

***Slc35b3* Cas9-KO Strategy**

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Project Overview

Project Name

Slc35b3

Project type

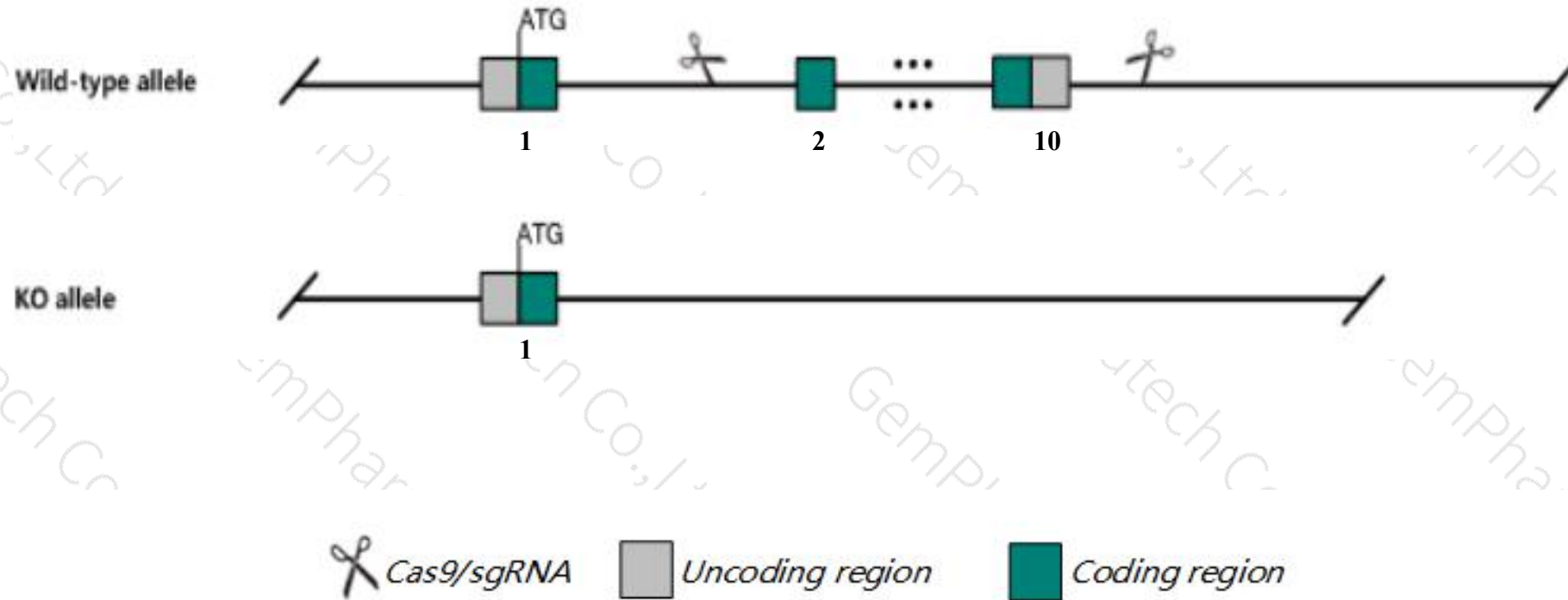
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc35b3* gene. The schematic diagram is as follows:



Technical routes

- The *Slc35b3* gene has 12 transcripts. According to the structure of *Slc35b3* gene, exon2-exon10 of *Slc35b3-201*(ENSMUST00000021870.11) transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc35b3* 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 *Slc35b3* gene is located on the Chr13. 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)

Slc35b3 solute carrier family 35, member B3 [Mus musculus (house mouse)]

Gene ID: 108652, updated on 13-Mar-2020

Summary



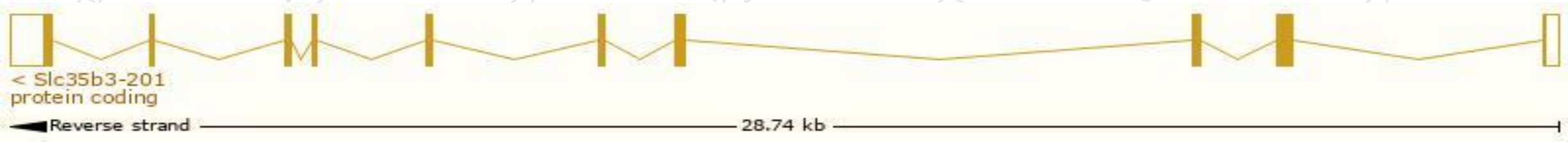
Official Symbol	Slc35b3 provided by MGI
Official Full Name	solute carrier family 35, member B3 provided by MGI
Primary source	MGI:MGI:1913978
See related	Ensembl:ENSMUSG00000021432
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4921526O06Rik, AI428480, CGI-19, PABST2, PAPST2
Expression	Ubiquitous expression in placenta adult (RPKM 7.6), limb E14.5 (RPKM 6.2) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

