

Gpr61 Cas9-KO Strategy

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Project Overview

Project Name

Gpr61

Project type

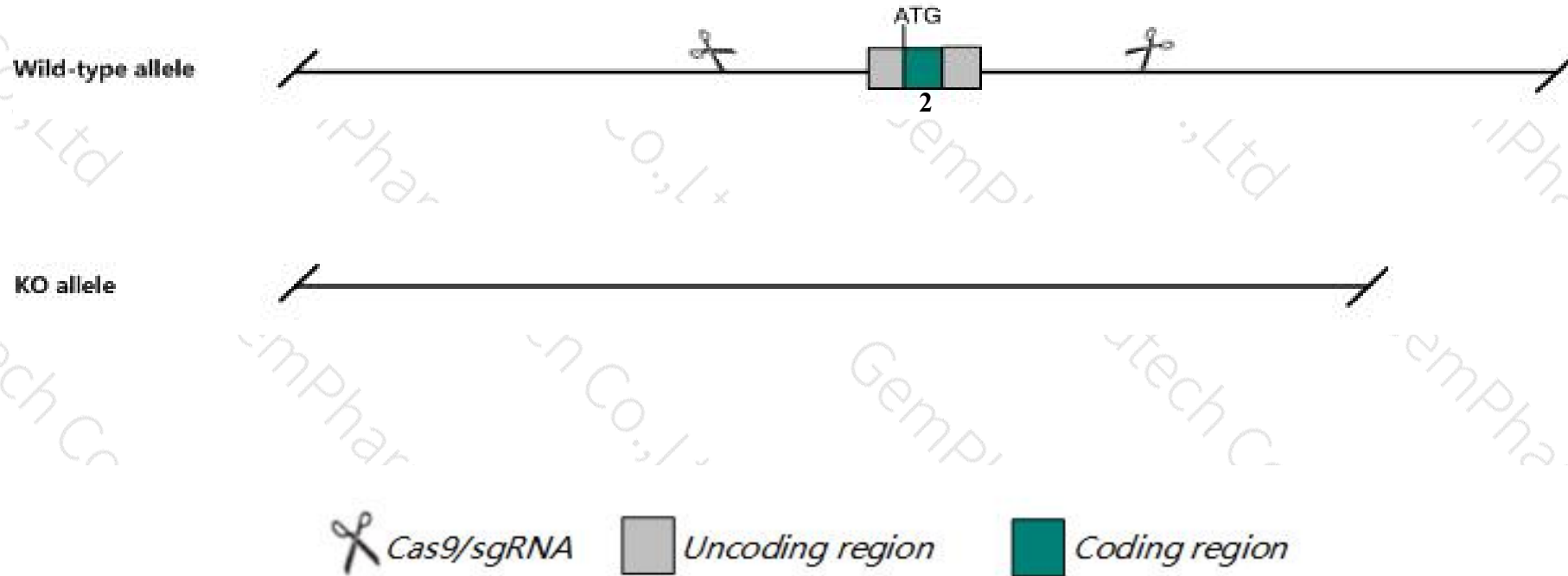
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Gpr61* gene. The schematic diagram is as follows:



- The *Gpr61* gene has 2 transcripts. According to the structure of *Gpr61* gene, exon2 of *Gpr61-201* (ENSMUST00000062028.7) 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 *Gpr61* 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 *Gpr61* 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)

Gpr61 G protein-coupled receptor 61 [Mus musculus (house mouse)]

Gene ID: 229714, updated on 31-Jan-2019

Summary



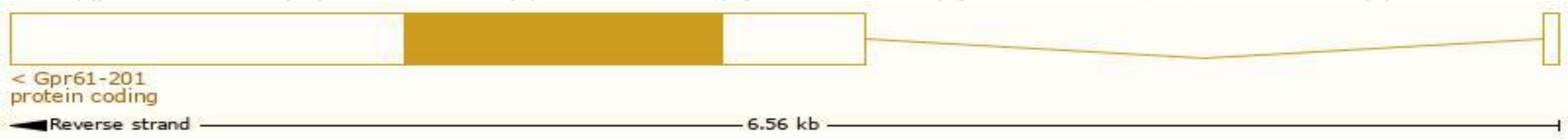
Official Symbol	Gpr61 provided by MGI
Official Full Name	G protein-coupled receptor 61 provided by MGI
Primary source	MGI:MGI:2441719
See related	Ensembl:ENSMUSG00000046793
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Expression	Biased expression in frontal lobe adult (RPKM 3.4), cortex adult (RPKM 2.7) and 6 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

