

Slc2a6 Cas9-CKO Strategy

Designer:

JiaYu

Reviewer:

Xiaojing Li

Design Date:

2019-9-4

Project Overview

Project Name

Slc2a6

Project type

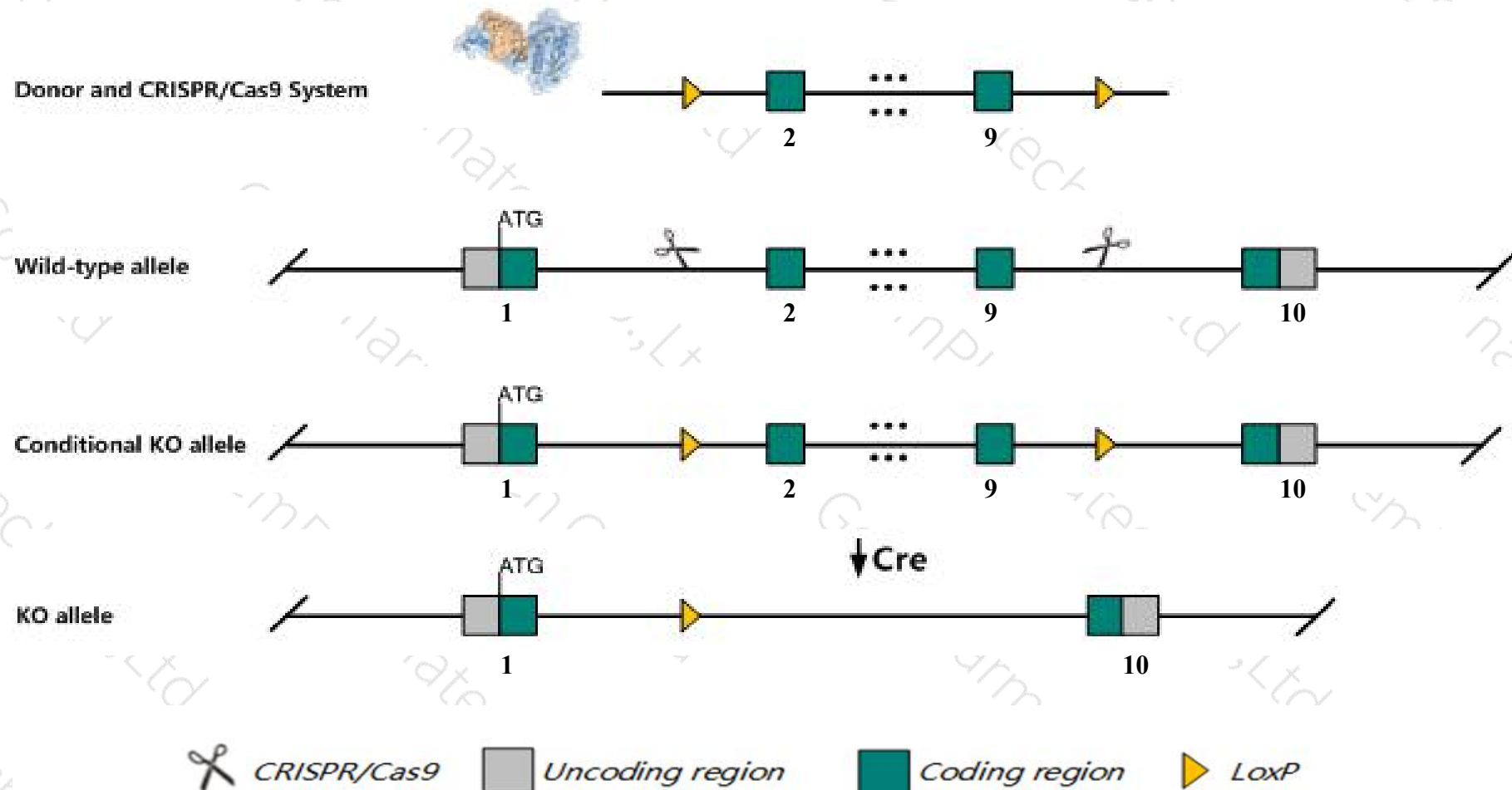
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc2a6* gene. The schematic diagram is as follows:



