

# ***Paqr9 Cas9-CKO Strategy***

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**Reviewer :**

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**2019-8-28**

# Project Overview

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**Project Name**

***Paqr9***

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**Project type**

**Cas9-CKO**

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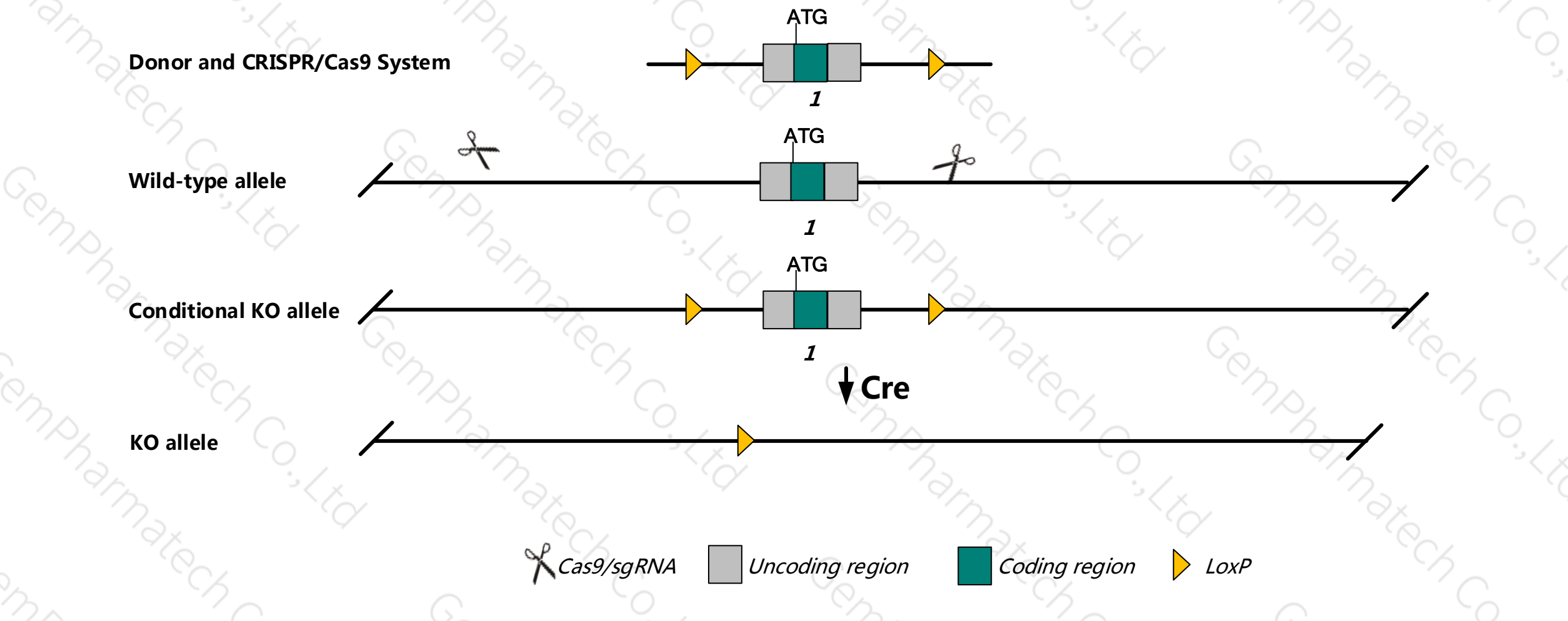
**Strain background**

**C57BL/6JGpt**

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# Conditional Knockout strategy

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



- 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, donor vector was constructed. Cas9, sgRNA and Donor 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 flox mice was knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues or cell types.

- 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 loxp insertion 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 <a href="#">MGI</a>
Official Full Name	progesterin and adipoQ receptor family member IX provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:1922802</a>
See related	<a href="#">Ensembl:ENSMUSG000000064225</a> <a href="#">Vega:OTTMUSG000000022621</a>
Gene type	protein coding
RefSeq status	VALIDATED
Organism	<a href="#">Mus musculus</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1700020G04Rik
Orthologs	<a href="#">human</a> <a href="#">all</a>

