

Ptgir Cas9-KO Strategy

Designer: Xueting Zhang

Design Date: 2019-8-5

Project Overview

Project Name

Ptgir

Project type

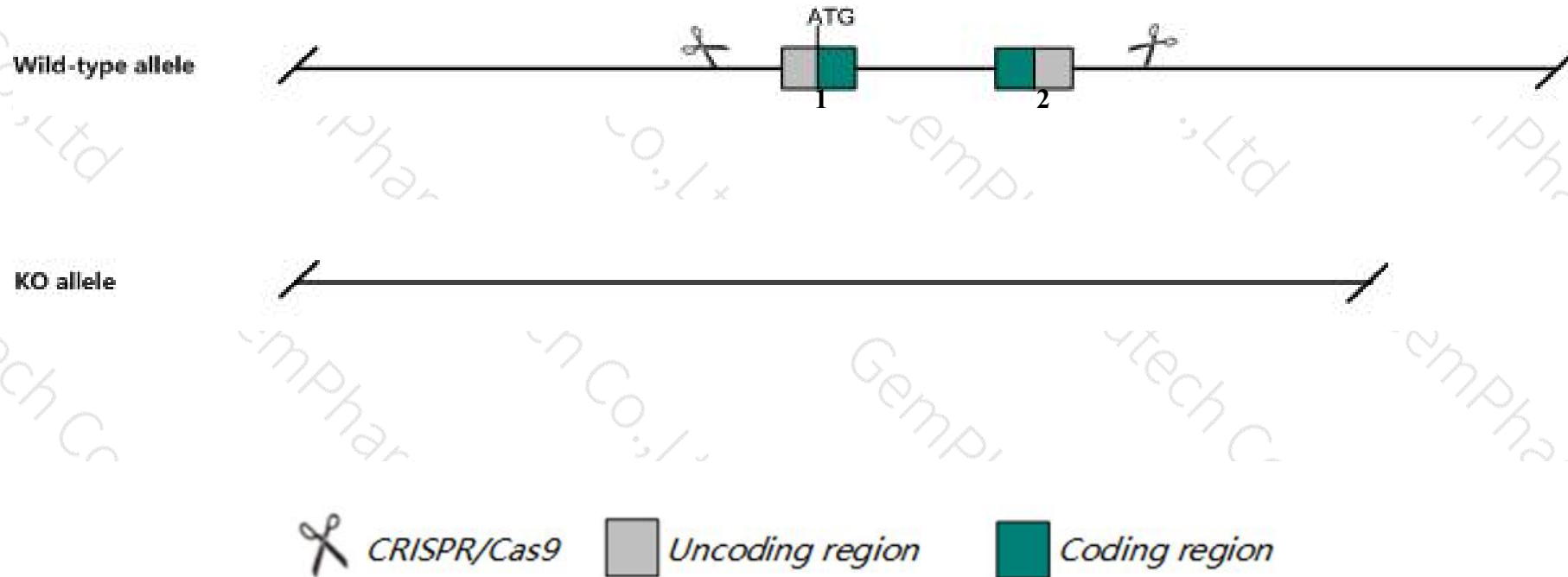
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Ptgir* gene has 2 transcripts. According to the structure of *Ptgir* gene, exon1-exon2 of *Ptgir-202* (ENSMUST00000144408.1) 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 *Ptgir* gene. The brief process is as follows: CRISPR/Cas9 system v

- According to the existing MGI data, Homozygotes for a targeted null mutation exhibit increased susceptibility to thrombosis and injury-induced vascular proliferation, and decreased inflammatory and pain responses.
- The *Ptgir* gene is located on the Chr7. 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)

Ptgir prostaglandin I receptor (IP) [Mus musculus (house mouse)]

Gene ID: 19222, updated on 31-Jan-2019

Summary



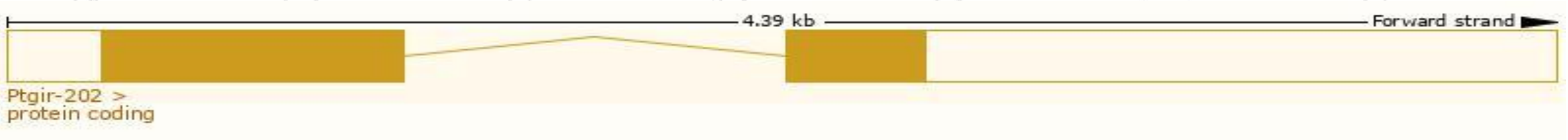
Official Symbol	Ptgir provided by MGI
Official Full Name	prostaglandin I receptor (IP) provided by MGI
Primary source	MGI:MGI:99535
See related	Ensembl:ENSMUSG00000043017
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	IP, PGI2
Expression	Broad expression in mammary gland adult (RPKM 4.9), spleen adult (RPKM 4.5) and 19 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

