

Bpgm Cas9-KO Strategy

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Project Overview

Project Name

Bpgm

Project type

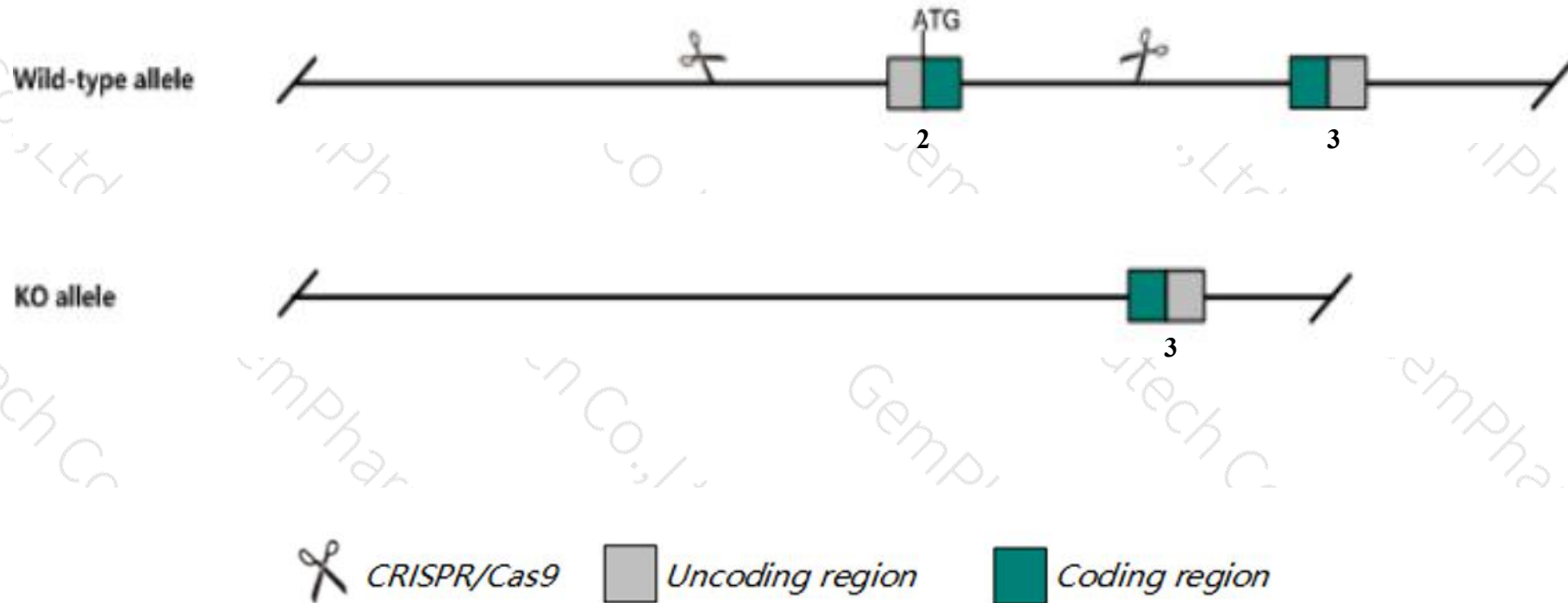
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Bpgm* gene has 5 transcripts. According to the structure of *Bpgm* gene, exon2 of *Bpgm-201* (ENSMUST00000045372.5) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Bpgm* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Bpgm* gene is located on the Chr6. 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)

Bpgm 2,3-bisphosphoglycerate mutase [Mus musculus (house mouse)]

Gene ID: 12183, updated on 13-Mar-2020

Summary



Official Symbol Bpgm provided by [MGI](#)

Official Full Name 2,3-bisphosphoglycerate mutase provided by [MGI](#)

Primary source [MGI:MGI:1098242](#)

See related [Ensembl:ENSMUSG00000038871](#)

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 AI323730, AL022789, C86192

Expression Broad expression in liver E14 (RPKM 75.5), liver E14.5 (RPKM 74.5) and 24 other tissues [See more](#)

Orthologs [human](#) [all](#)

