

Slc25a20 Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Slc25a20

Project type

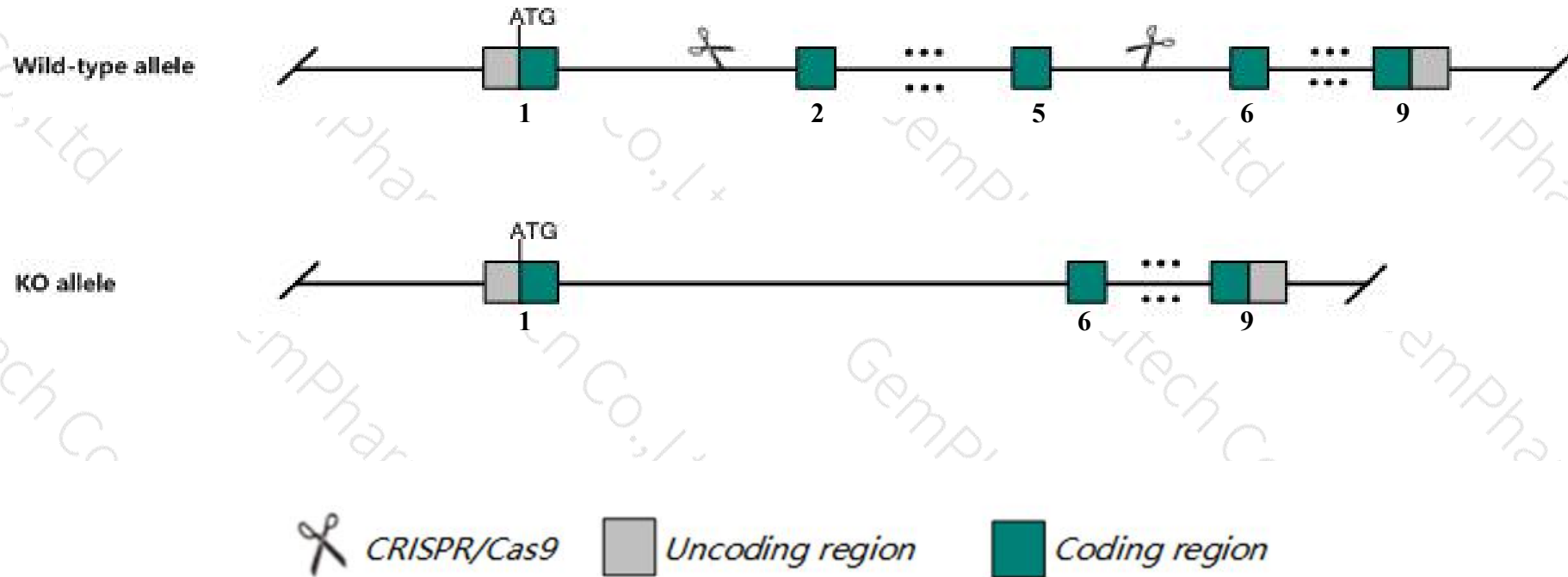
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc25a20* gene. The schematic diagram is as follows:



- The *Slc25a20* gene has 3 transcripts. According to the structure of *Slc25a20* gene, exon2-exon5 of *Slc25a20-201* (ENSMUST00000035222.5) transcript is recommended as the knockout region. The region contains 430bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc25a20* gene. The brief process is as follows: CRISPR/Cas9 syst

- The *Slc25a20* gene is located on the Chr9. 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)

Slc25a20 solute carrier family 25 (mitochondrial carnitine/acylcarnitine translocase), member 20 [Mus musculus (house mouse)]

Gene ID: 57279, updated on 31-Jan-2019

Summary



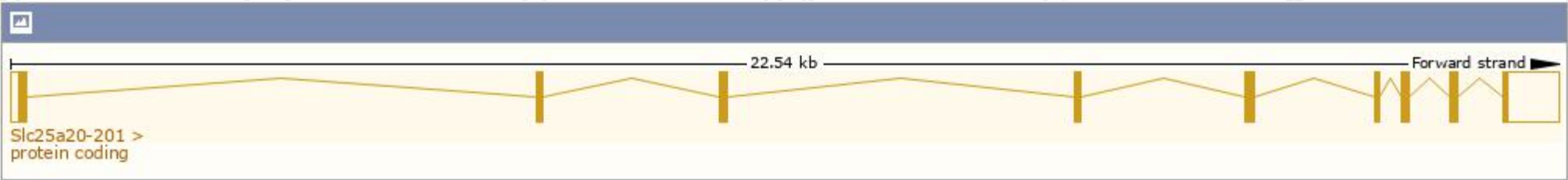
Official Symbol	Slc25a20 provided by MGI
Official Full Name	solute carrier family 25 (mitochondrial carnitine/acylcarnitine translocase), member 20 provided by MGI
Primary source	MGI:MGI:1928738
See related	Ensembl:ENSMUSG00000032602
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110007P09Rik, C78826, CAC, Cact, mCAC
Expression	Ubiquitous expression in heart adult (RPKM 46.4), colon adult (RPKM 29.5) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

