

Slc39a11 Cas9-CKO Strategy

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Project Overview

Project Name

Slc39a11

Project type

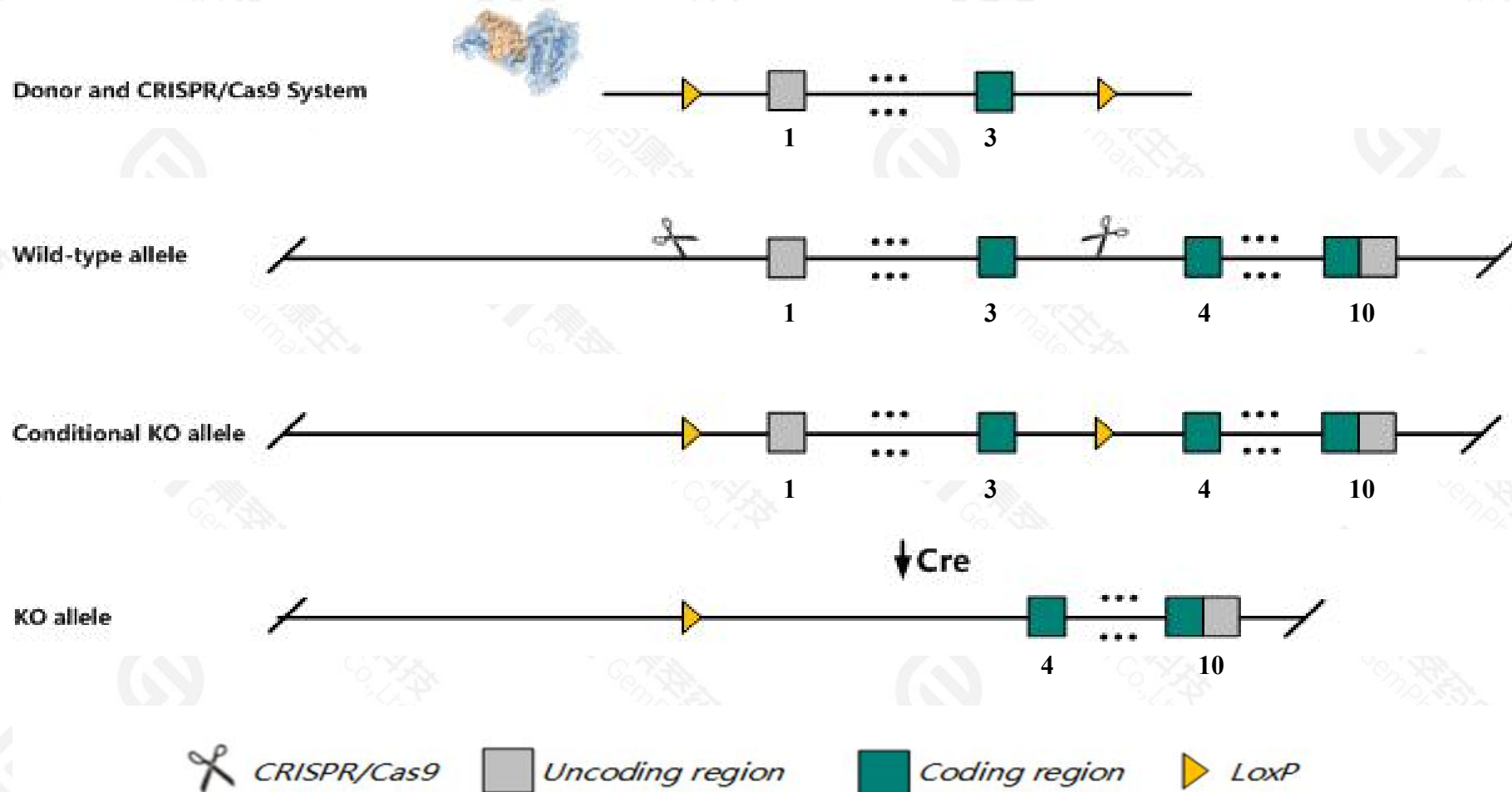
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc39a11* gene. The schematic diagram is as follows:



- The *Slc39a11* gene has 8 transcripts. According to the structure of *Slc39a11* gene, exon1-exon3 of *Slc39a11*-203(ENSMUST00000106633.10) transcript is recommended as the knockout region. The region contains 147bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc39a11* 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.

