

Slc2a7 Cas9-KO Strategy

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Project Overview

Project Name

Slc2a7

Project type

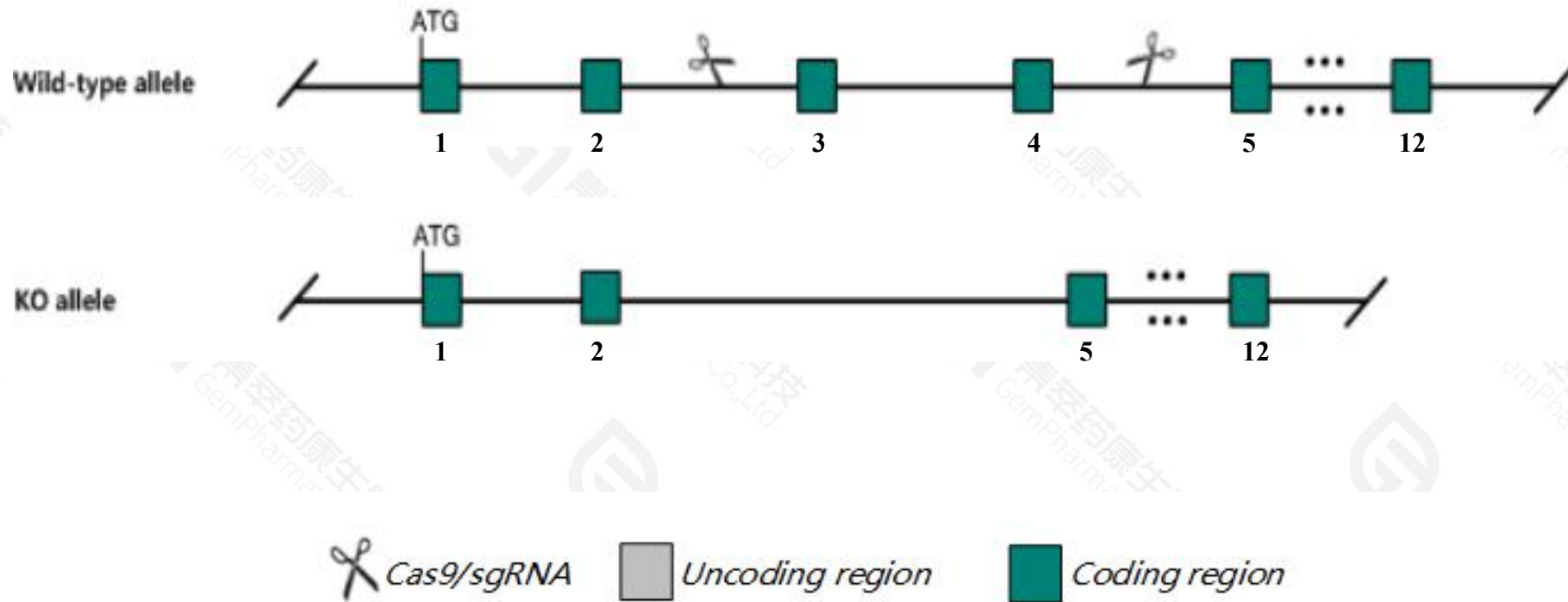
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc2a7* gene. The schematic diagram is as follows:



- The *Slc2a7* gene has 2 transcripts. According to the structure of *Slc2a7* gene, exon3-exon4 of *Slc2a7-201*(ENSMUST00000059893.8) transcript is recommended as the knockout region. The region contains 311bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc2a7* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA 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 *Slc2a7* gene is located on the Chr4. 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.

Slc2a7 solute carrier family 2 (facilitated glucose transporter), member 7 [Mus musculus (house mouse)]

Gene ID: 435818, updated on 3-Mar-2021

Summary



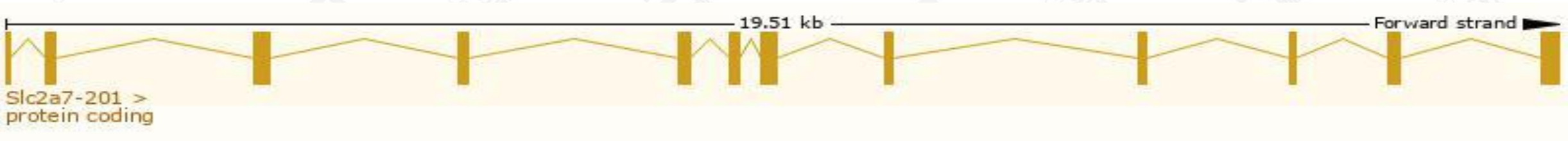
Official Symbol	Slc2a7 provided by MGI
Official Full Name	solute carrier family 2 (facilitated glucose transporter), member 7 provided by MGI
Primary source	MGI:MGI:3650865
See related	Ensembl:ENSMUSG00000062064
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	GLUT-7
Expression	Biased expression in duodenum adult (RPKM 33.3), small intestine adult (RPKM 16.9) and 1 other tissue See more
Orthologs	human all