Transcript information (Ensembl)

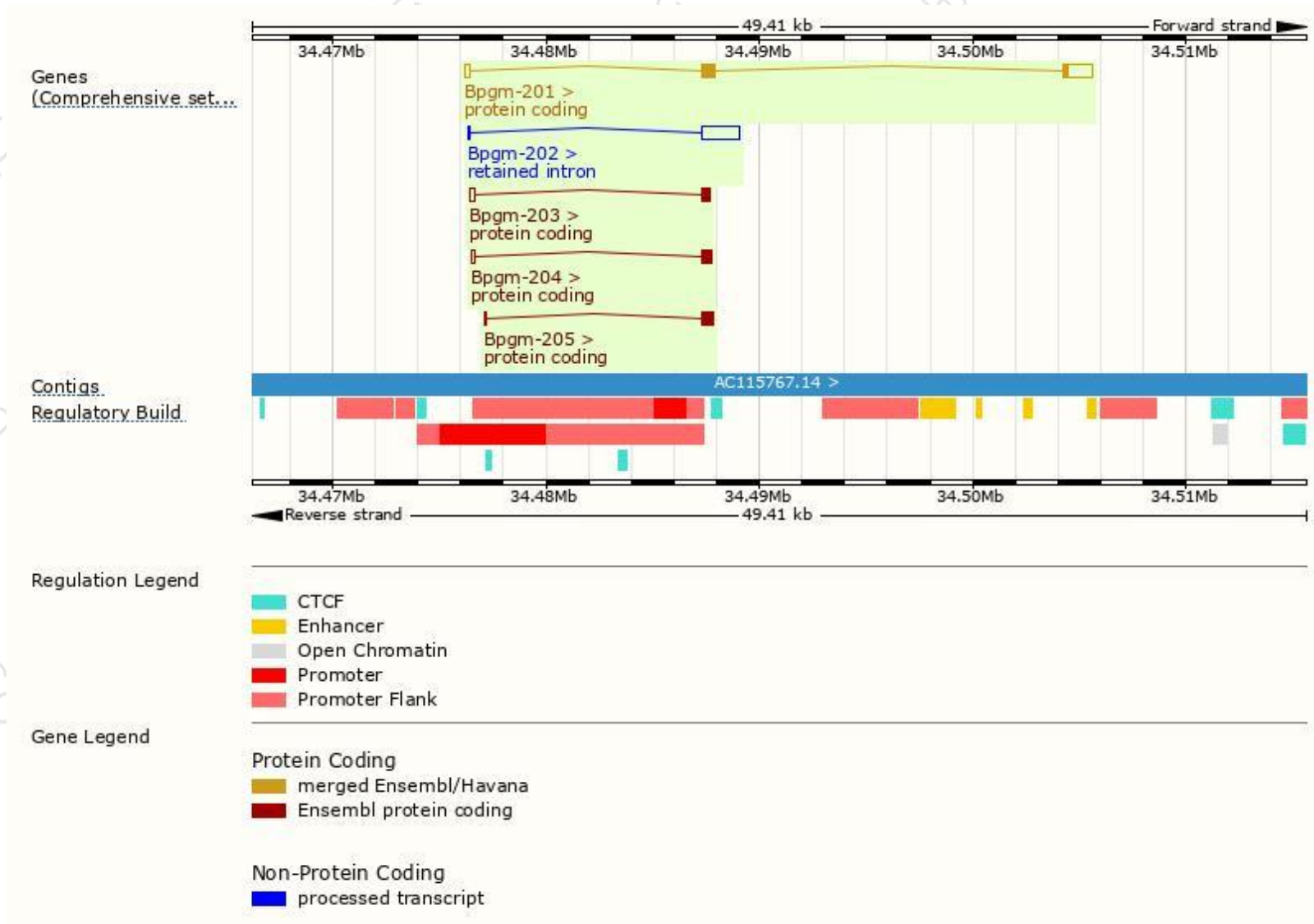
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Bpgm-201	ENSMUST00000045372.5	2220	259aa	Protein coding	CCDS19994	P15327	TSL:1 GENCODE basic APPRIS P1
Bpgm-204	ENSMUST00000139067.1	604	132aa	Protein coding	-	D3YUE8	CDS 3' incomplete TSL:3
Bpgm-203	ENSMUST00000138668.1	596	112aa	Protein coding	-	D3YYH3	CDS 3' incomplete TSL:3
Bpgm-205	ENSMUST00000149131.1	596	166aa	Protein coding	-	D3Z223	CDS 3' incomplete TSL:3
Bpgm-202	ENSMUST00000135743.1	1861	No protein	Retained intron	-	-	TSL:1

