

Gpr160 Cas9-CKO Strategy

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Reviewer:

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Project Overview

Project Name

Gpr160

Project type

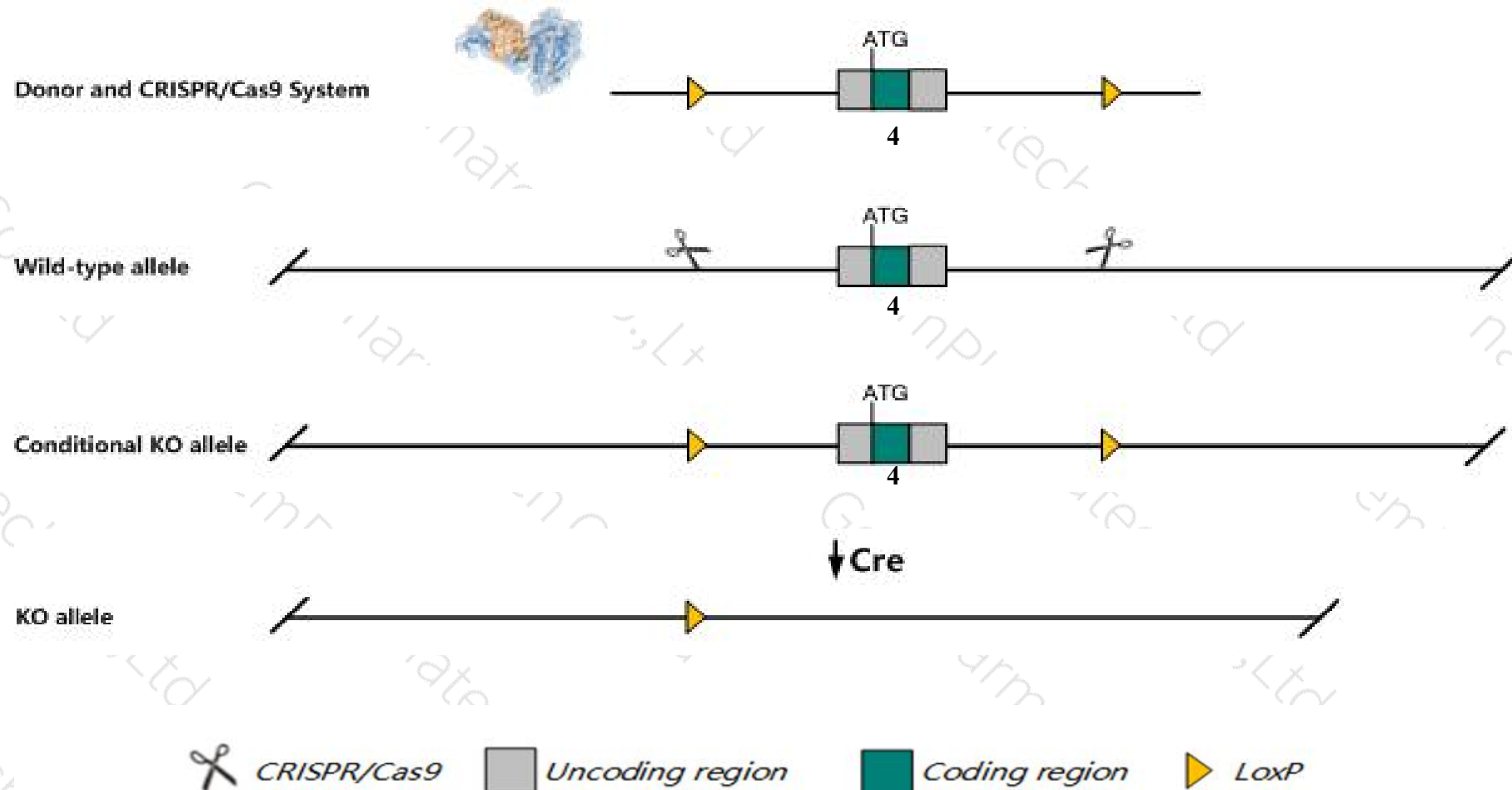
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Gpr160* gene. The schematic diagram is as follows:



- The *Gpr160* gene has 8 transcripts. According to the structure of *Gpr160* gene, exon4 of *Gpr160-204* (ENSMUST00000108261.7) 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 *Gpr160* gene. The brief process is as follows: CRISPR/Cas9 system 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 will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Gpr160* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Gpr160 G protein-coupled receptor 160 [Mus musculus (house mouse)]

