

Slc25a27 Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Slc25a27

Project type

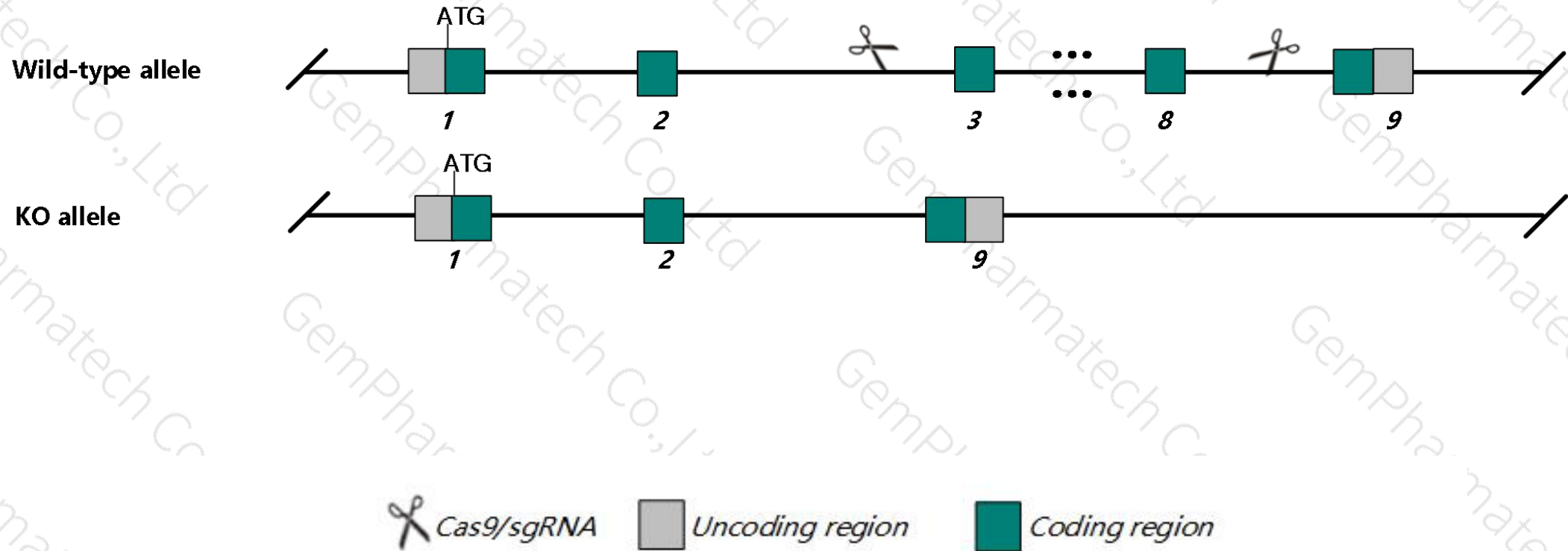
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc25a27* gene. The schematic diagram is as follows:



- The *Slc25a27* gene has 2 transcripts. According to the structure of *Slc25a27* gene, exon3-exon8 of *Slc25a27-201* (ENSMUST00000024705.5) transcript is recommended as the knockout region. The region contains 602bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc25a27* gene. The brief process is as follows: CRISPR/Cas9 syst

- Some amino acids will remain at the N-terminus and some functions may be retained.
- Transcripts 202 maybe unaffected.
- The *Slc25a27* gene is located on the Chr17. 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)

Slc25a27 solute carrier family 25, member 27 [*Mus musculus* (house mouse)]

Gene ID: 74011, updated on 13-Mar-2020

Summary

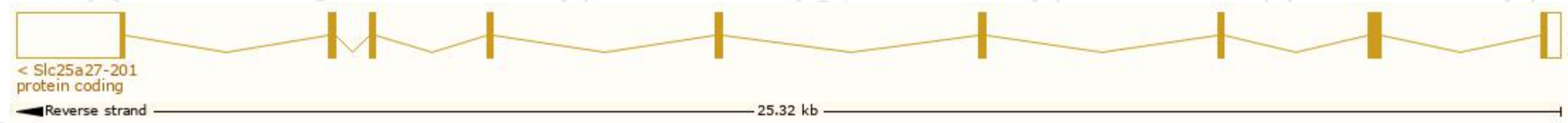
Official Symbol	Slc25a27 provided by MGI
Official Full Name	solute carrier family 25, member 27 provided by MGI
Primary source	MGI:MGI:1921261
See related	Ensembl:ENSMUSG00000023912
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Ucp4; 3632410G24Rik; 9430092A03Rik; D530043E16Rik
Expression	Broad expression in CNS E14 (RPKM 9.6), CNS E18 (RPKM 8.3) and 15 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