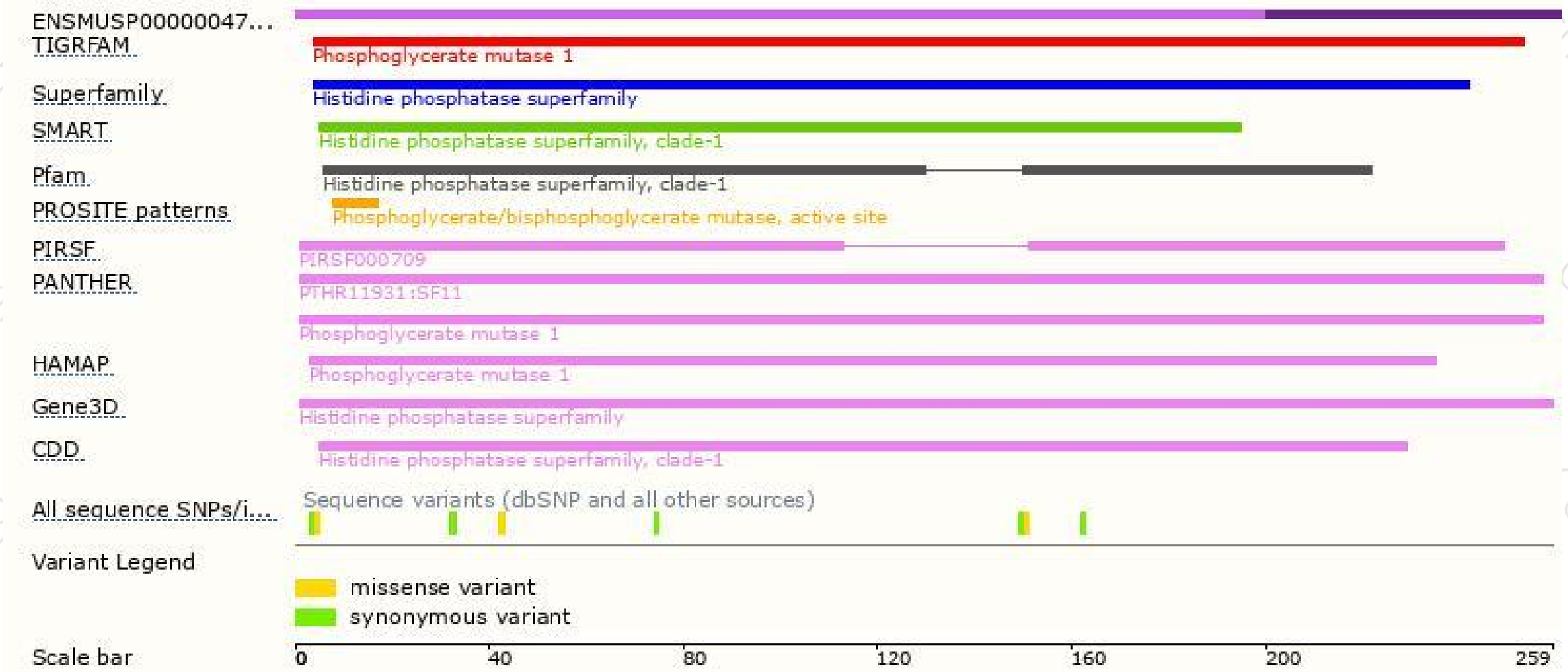
The strategy is based on the design of *Bpgm-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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