Transcript information (Ensembl)

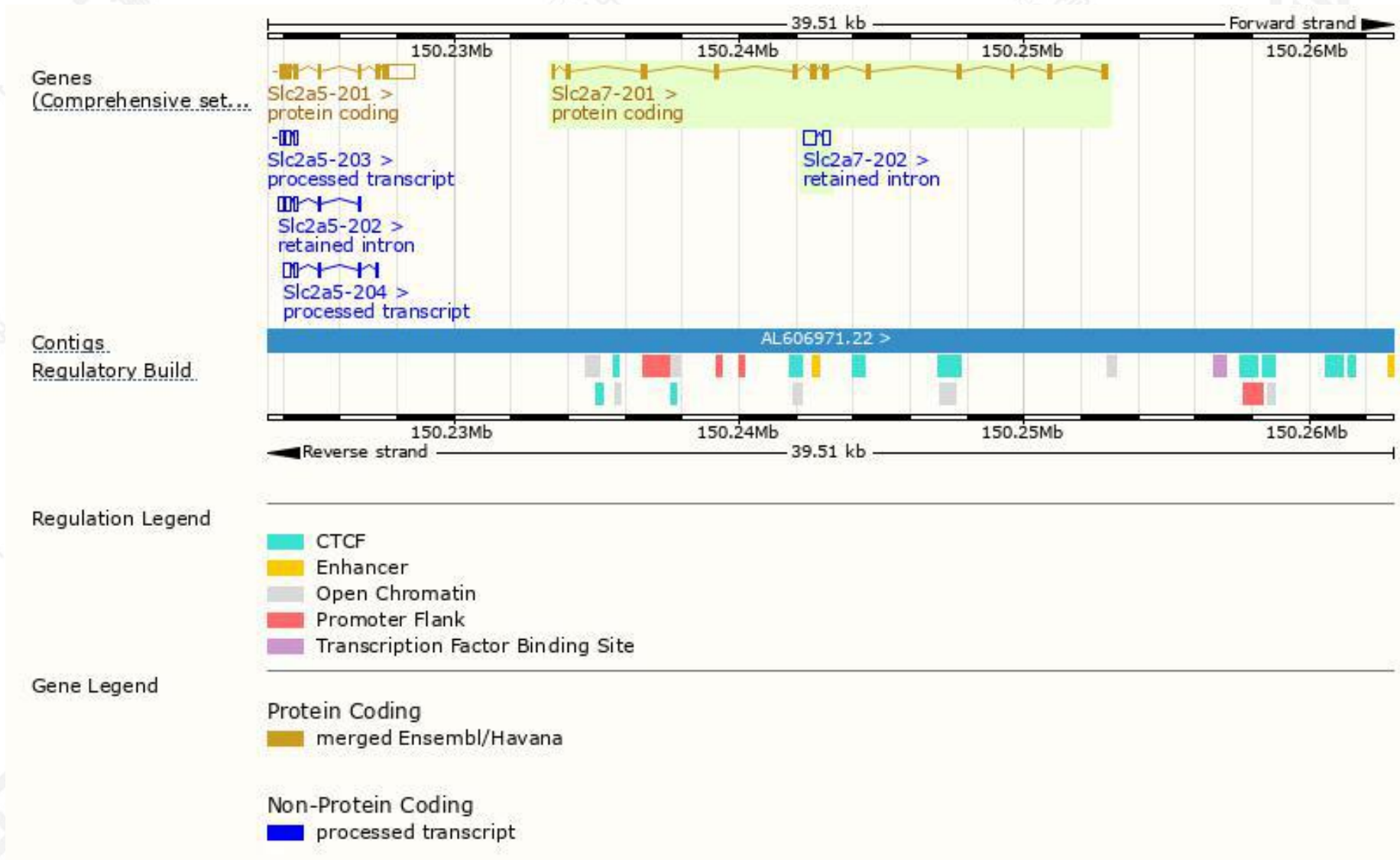
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc2a7-201	ENSMUST00000059893.8	1578	525aa	Protein coding	CCDS51385		TSL:5 , GENCODE basic , APPRIS P1 ,
Slc2a7-202	ENSMUST00000133379.2	606	No protein	Retained intron	-		TSL:3 ,

