

Paqr4 **Cas9-KO Strategy**

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Project Overview

Project Name

Paqr4

Project type

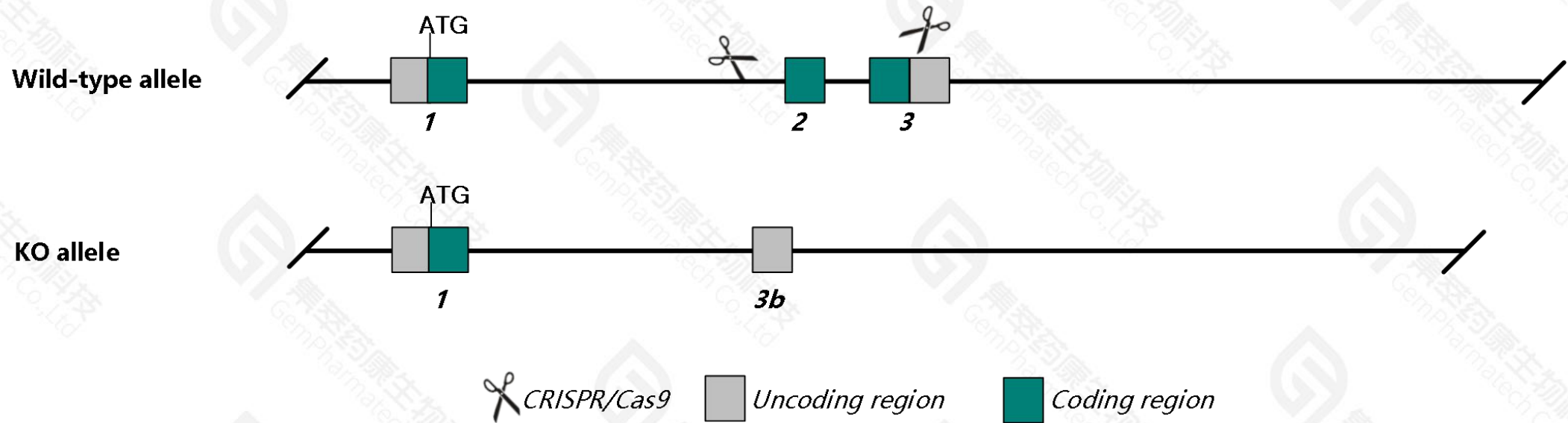
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Paqr4* gene. The schematic diagram is as follows:



- The *Paqr4* gene has 2 transcripts. According to the structure of *Paqr4* gene, exon2-exon3 of *Paqr4*-201(ENSMUST00000024702.5) transcript is recommended as the knockout region. The region contains most 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 *Paqr4* 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 KO region contains functional region of the *Pkmyt1* gene. Knockout the region may affect the function of *Pkmyt1* gene.
- The *Paqr4* gene is located on the Chr17. 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.

Paqr4 progesterin and adipoQ receptor family member IV [Mus musculus (house mouse)]

Gene ID: 76498, updated on 17-Dec-2020

Summary



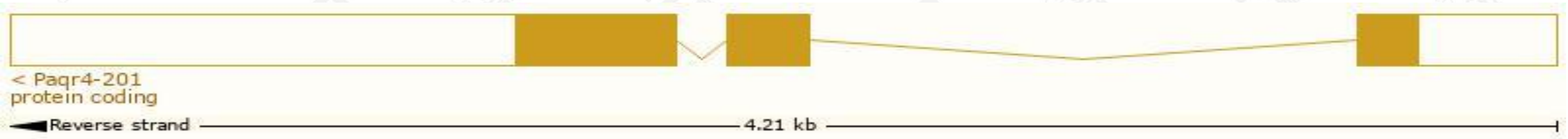
Official Symbol	Paqr4 provided by MGI
Official Full Name	progesterin and adipoQ receptor family member IV provided by MGI
Primary source	MGI:MGI:1923748
See related	Ensembl:ENSMUSG00000023909
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1500004C10Rik
Expression	Broad expression in colon adult (RPKM 104.3), large intestine adult (RPKM 48.5) and 21 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