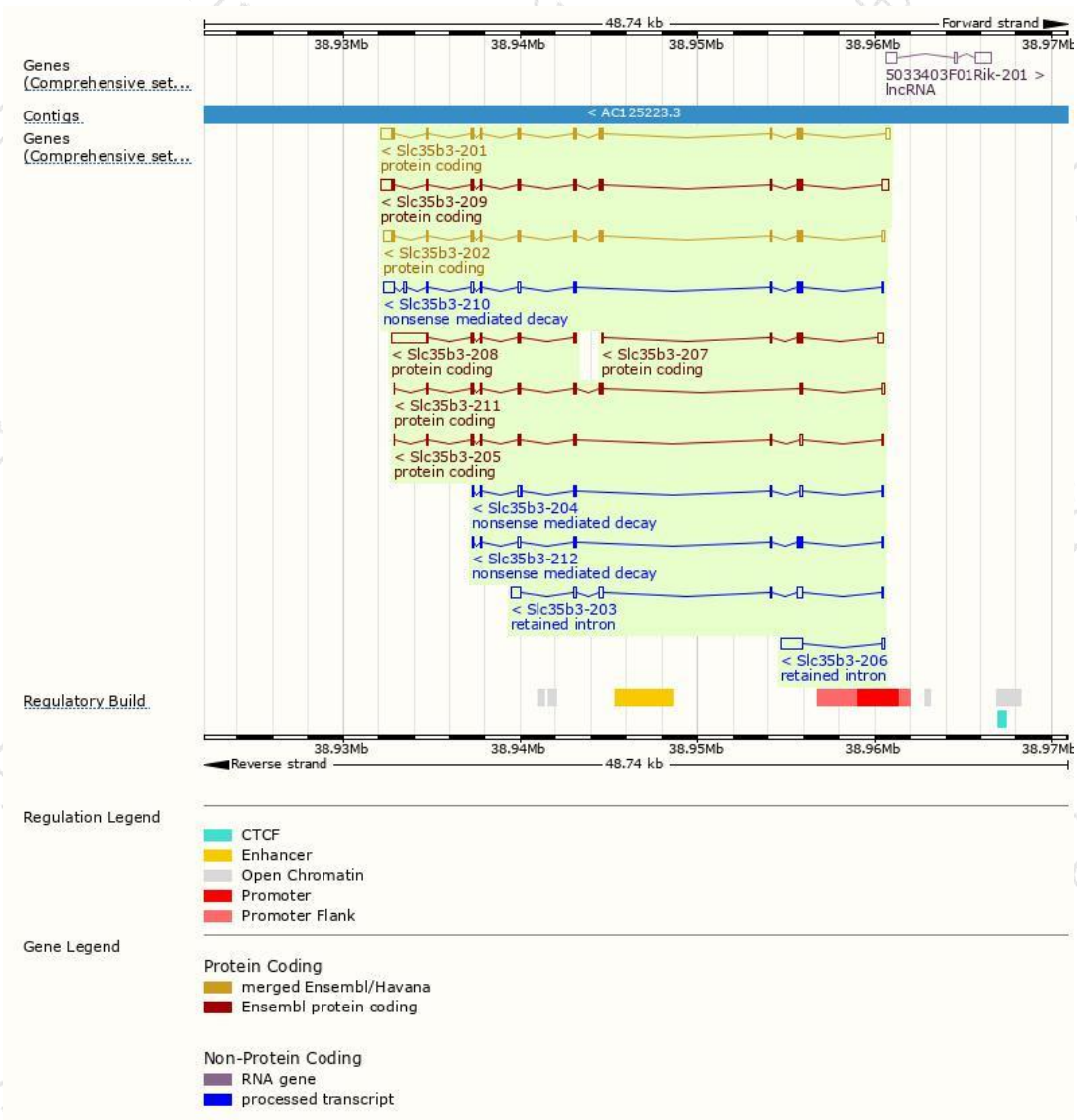
The gene has 12 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc35b3-209	ENSMUST00000225432.1	2216	369aa	Protein coding	CCDS26466	Q922Q5	GENCODE basic APPRIS P1
Slc35b3-201	ENSMUST0000021870.11	2090	413aa	Protein coding	CCDS49240	F8WGD7	TSL:1 GENCODE basic
Slc35b3-202	ENSMUST00000167513.2	1778	369aa	Protein coding	CCDS26466	Q922Q5	TSL:1 GENCODE basic APPRIS P1
Slc35b3-208	ENSMUST00000225396.1	2486	156aa	Protein coding	-	A0A286YD82	CDS 5' incomplete
Slc35b3-211	ENSMUST00000225568.1	890	232aa	Protein coding	-	A0A286YDN3	CDS 3' incomplete
Slc35b3-205	ENSMUST00000224645.1	802	149aa	Protein coding	-	A0A286YE07	CDS 3' incomplete
Slc35b3-207	ENSMUST00000225331.1	781	119aa	Protein coding	-	A0A286YCU5	CDS 3' incomplete
Slc35b3-210	ENSMUST00000225461.1	1701	132aa	Nonsense mediated decay	-	A0A286YCV2	
Slc35b3-212	ENSMUST00000225714.1	821	132aa	Nonsense mediated decay	-	A0A286YCV2	
Slc35b3-204	ENSMUST00000224429.1	751	45aa	Nonsense mediated decay	-	A0A286YCJ9	
Slc35b3-206	ENSMUST00000224854.1	1321	No protein	Retained intron	-	-	
Slc35b3-203	ENSMUST00000223619.1	1252	No protein	Retained intron	-	-	