- The *Slc39a11* gene is located on the Chr11. 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)

Slc39a11 solute carrier family 39 (metal ion transporter), member 11 [Mus musculus (house mouse)]

Gene ID: 69806, updated on 10-Oct-2020

Summary



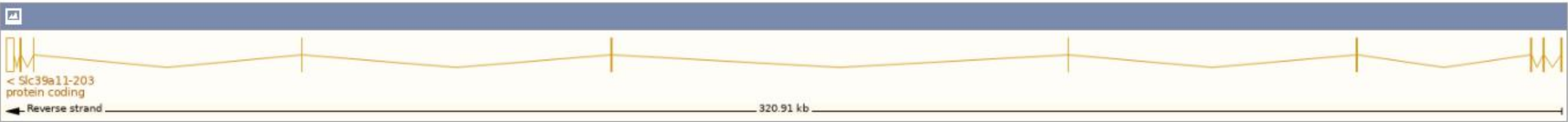
Official Symbol	Slc39a11 provided by MGI
Official Full Name	solute carrier family 39 (metal ion transporter), member 11 provided by MGI
Primary source	MGI:MGI:1917056
See related	Ensembl:ENSMUSG00000041654
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1810074D23Rik, ZIP-11
Expression	Ubiquitous expression in stomach adult (RPKM 17.8), colon adult (RPKM 17.8) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

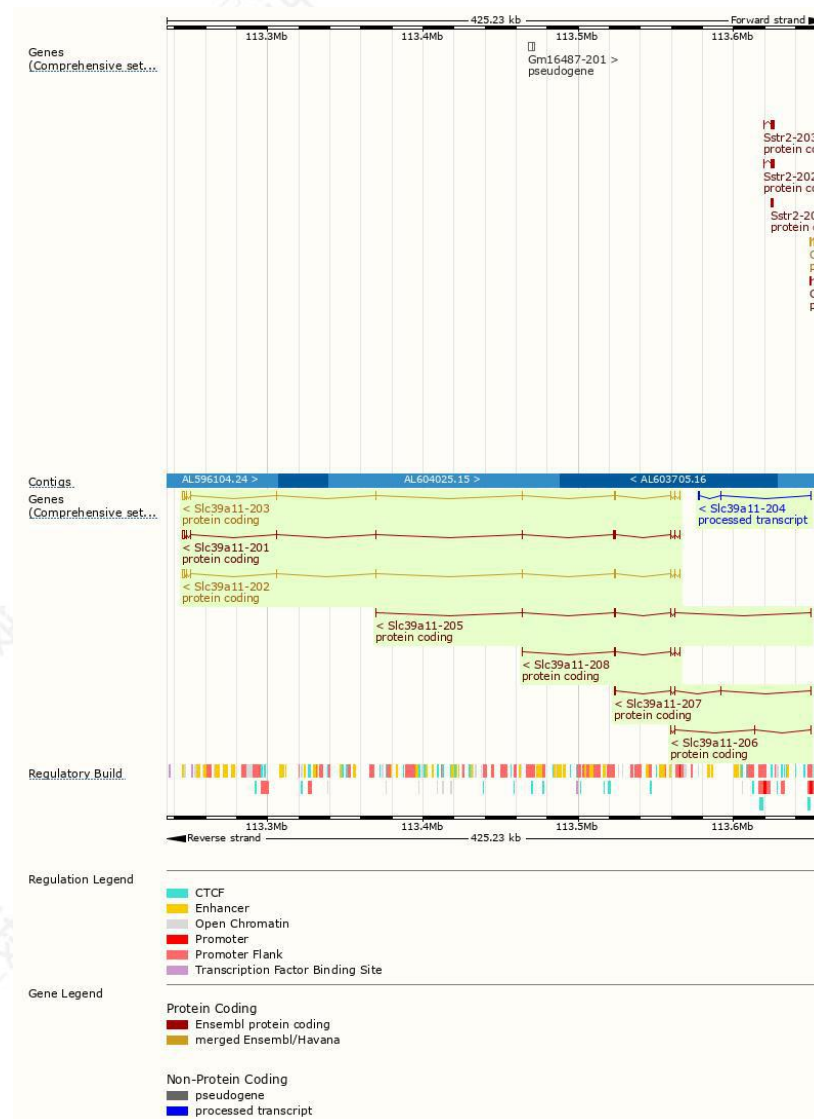
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc39a11-203	ENSMUST00000106633.10	2688	342aa	Protein coding	CCDS48975		TSL:1 , GENCODE basic , APPRIS ALT2 ,
Slc39a11-202	ENSMUST00000071539.10	2664	335aa	Protein coding	CCDS36363		TSL:1 , GENCODE basic , APPRIS P3 ,
Slc39a11-201	ENSMUST00000042657.16	2781	370aa	Protein coding	-		TSL:2 , GENCODE basic ,
Slc39a11-205	ENSMUST00000125890.8	742	200aa	Protein coding	-		CDS 3' incomplete , TSL:5 ,
Slc39a11-208	ENSMUST00000149034.8	654	149aa	Protein coding	-		CDS 3' incomplete , TSL:3 ,
Slc39a11-207	ENSMUST00000146031.8	485	61aa	Protein coding	-		CDS 3' incomplete , TSL:5 ,
Slc39a11-206	ENSMUST00000136392.8	362	42aa	Protein coding	-		CDS 3' incomplete , TSL:5 ,
Slc39a11-204	ENSMUST00000123153.2	351	No protein	Processed transcript	-		TSL:3 ,

