

Gpr171 Cas9-KO Strategy

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Project Overview

Project Name

Gpr171

Project type

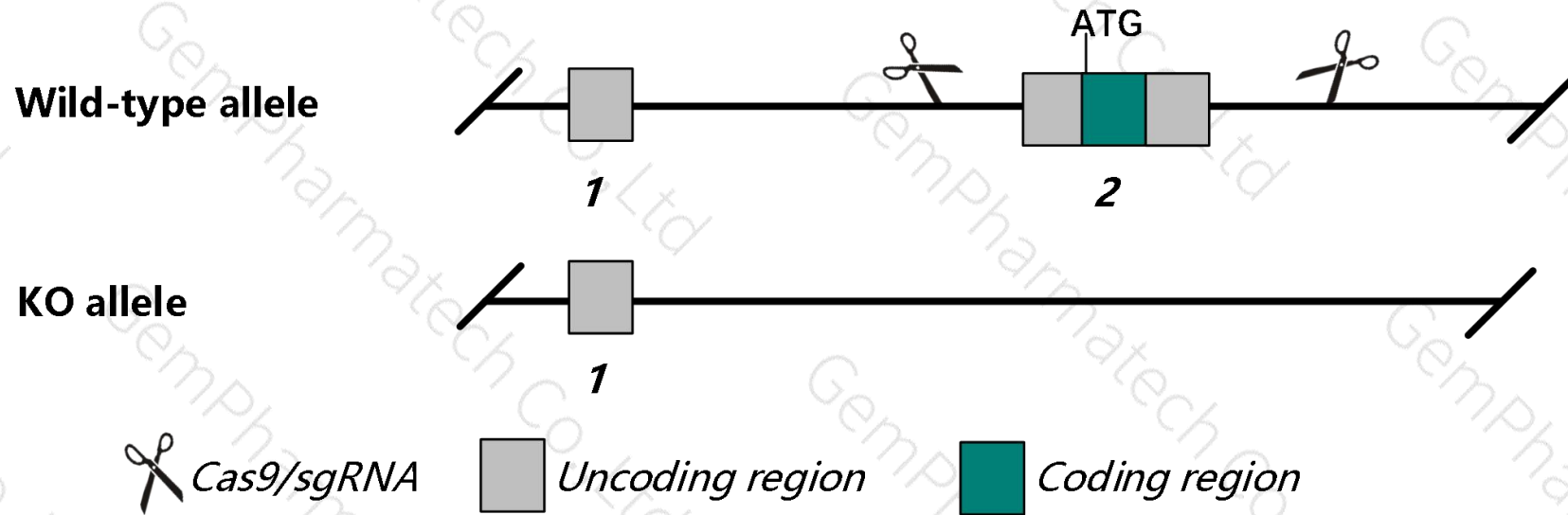
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Gpr171* gene. The schematic diagram is as follows:



- The *Gpr171* gene has 1 transcript. According to the structure of *Gpr171* gene, exon2 of *Gpr171-201*(ENSMUST00000085040.4) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Gpr171* 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 partial intron of *Med12l* gene will be deleted together in this strategy.
- The *Gpr171* 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)

Gpr171 G protein-coupled receptor 171 [Mus musculus (house mouse)]

Gene ID: 229323, updated on 13-Mar-2020

Summary



Official Symbol Gpr171 provided by [MGI](#)

Official Full Name G protein-coupled receptor 171 provided by [MGI](#)

Primary source [MGI:MGI:2442043](#)

See related [Ensembl:ENSMUSG00000050075](#)

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 A630006E05, F730001G15Rik, H963

Expression Biased expression in thymus adult (RPKM 4.5), spleen adult (RPKM 2.7) and 6 other tissues [See more](#)

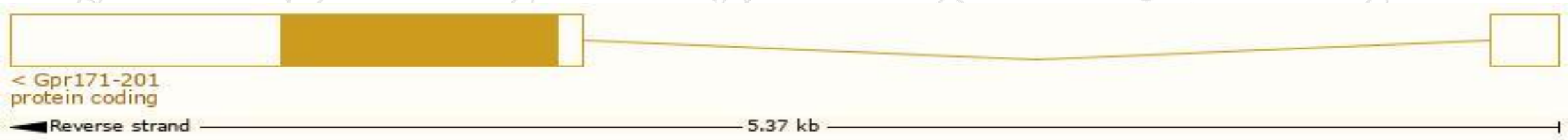
Orthologs [human all](#)