Gene ID: 71862, updated on 31-Jan-2019

Summary



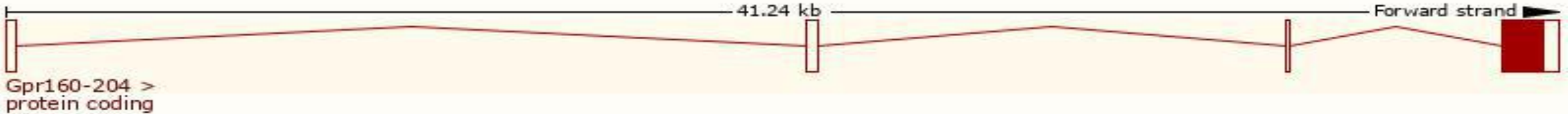
Official Symbol	Gpr160 provided by MGI
Official Full Name	G protein-coupled receptor 160 provided by MGI
Primary source	MGI:MGI:1919112
See related	Ensembl:ENSMUSG00000037661
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1700025D19Rik, GPCR150
Expression	Biased expression in testis adult (RPKM 54.6), large intestine adult (RPKM 20.2) and 9 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

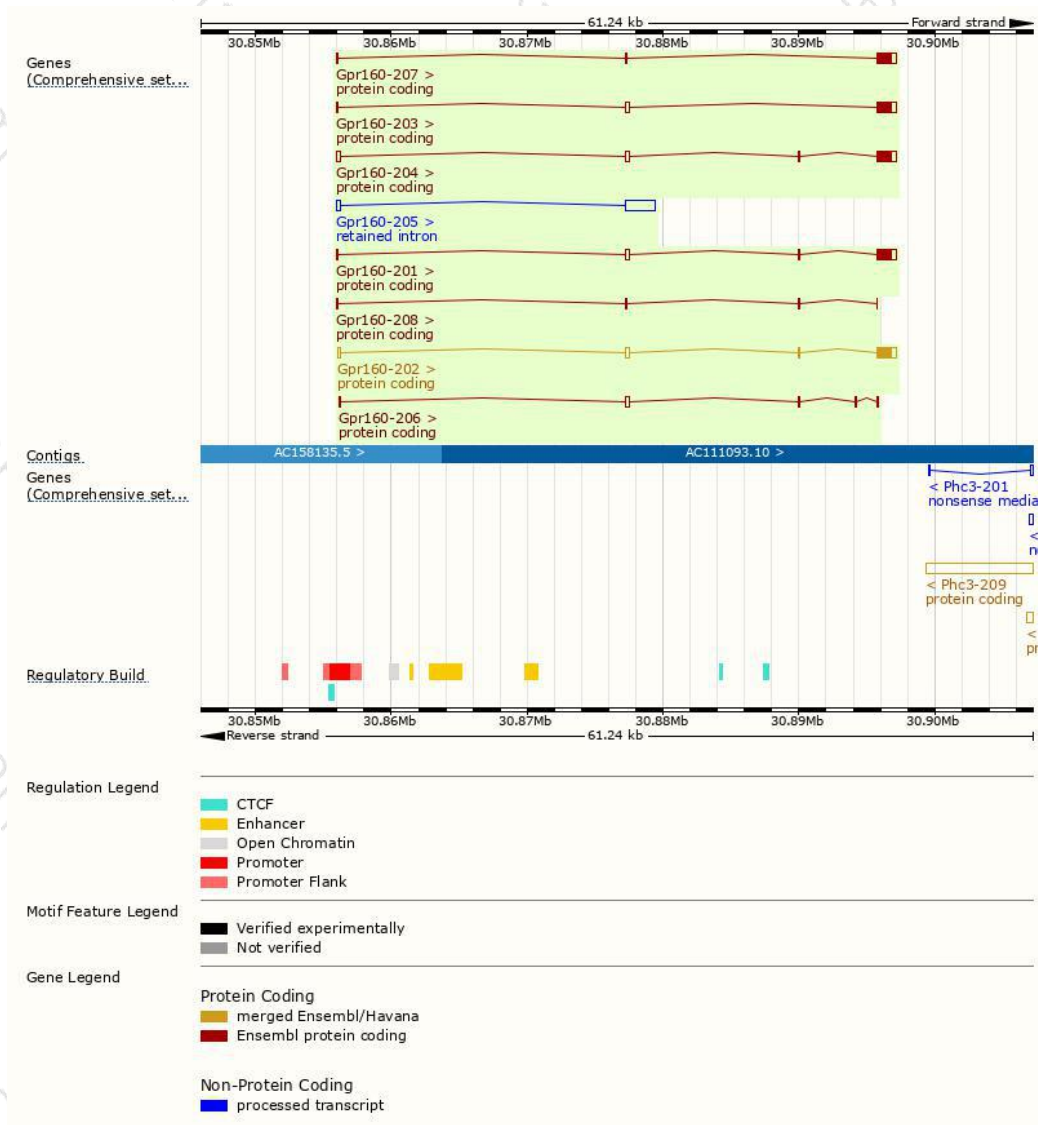
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Gpr160-204	ENSMUST00000108261.7	2213	336aa	Protein coding	CCDS50883	Q3U3F9	TSL:1 GENCODE basic APPRIS P1
Gpr160-202	ENSMUST00000108258.7	2139	336aa	Protein coding	CCDS50883	Q3U3F9	TSL:1 GENCODE basic APPRIS P1
Gpr160-201	ENSMUST00000046748.12	1977	336aa	Protein coding	CCDS50883	Q3U3F9	TSL:1 GENCODE basic APPRIS P1
Gpr160-203	ENSMUST00000108259.7	1916	336aa	Protein coding	CCDS50883	Q3U3F9	TSL:3 GENCODE basic APPRIS P1
Gpr160-207	ENSMUST00000166278.6	1689	336aa	Protein coding	CCDS50883	Q3U3F9	TSL:1 GENCODE basic APPRIS P1
Gpr160-206	ENSMUST00000147697.1	754	13aa	Protein coding	-	D3Z2M1	CDS 3' incomplete TSL:5
Gpr160-208	ENSMUST00000194979.5	346	4aa	Protein coding	-	-	CDS 3' incomplete TSL:3
Gpr160-205	ENSMUST00000130294.1	2523	No protein	Retained intron	-	-	TSL:2