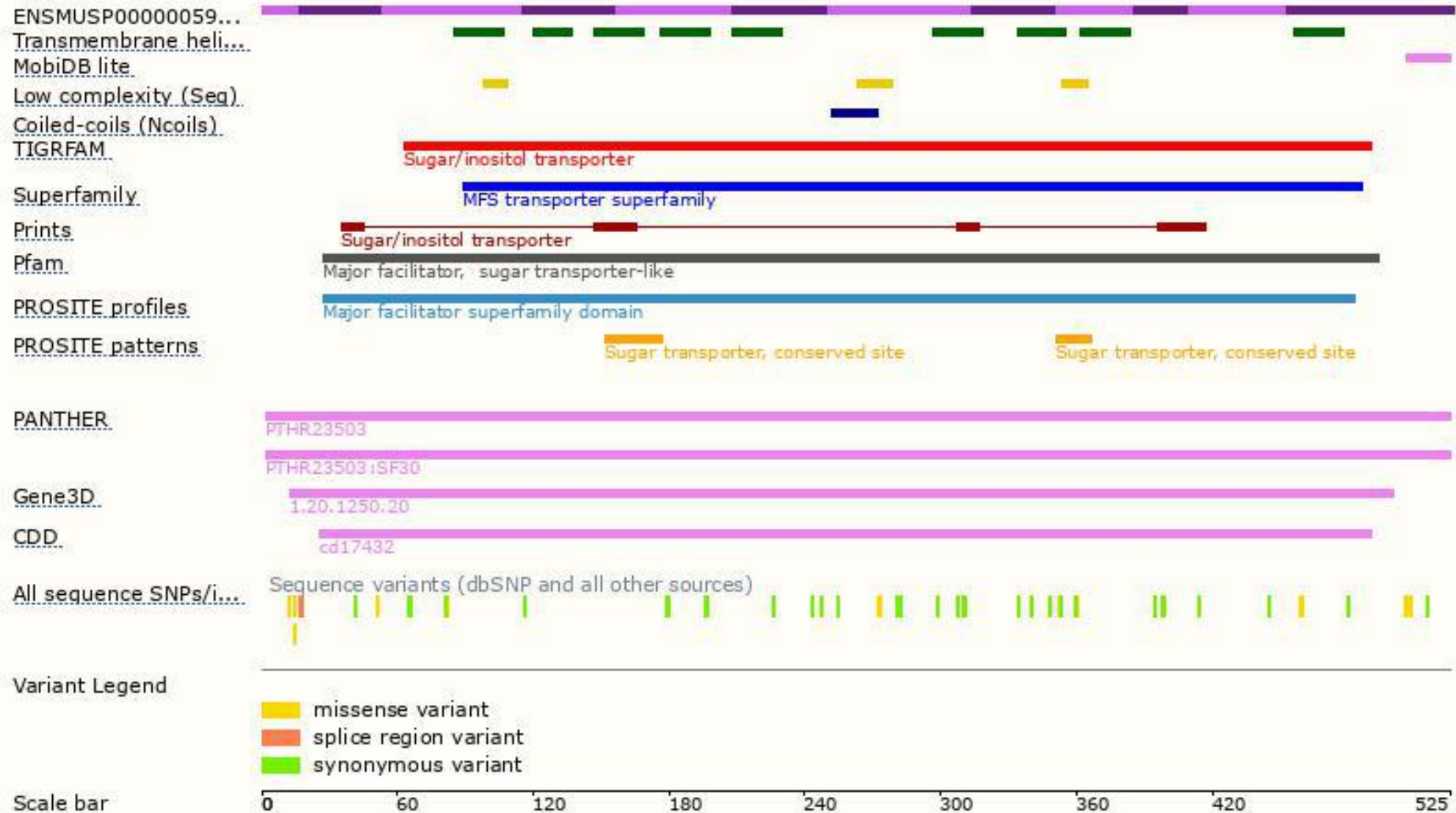
The strategy is based on the design of *Slc2a7-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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