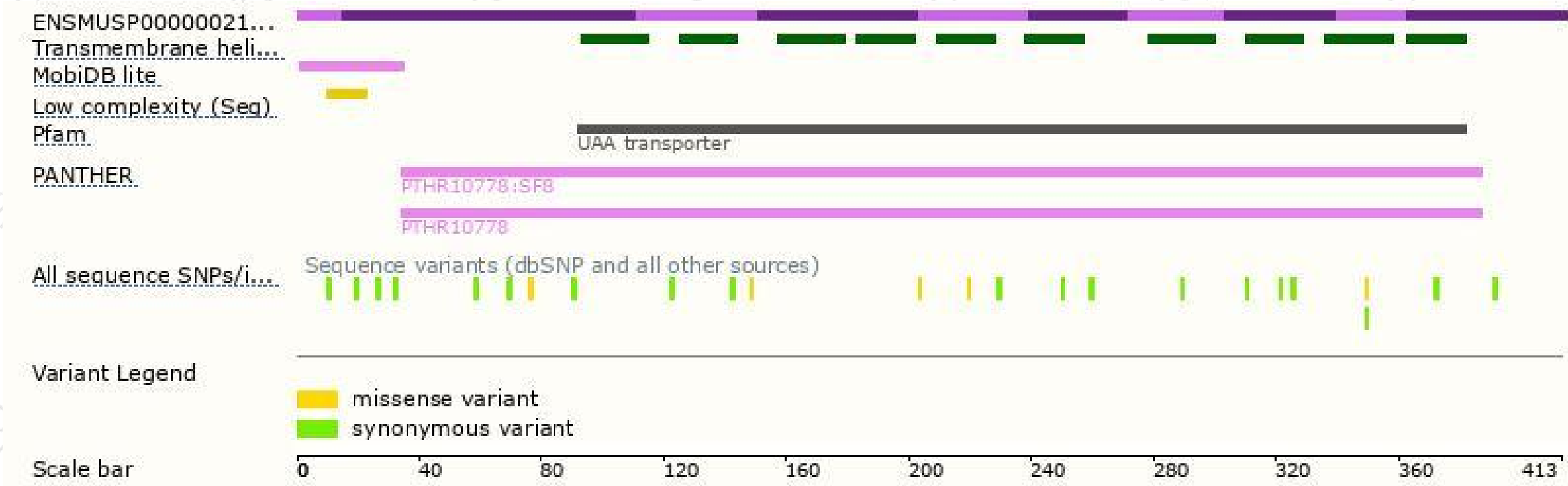
The strategy is based on the design of *Slc35b3-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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