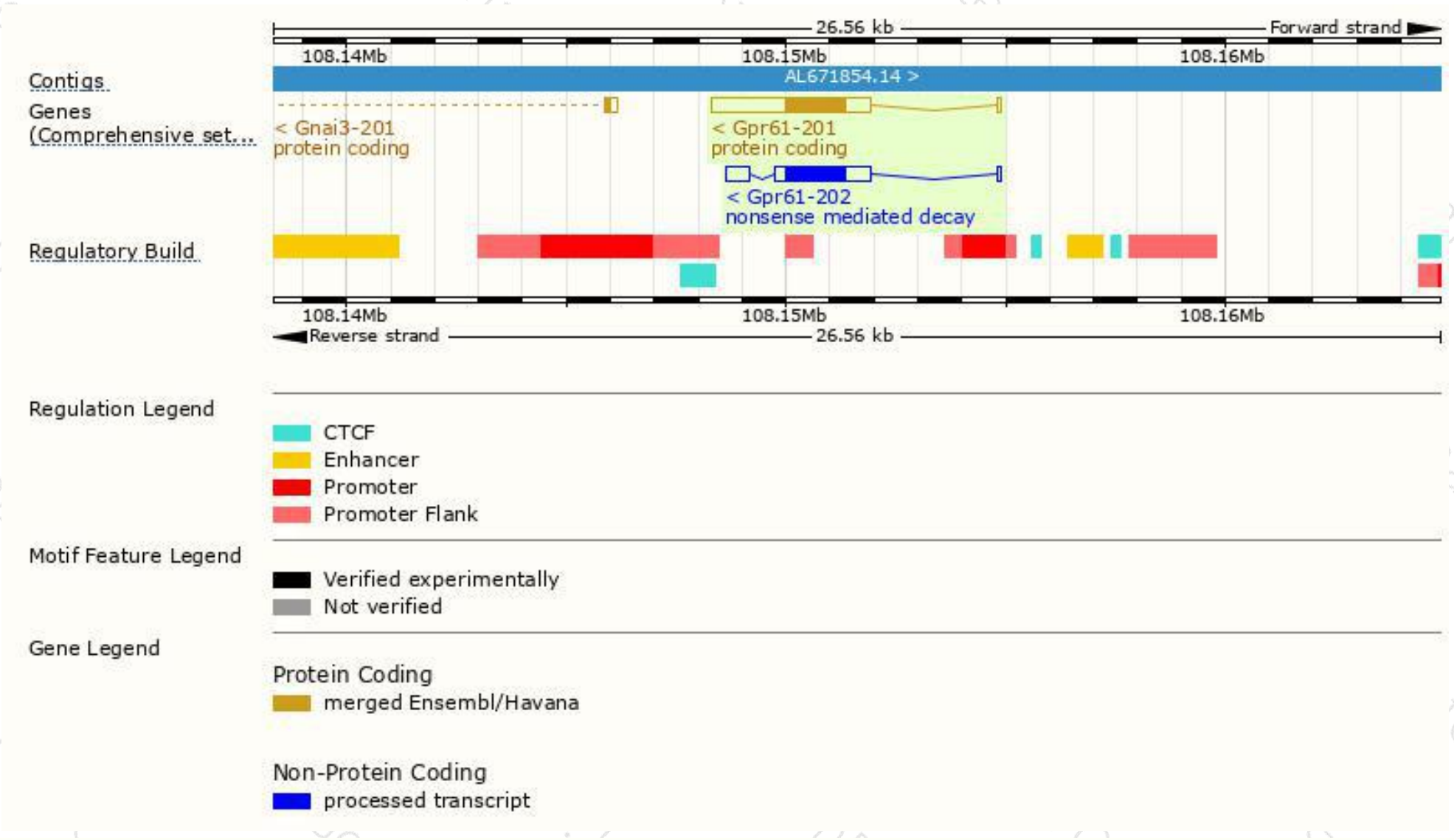
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Gpr61-201	ENSMUST00000062028.7	3686	449aa	Protein coding	CCDS17752	Q8C010	TSL:1 GENCODE basic APPRIS P1
Gpr61-202	ENSMUST00000116284.1	2771	449aa	Nonsense mediated decay	-	Q8C010	TSL:1

