

Paqr9 Cas9-KO Strategy

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Reviewer :

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Project Overview

Project Name

Paqr9

Project type

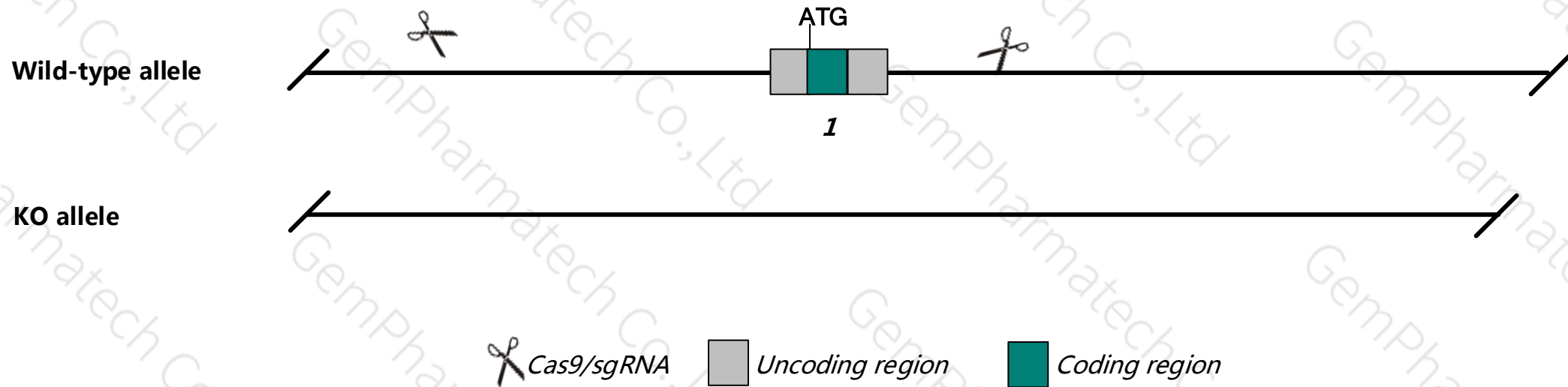
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Paqr9* gene. The schematic diagram is as follows:



Technical routes

- The *Paqr9* gene has 1 transcript. According to the structure of *Paqr9* gene, exon1 of *Paqr9*-201 (ENSMUST00000079597.6) transcript is recommended as the knockout region. The region contains all coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Paqr9* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9, 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 KO region contains functional region of the *Gm32281* gene. Knockout the region may affect the function of *Gm32281* gene.
- The *Paqr9* gene is located on the Chr9. 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)

Paqr9 progesterin and adipoQ receptor family member IX [*Mus musculus* (house mouse)]

Gene ID: 75552, updated on 9-Sep-2018

Summary

Official Symbol	Paqr9 provided by MGI
Official Full Name	progesterin and adipoQ receptor family member IX provided by MGI
Primary source	MGI:MGI:1922802
See related	Ensembl:ENSMUSG000000064225 Vega:OTTMUSG000000022621
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	1700020G04Rik
Orthologs	human all

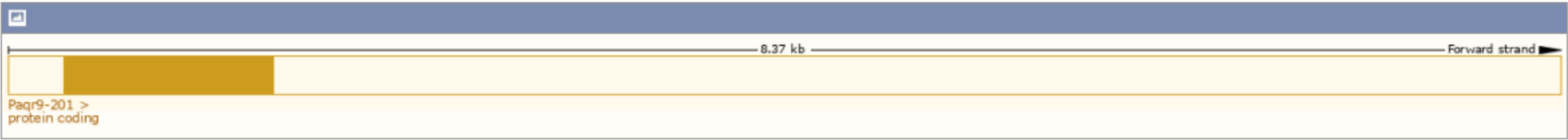
Transcript information (Ensembl)



