

Slc37a2 Cas9-CKO Strategy

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Project Overview

Project Name

Slc37a2

Project type

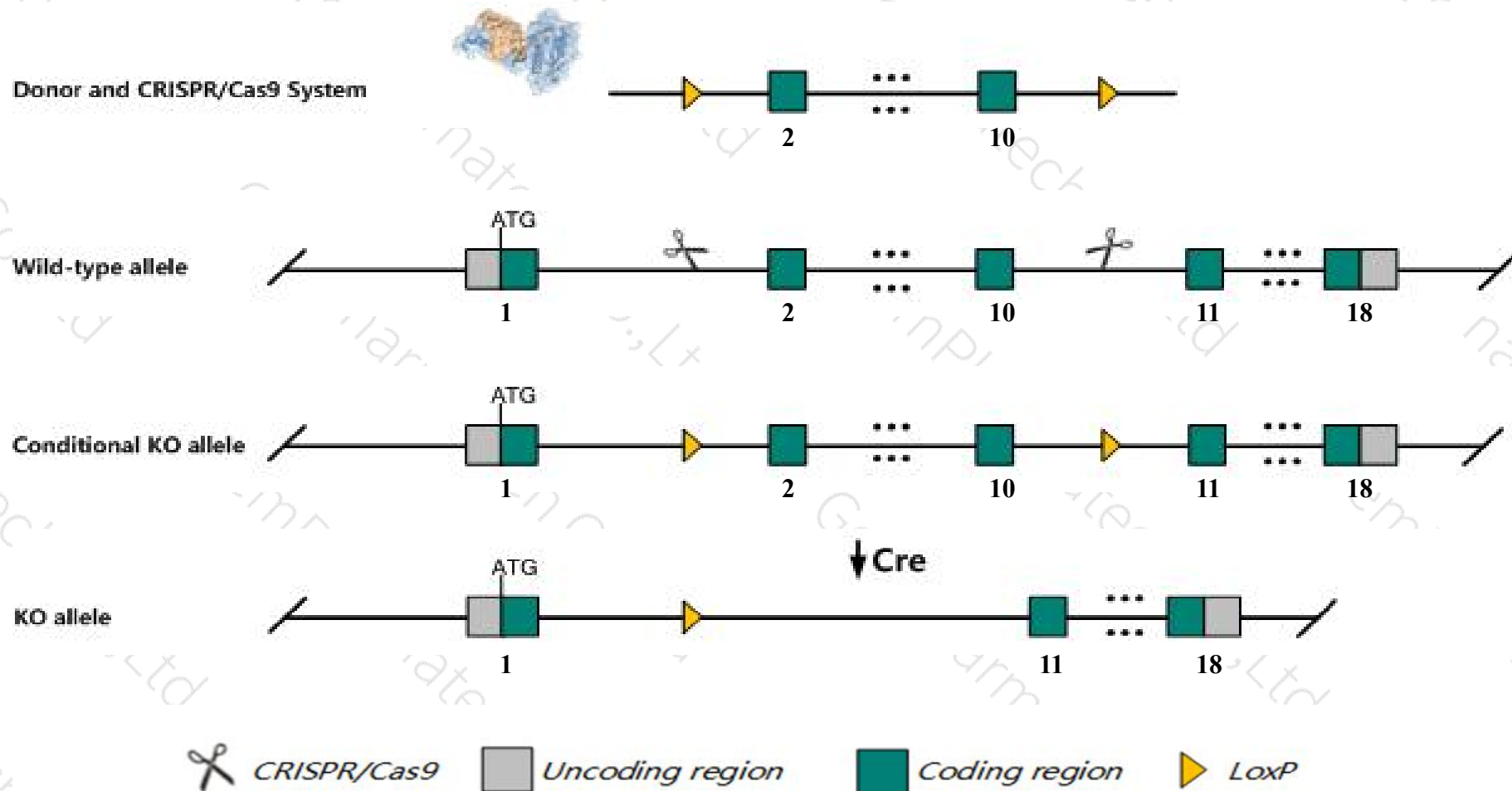
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc37a2* gene. The schematic diagram is as follows:



Technical routes

- The *Slc37a2* gene has 3 transcripts. According to the structure of *Slc37a2* gene, exon2-exon10 of *Slc37a2-201* (ENSMUST00000115068.9) transcript is recommended as the knockout region. The region contains 917bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc37a2* 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 *Slc37a2* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Slc37a2 solute carrier family 37 (glycerol-3-phosphate transporter), member 2 [Mus musculus (house mouse)]

Gene ID: 56857, updated on 31-Jan-2019

Summary



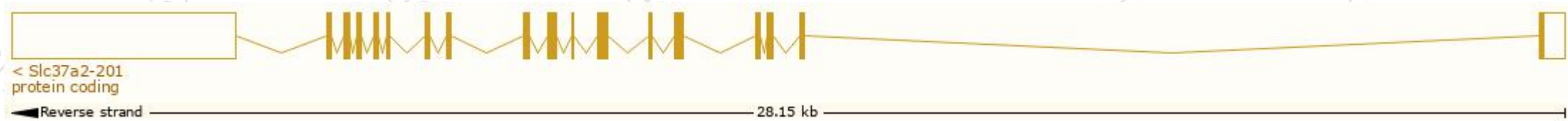
Official Symbol	Slc37a2 provided by MGI
Official Full Name	solute carrier family 37 (glycerol-3-phosphate transporter), member 2 provided by MGI
Primary source	MGI:MGI:1929693
See related	Ensembl:ENSMUSG000000032122
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	G3PP, Slc37a1, ci-2, ci2
Expression	Biased expression in colon adult (RPKM 50.9), adrenal adult (RPKM 16.4) and 6 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

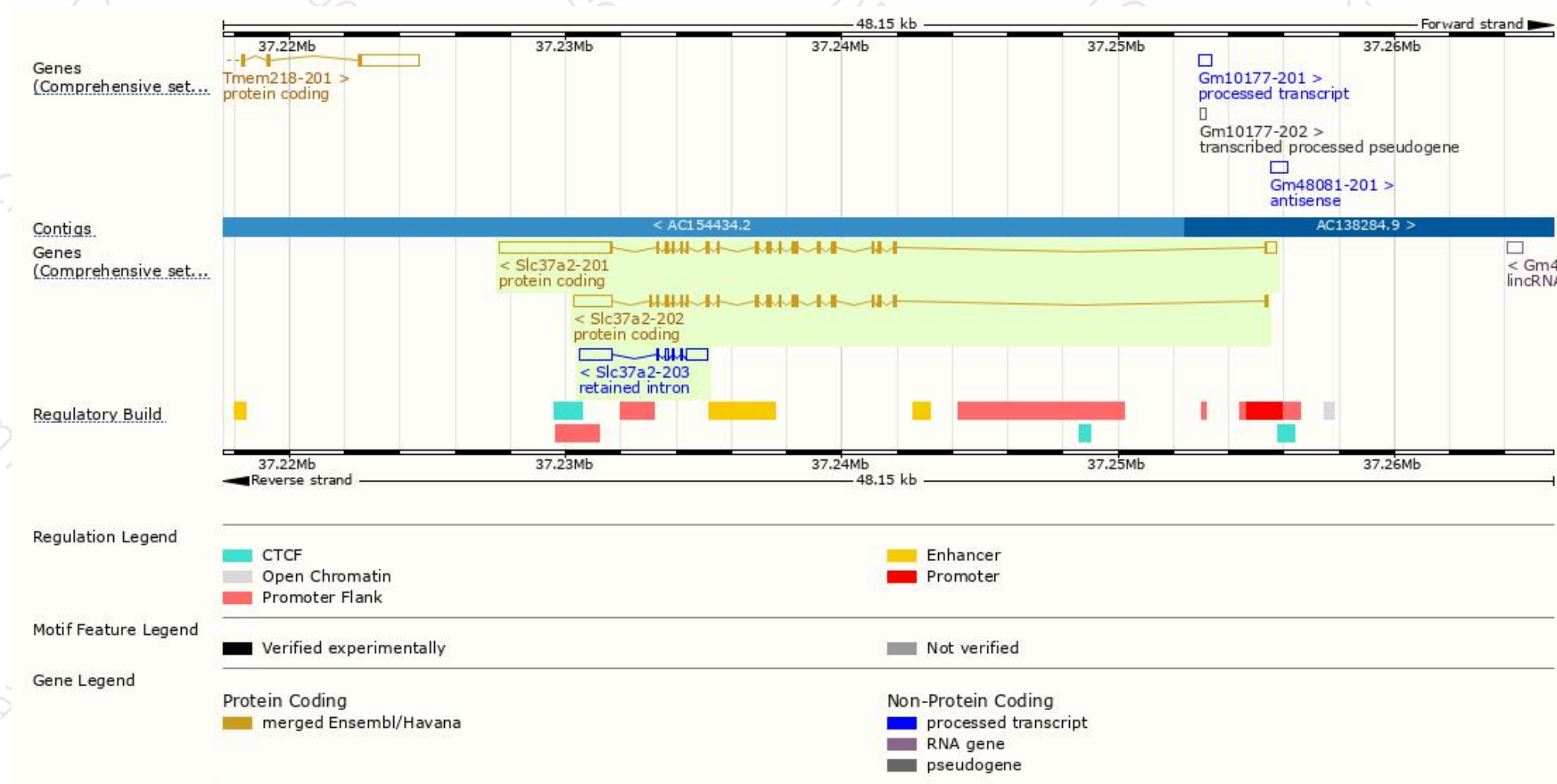
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	RefSeq	Flags
Slc37a2-201	ENSMUST00000115068.9	5943	501aa	Protein coding	CCDS40582	Q9WU81	NM_020258 NP_064654	TSL:1 GENCODE basic APPRIS P3
Slc37a2-202	ENSMUST00000161114.1	2945	506aa	Protein coding	CCDS52769	Q9WU81	NM_001145960 NP_001139432	TSL:1 GENCODE basic APPRIS ALT2
Slc37a2-203	ENSMUST00000162018.1	2223	No protein	Retained intron	-	-	-	TSL:1