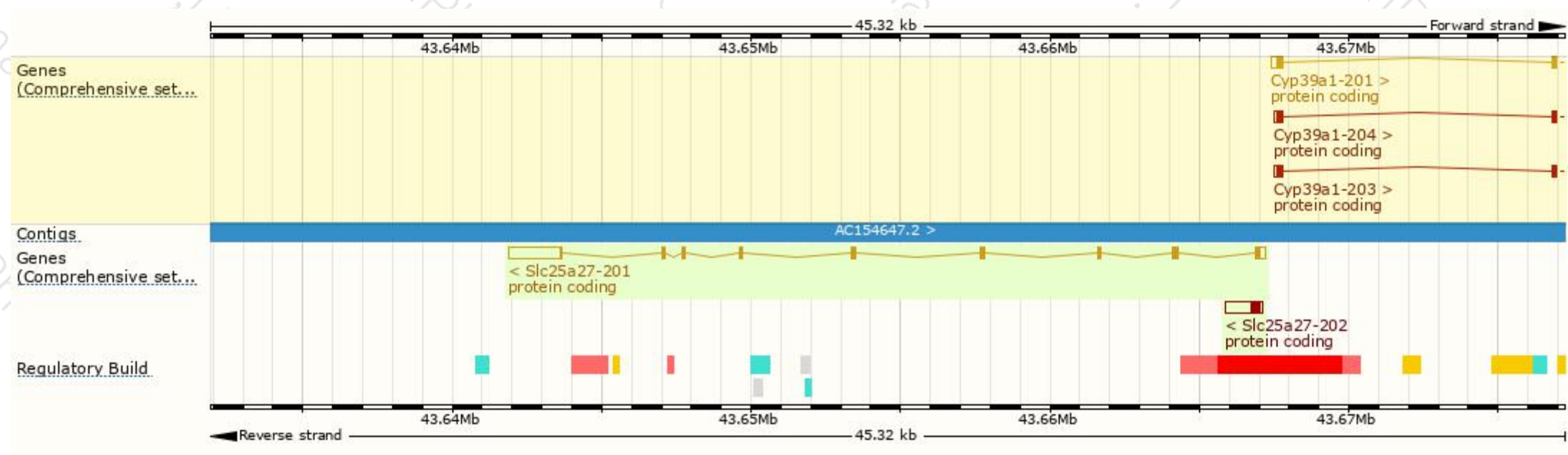
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc25a27-201	ENSMUST00000024705.5	2895	322aa	Protein coding	CCDS28798	Q9D6D0	TSL:1 GENCODE basic APPRIS P1
Slc25a27-202	ENSMUST00000233442.1	1273	81aa	Protein coding	-	A0A3B2WCR9	GENCODE basic

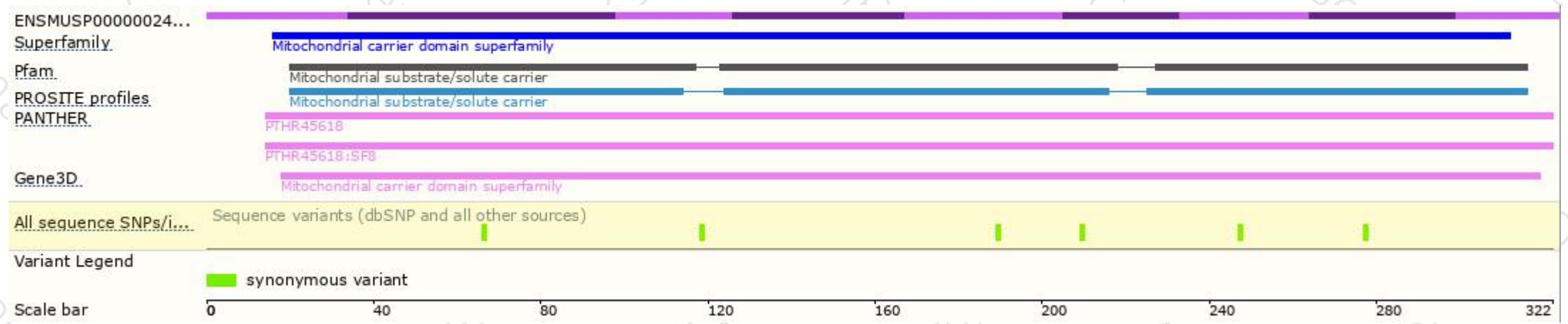
The strategy is based on the design of *Slc25a27-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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