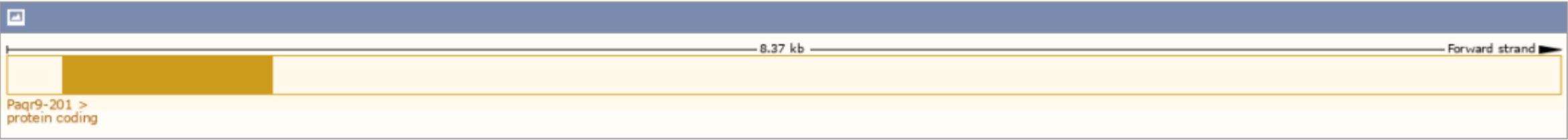


# Transcript information ( Ensembl )

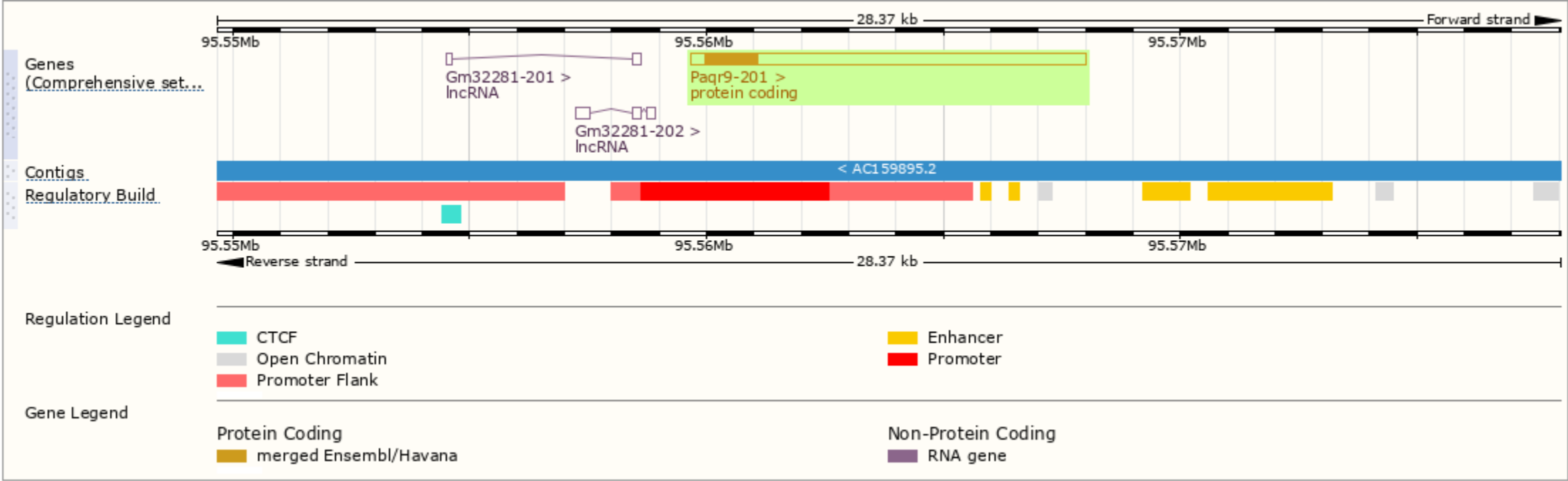
The gene has 1 transcript, and the transcript is shown below:

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

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

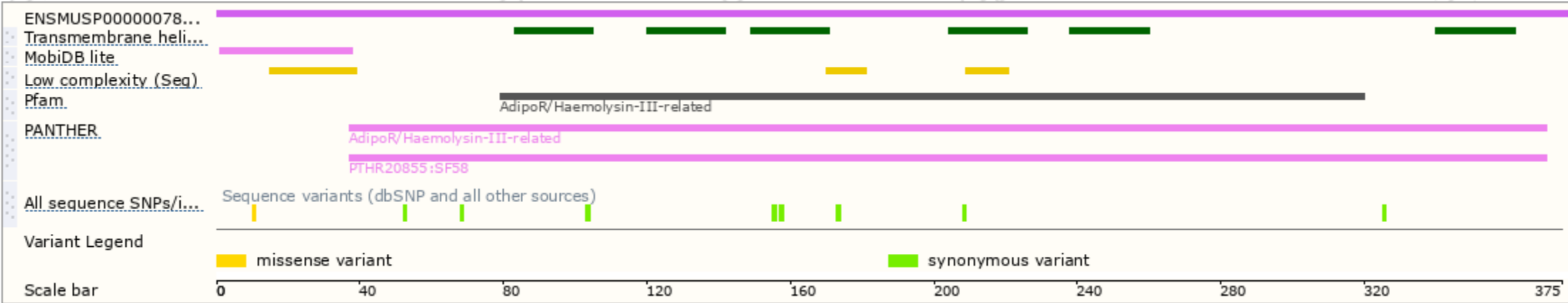


# Genomic location distribution





# Protein domain



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