- The *Slc2a6* gene has 6 transcripts. According to the structure of *Slc2a6* gene, exon2-exon9 of *Slc2a6-201* (ENSMUST00000045702.5) transcript is recommended as the knockout region. The region contains 1249bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc2a6* 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 *Slc2a6* gene is located on the Chr2. 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)

Slc2a6 solute carrier family 2 (facilitated glucose transporter), member 6 [*Mus musculus* (house mouse)]

Gene ID: 227659, updated on 12-Aug-2019

Summary

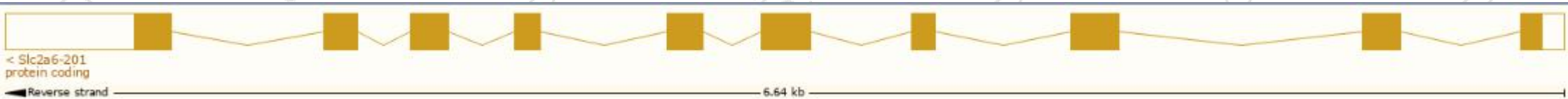
Official Symbol	Slc2a6 provided by MGI
Official Full Name	solute carrier family 2 (facilitated glucose transporter), member 6 provided by MGI
Primary source	MGI:MGI:2443286
See related	Ensembl:ENSMUSG000000036067
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Glut6; Glut9; GLUT-6; A330096C23; F630103L12Rik
Expression	Broad expression in cerebellum adult (RPKM 12.1), spleen adult (RPKM 11.0) and 20 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

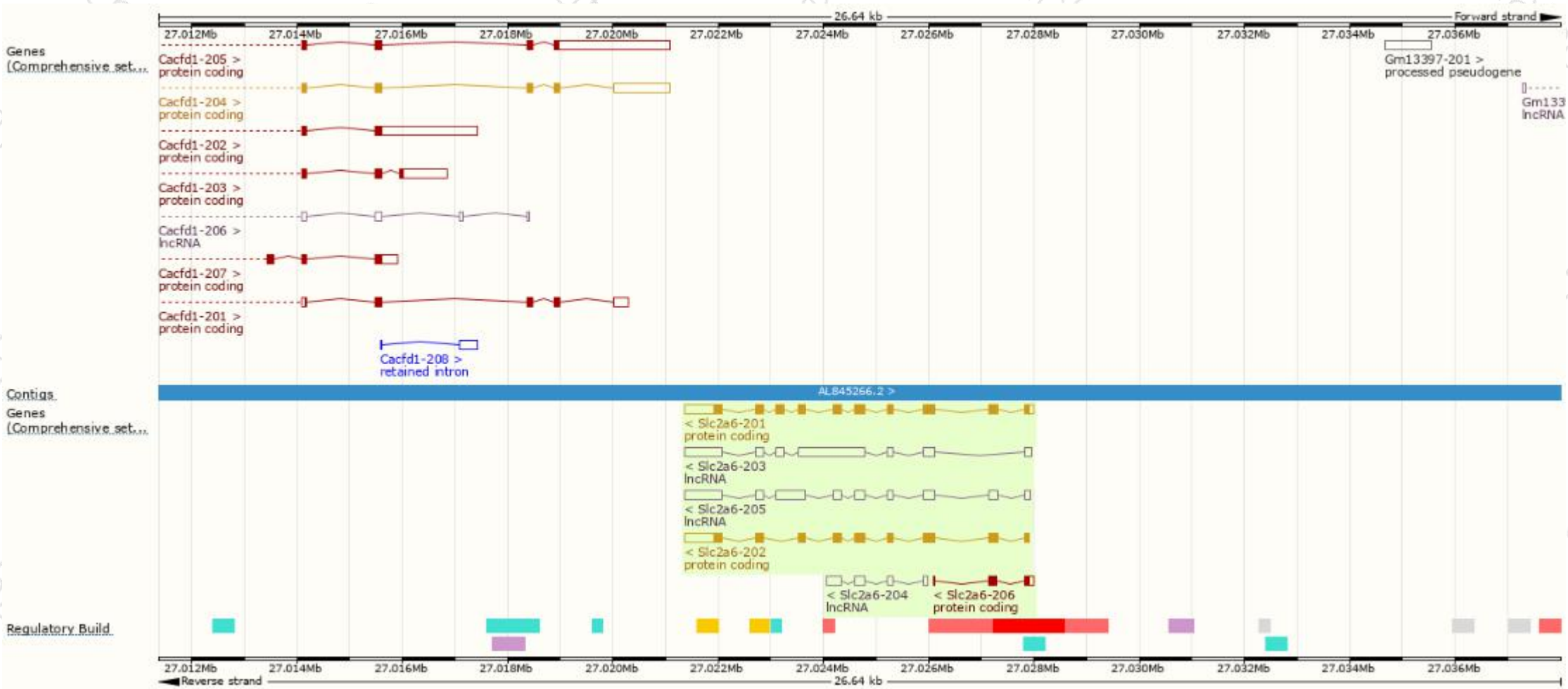
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc2a6-201	ENSMUST00000045702.5	2138	497aa	Protein coding	CCDS15822	Q3UDF0	TSL:1 GENCODE basic APPRIS P3
Slc2a6-202	ENSMUST00000102890.10	1887	443aa	Protein coding	CCDS50544	A2AR26	TSL:1 GENCODE basic APPRIS ALT2
Slc2a6-206	ENSMUST00000153388.1	343	85aa	Protein coding	-	A2AR27	CDS 3' incomplete TSL:5
Slc2a6-203	ENSMUST00000129835.7	2711	No protein	lncRNA	-	-	TSL:1
Slc2a6-205	ENSMUST00000145742.7	2347	No protein	lncRNA	-	-	TSL:1
Slc2a6-204	ENSMUST00000135725.1	668	No protein	lncRNA	-	-	TSL:3