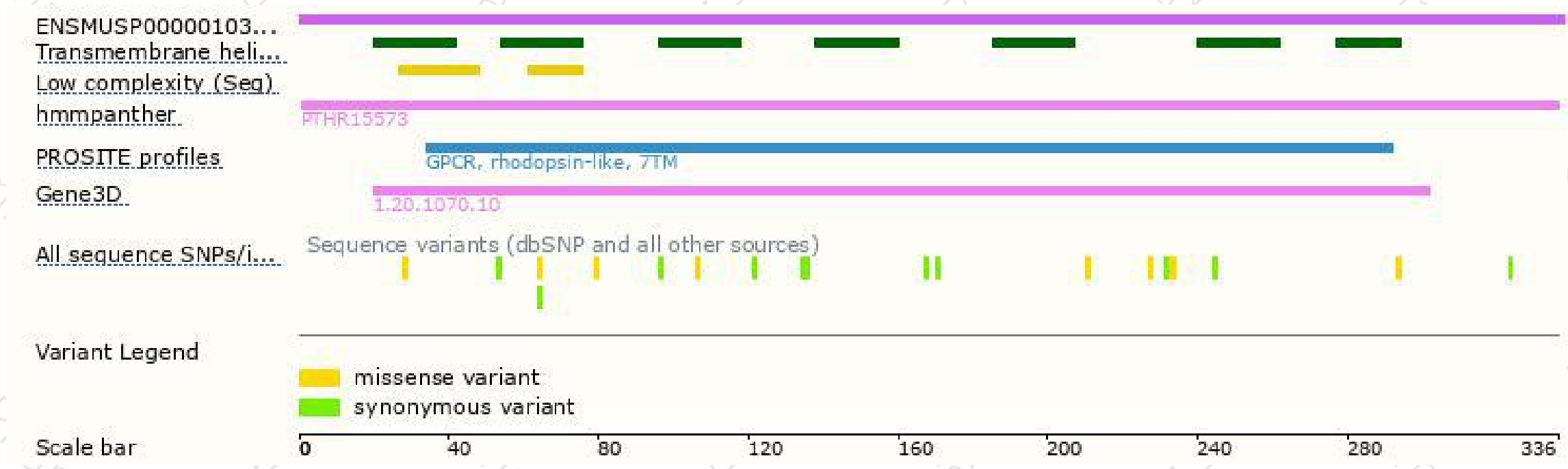
The strategy is based on the design of *Gpr160-204* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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