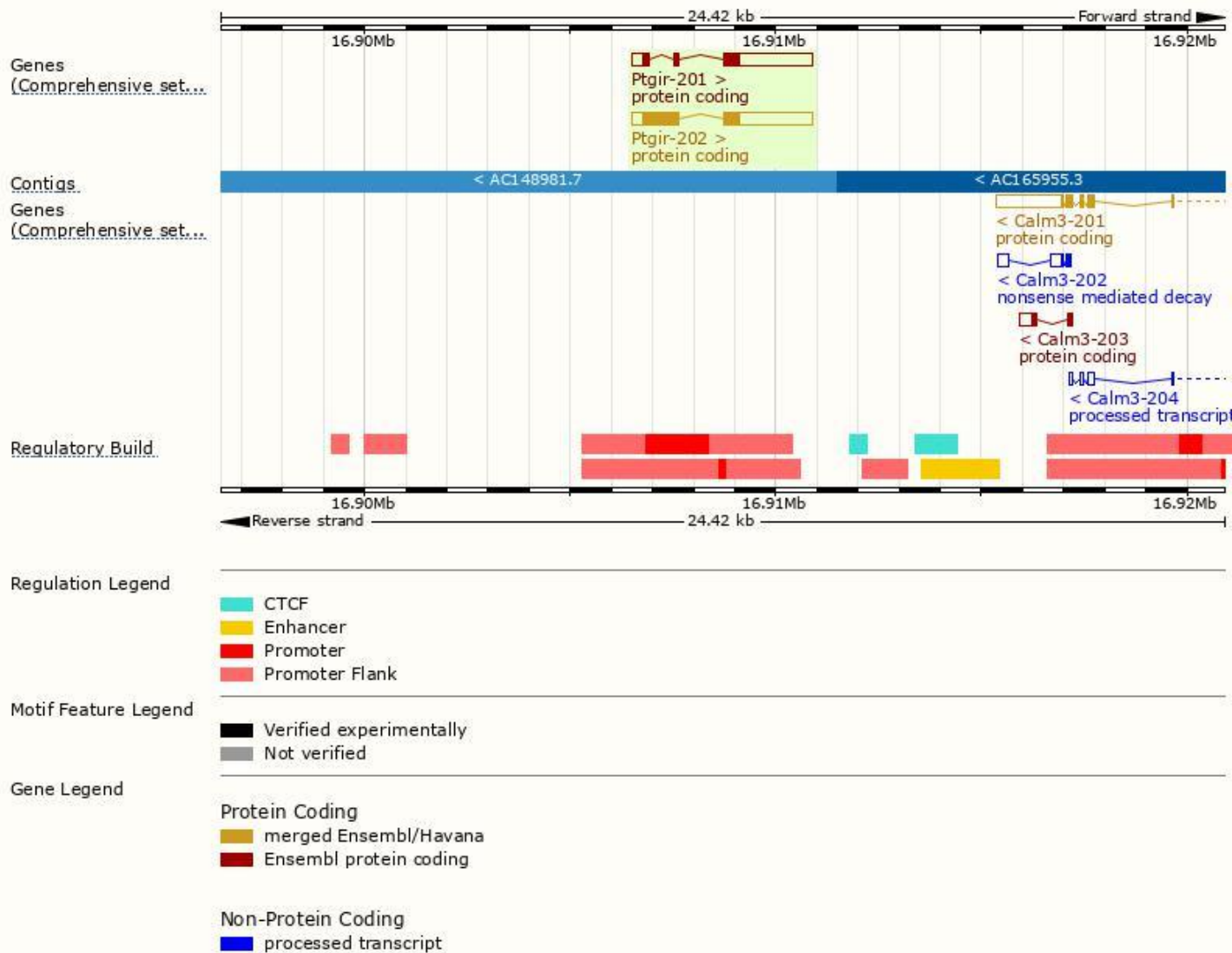
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ptgir-202	ENSMUST00000144408.1	3305	415aa	Protein coding	CCDS20857	P43252	TSL:1 GENCODE basic APPRIS P1
Ptgir-201	ENSMUST00000086101.5	2725	212aa	Protein coding	-	E9PY53	TSL:1 GENCODE basic