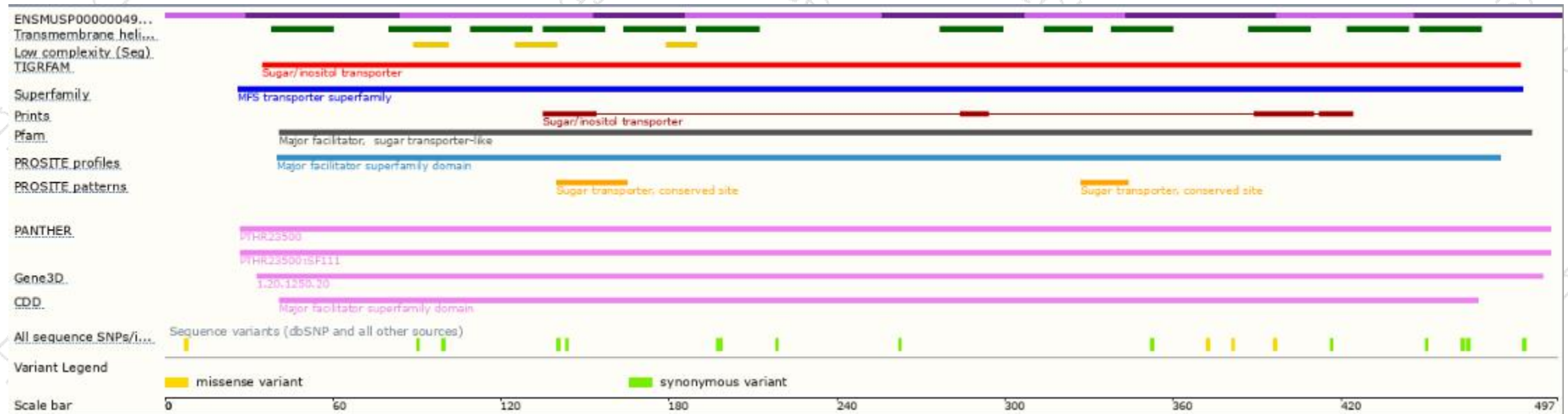
The strategy is based on the design of *Slc2a6-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