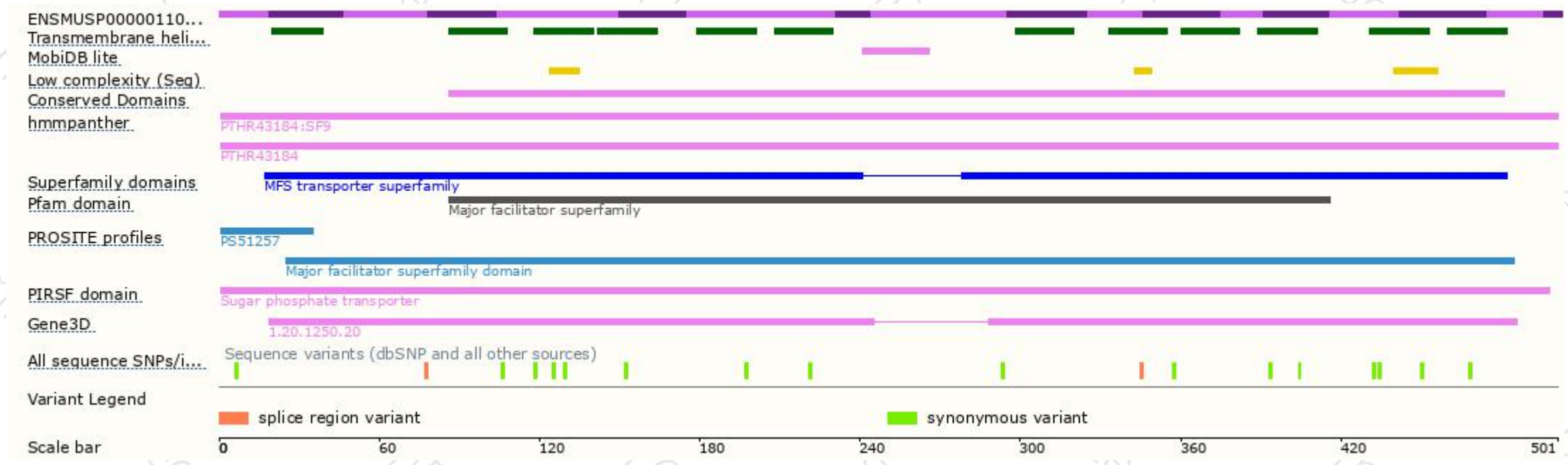
The strategy is based on the design of *Slc37a2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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