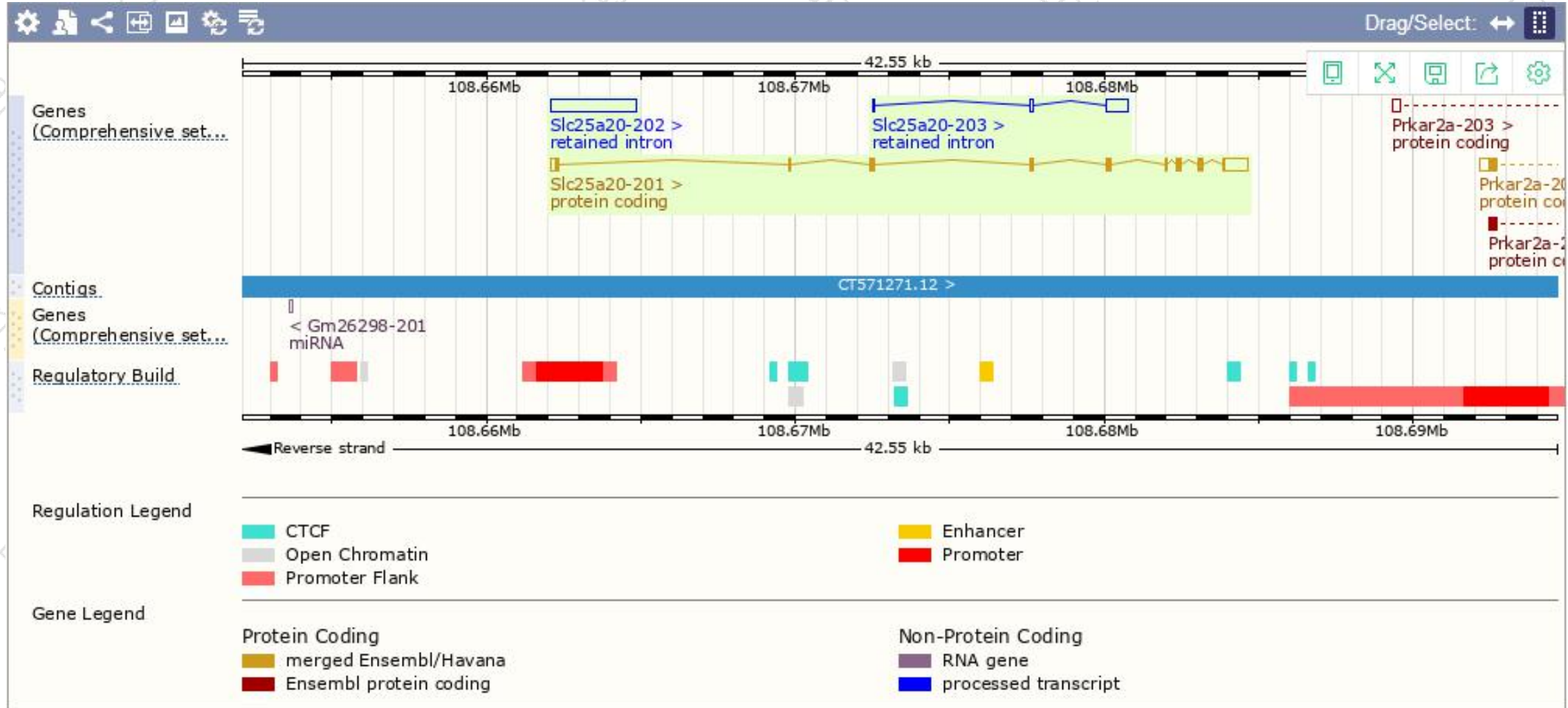
The gene has 3 transcripts,all transcripts are shown below:

Show/hide columns (1 hidden)							Filter	
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags	
Slc25a20-201	ENSMUST00000035222.5	1783	301aa	Protein coding	CCDS23535	Q9Z2Z6	TSL:1	GENCODE basic APPRIS P1
Slc25a20-202	ENSMUST00000194088.1	2751	No protein	Retained intron	-	-	TSL:NA	
Slc25a20-203	ENSMUST00000195260.1	805	No protein	Retained intron	-	-	TSL:2	

