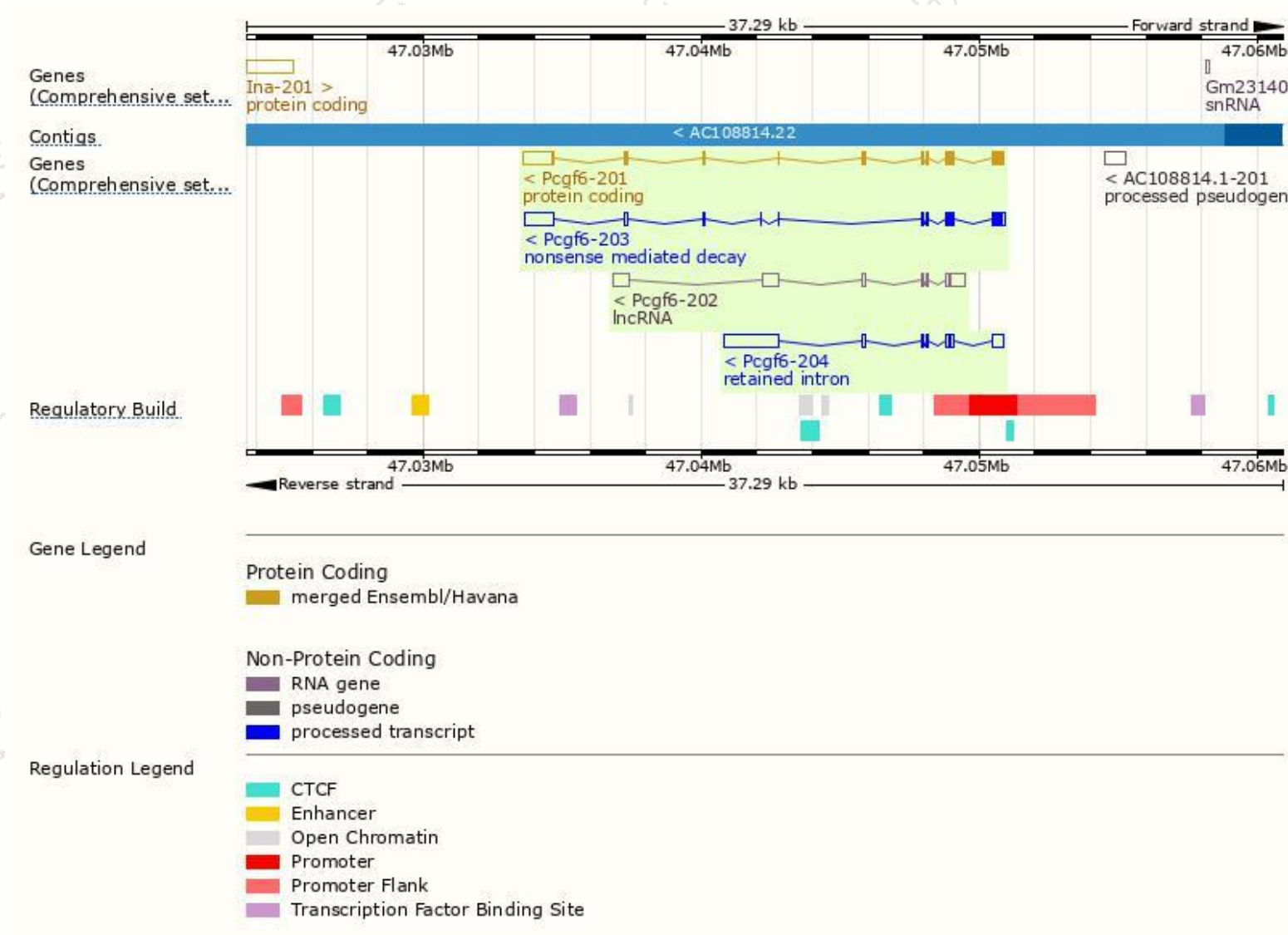
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Pcgf6-201	ENSMUST00000026032.6	2159	353aa	Protein coding	CCDS29885	Q99NA9	TSL:1 GENCODE basic APPRIS P1
Pcgf6-203	ENSMUST00000235633.1	2068	239aa	Nonsense mediated decay	-	-	