Transcript information (Ensembl)

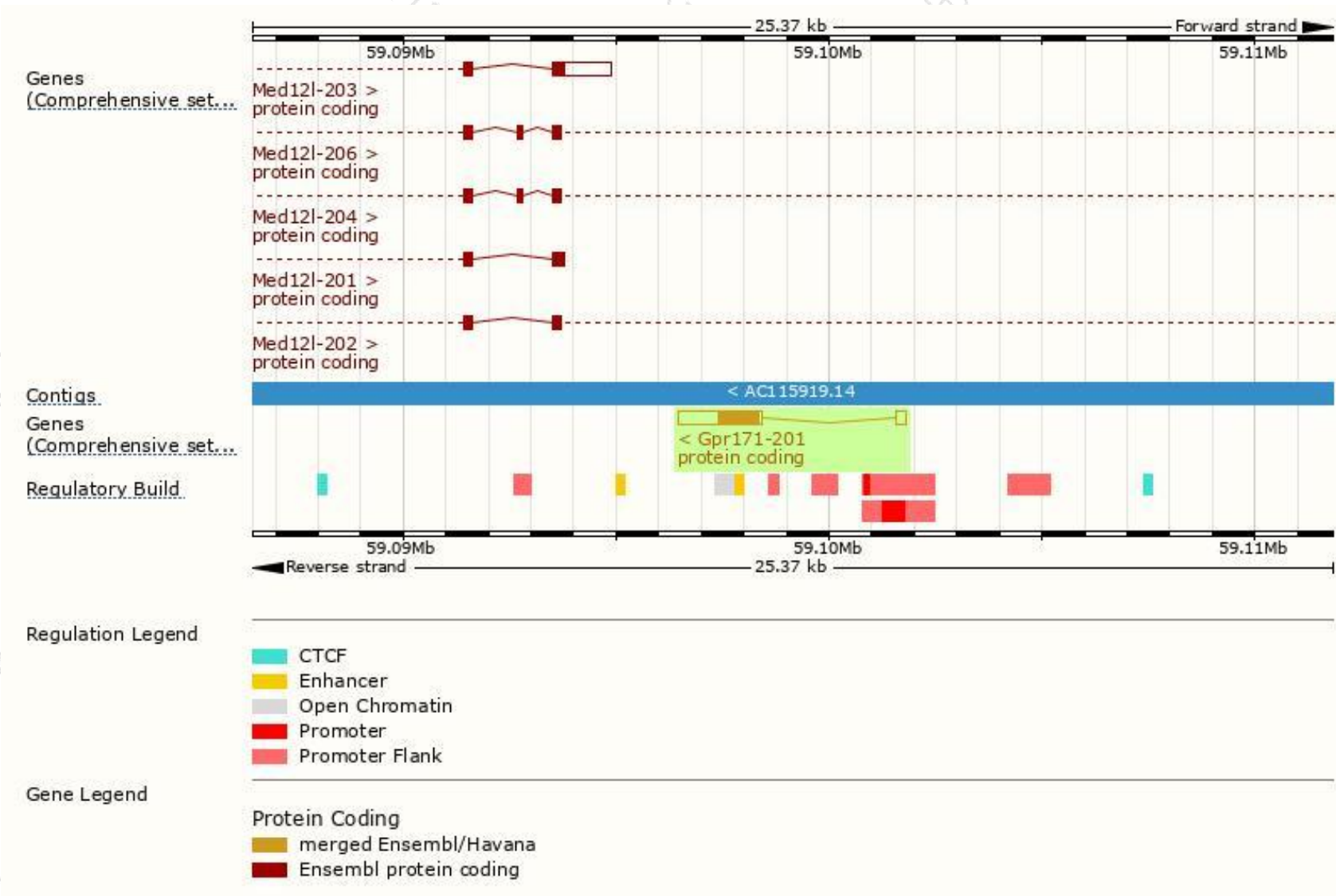
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Gpr171-201	ENSMUST00000085040.4	2225	319aa	Protein coding	CCDS17370	Q8BG55	TSL:1 GENCODE basic APPRIS P1