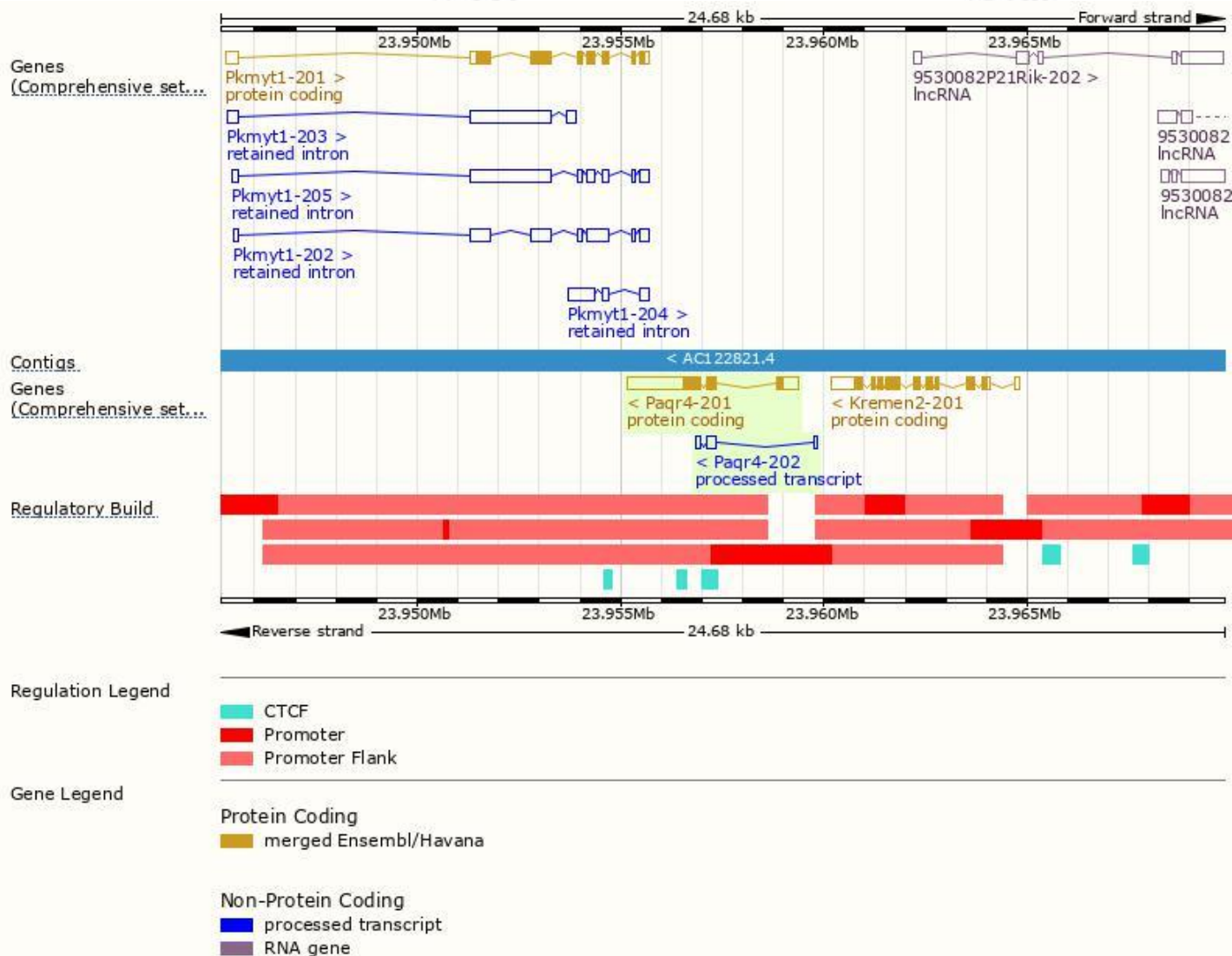
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Paqr4-201	ENSMUST00000024702.5	2575	273aa	Protein coding	CCDS28461		TSL:1 , GENCODE basic , APPRIS P1 ,
Paqr4-202	ENSMUST00000233776.2	422	No protein	Processed transcript	-		

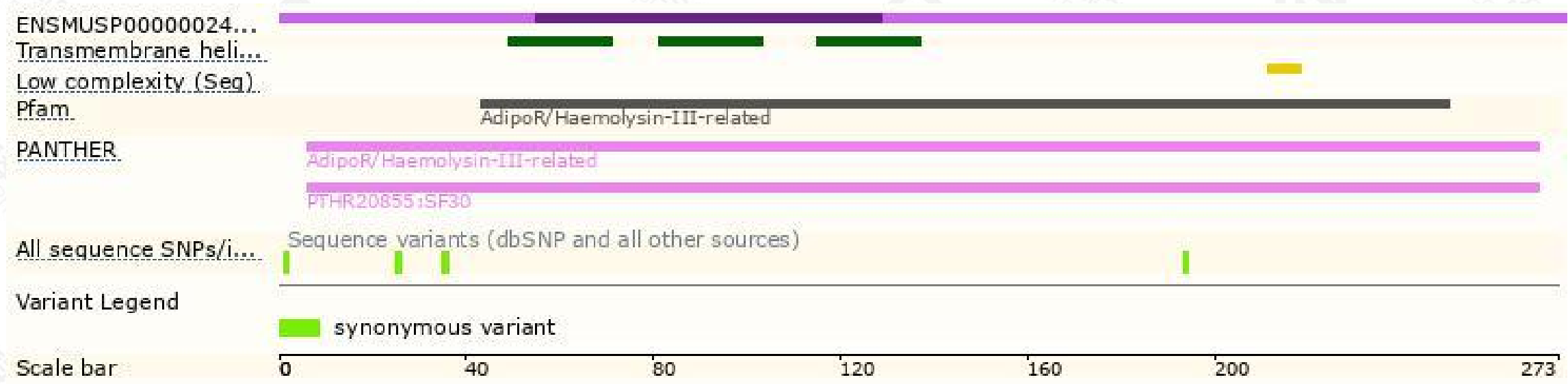
The strategy is based on the design of *Paqr4-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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