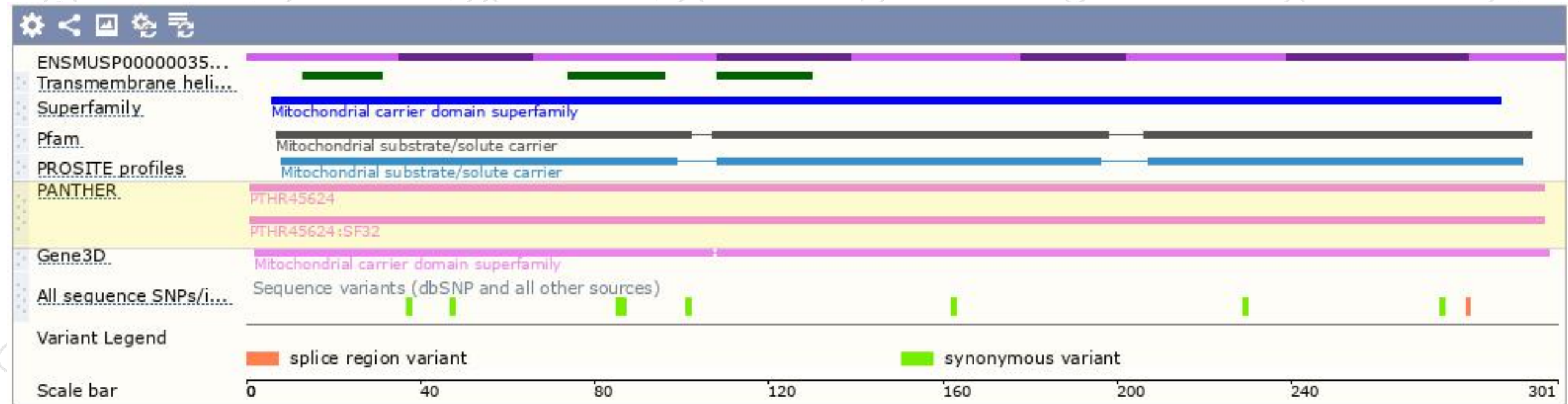
The strategy is based on the design of *Slc25a20-201* transcript,The transcription is shown below



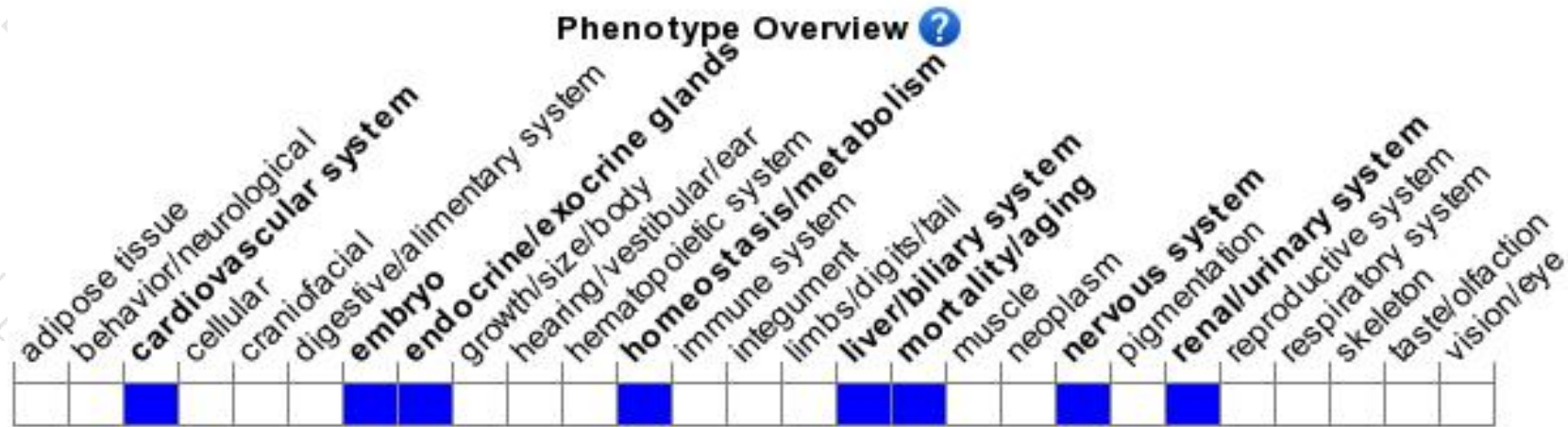
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

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