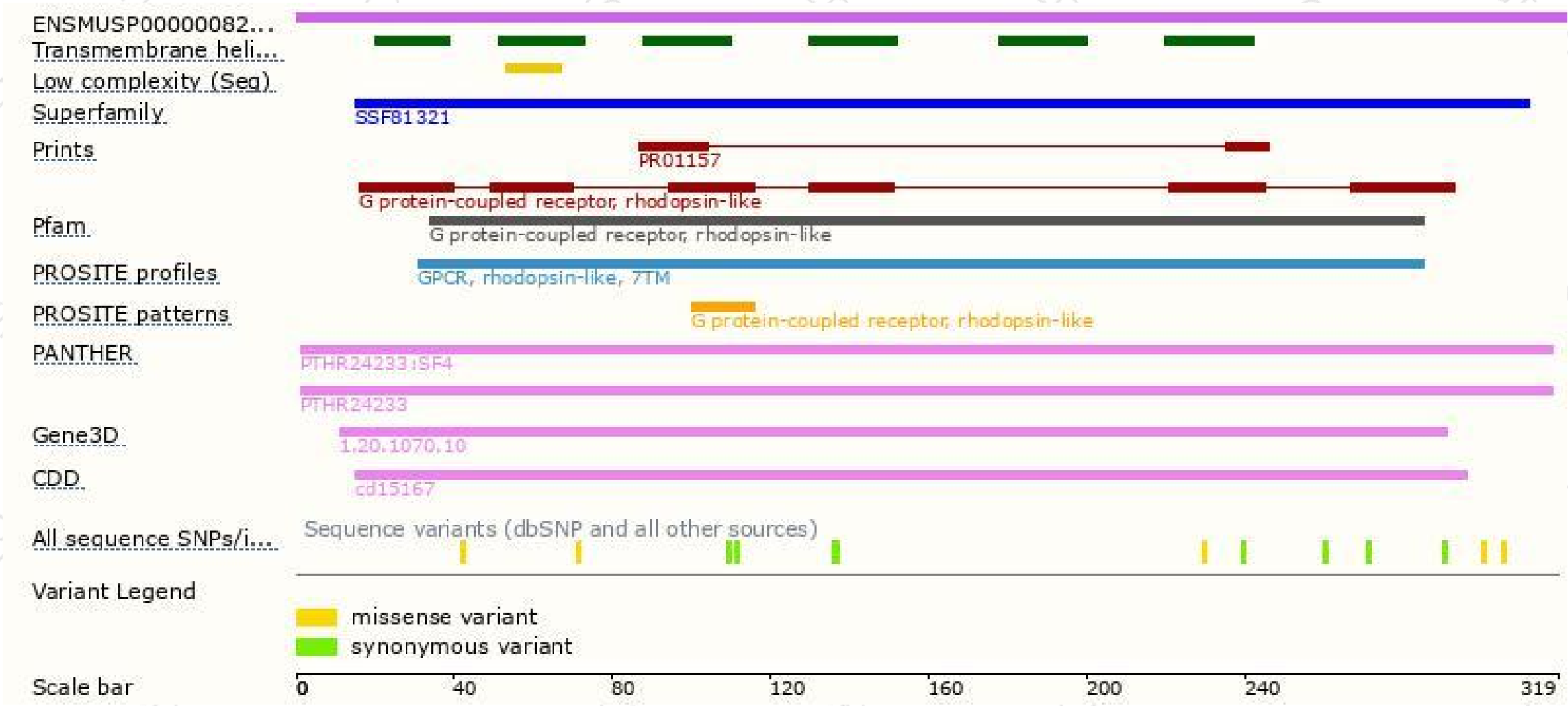
The strategy is based on the design of *Gpr171-201* transcript, the transcription is shown below:



Genomic location distribution



Protein domain



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

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