Pcgf6-204	ENSMUST00000236339.1	2832	No protein	Retained intron	-	-	
Pcgf6-202	ENSMUST00000235370.1	2004	No protein	lncRNA	-	-	

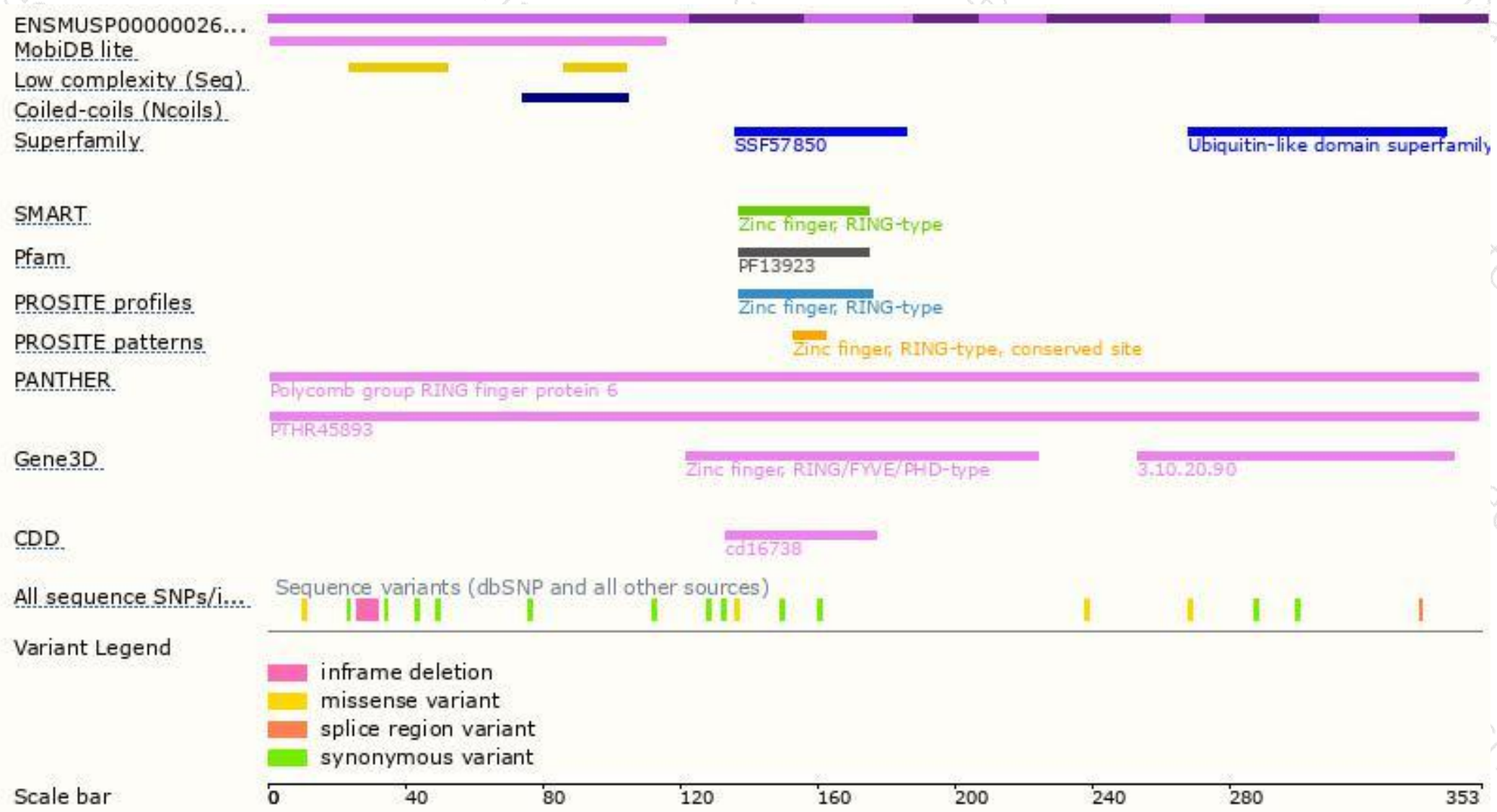
The strategy is based on the design of *Pcgf6-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