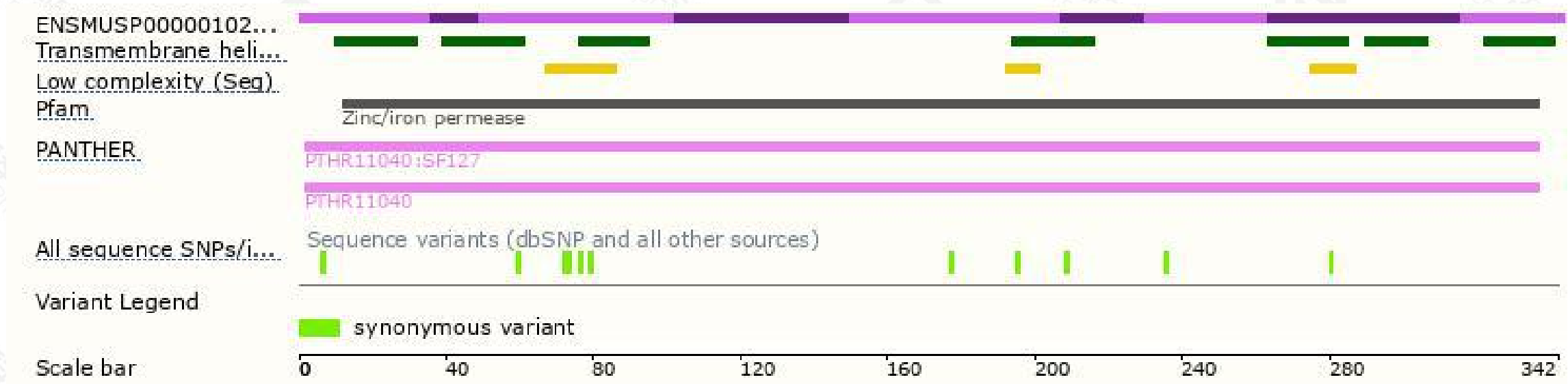
The strategy is based on the design of *Slc39a11-203* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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