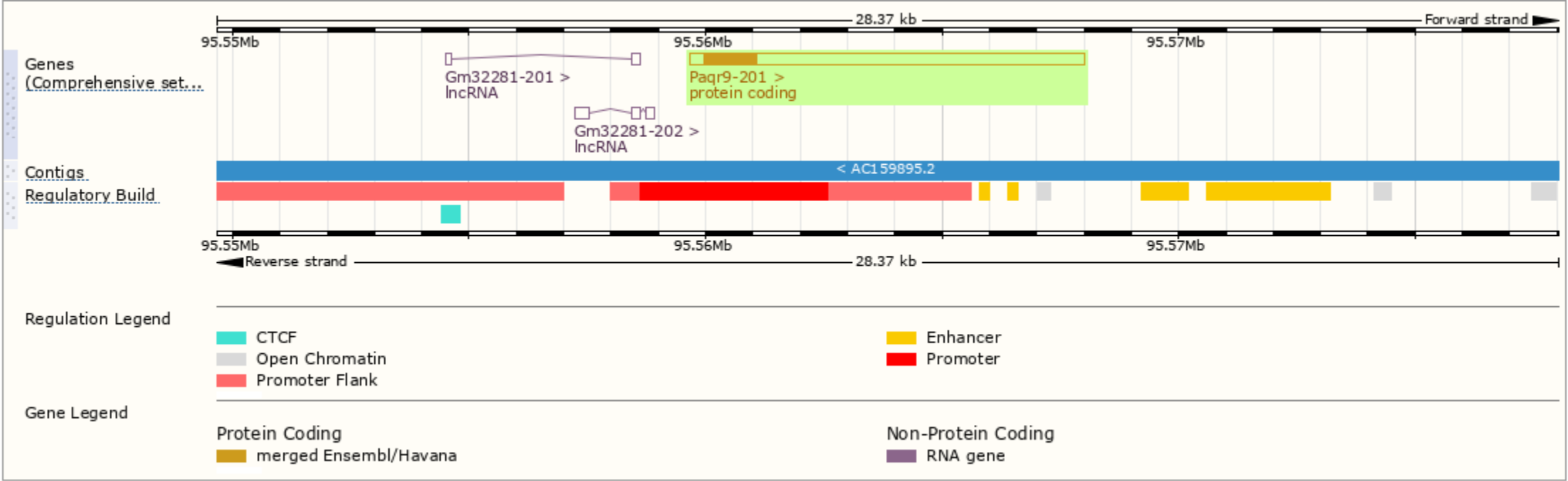
The gene has 1 transcript, and the transcript is shown below:

Show/hide columns (1 hidden)								Filter	
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	RefSeq	Flags	
Paqr9-201	ENSMUST00000079597.6	8367	375aa	Protein coding	CCDS23409	Q6TCG2	NM_198414 NP_940806	TSL:NA	GENCODE basic APPRIS P1

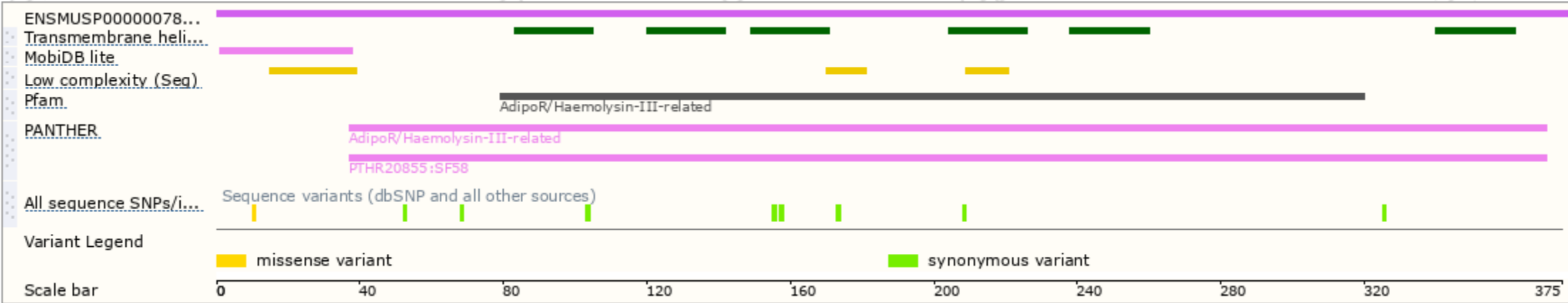
The strategy is based on the design of *Paqr9-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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