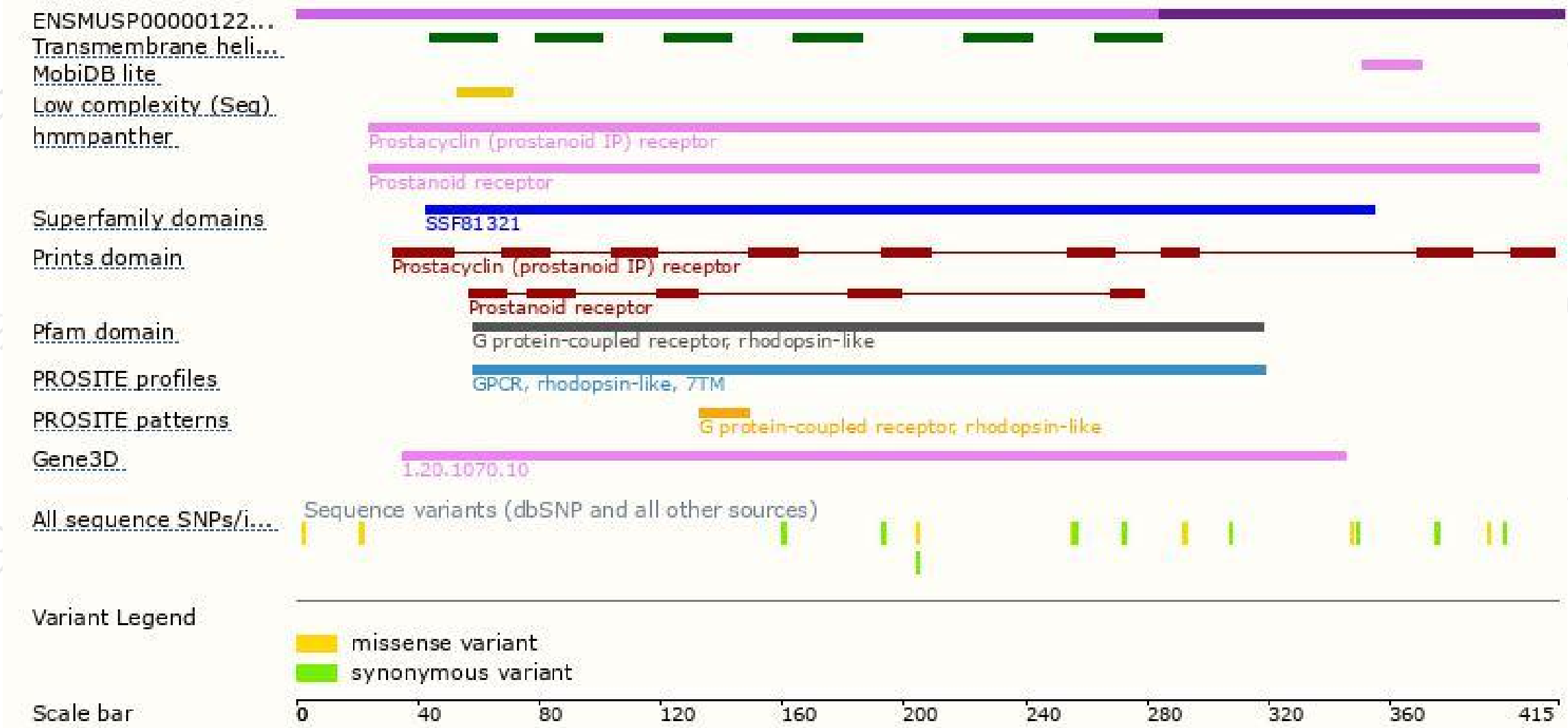
The strategy is based on the design of *Ptgir-202* transcript,The transcription is shown below



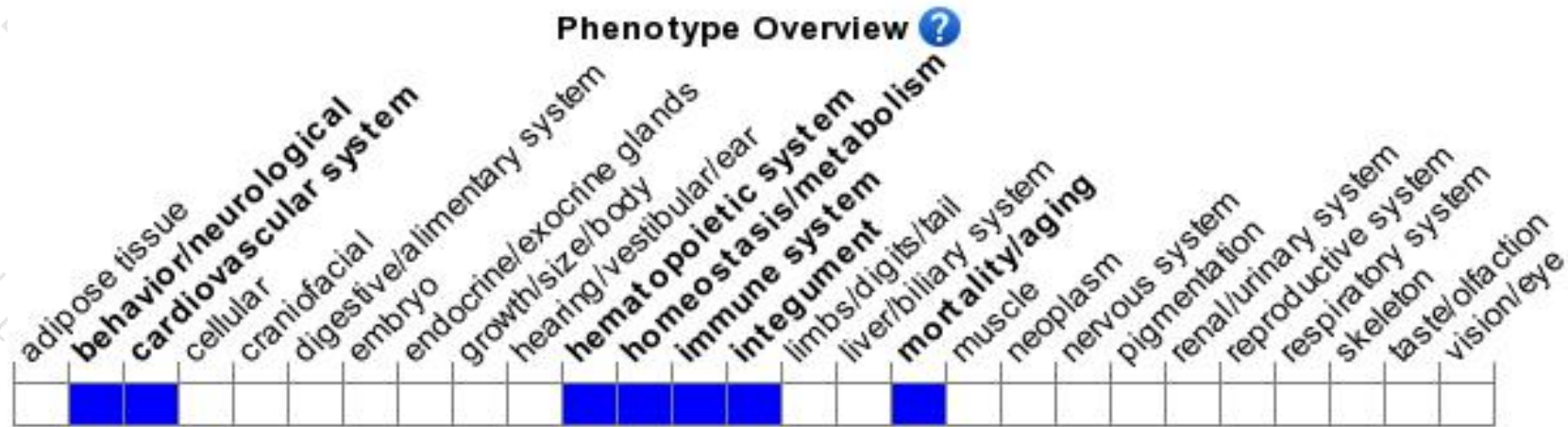
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

According to the existing MGI data, Homozygotes for a targeted null mutation exhibit increased susceptibility to thrombosis and injury-induced vascular proliferation, and decreased inflammatory and pain responses.

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

Tel: 400-9660890