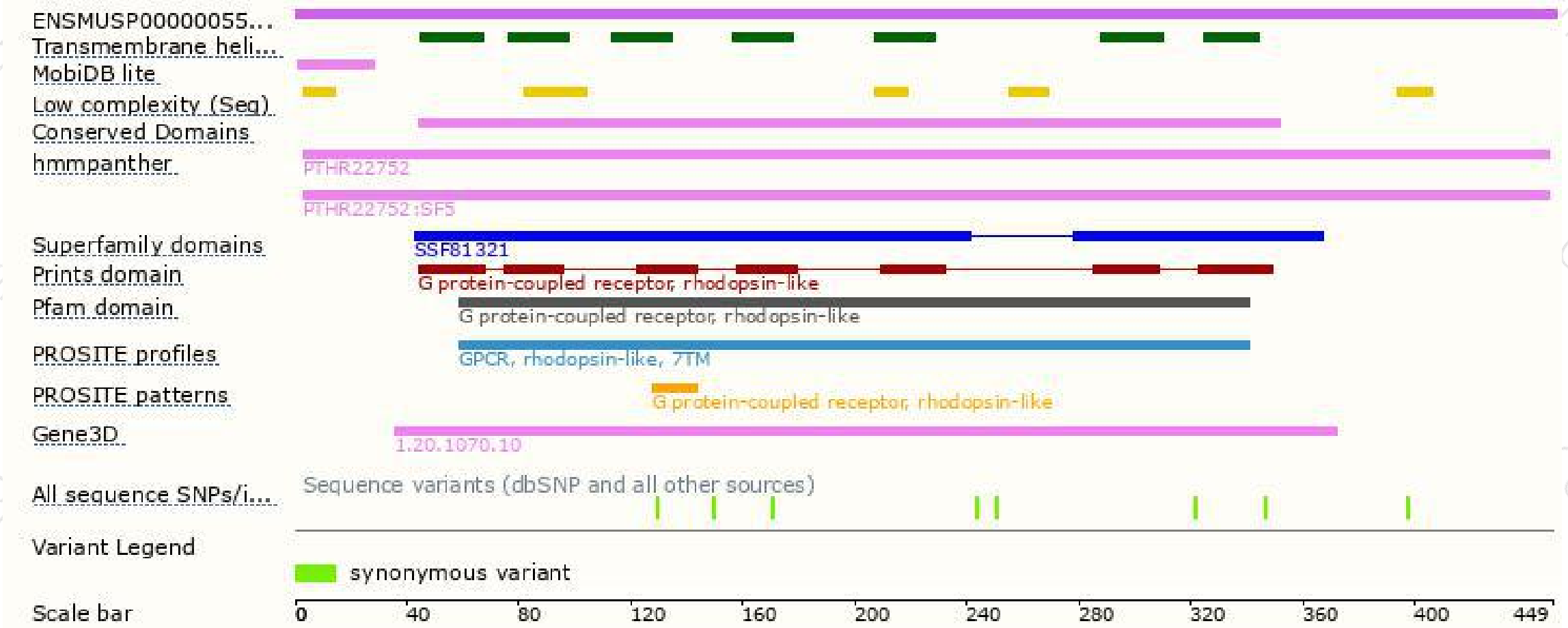
The strategy is based on the design of *Gpr61-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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