

Tmem8b Cas9-KO Strategy

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Project Overview

Project Name

Tmem8b

Project type

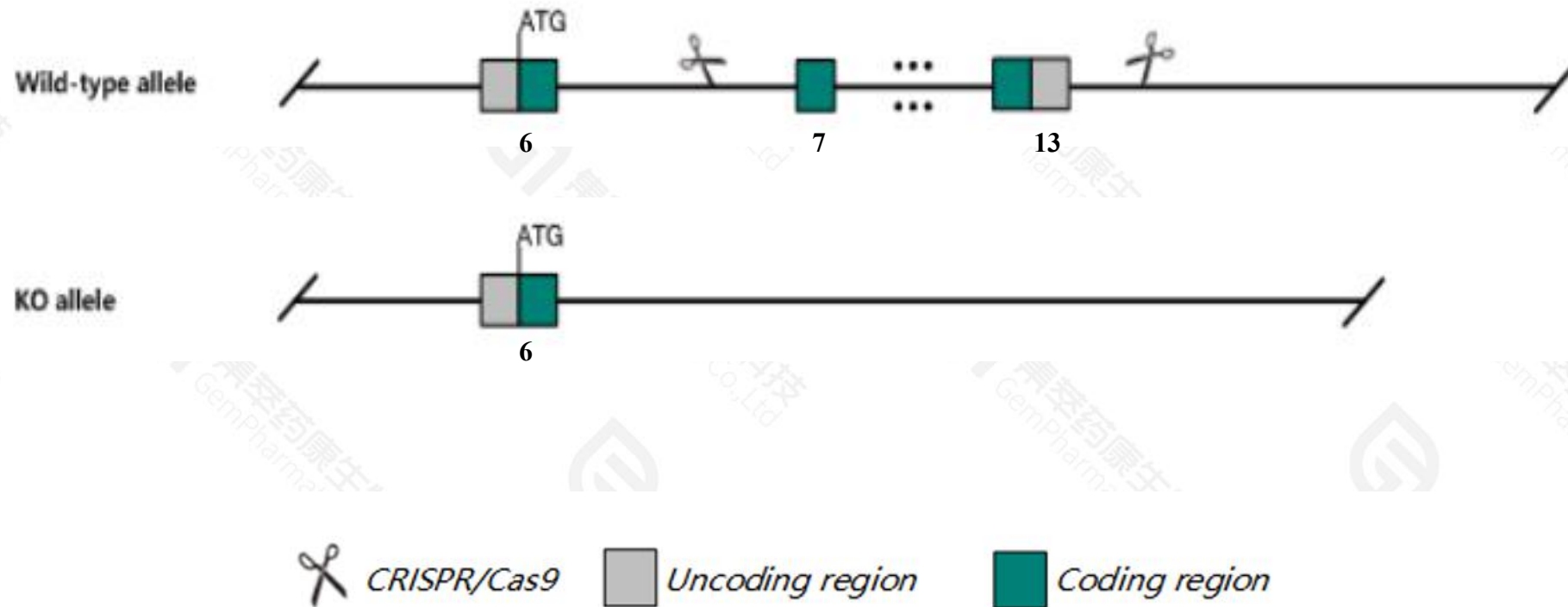
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Tmem8b* gene. The schematic diagram is as follows:



- The *Tmem8b* gene has 9 transcripts. According to the structure of *Tmem8b* gene, exon7-exon13 of *Tmem8b*-202(ENSMUST00000107865.9) 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 *Tmem8b* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Tmem8b* gene is located on the Chr4. 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.
- *Gm23257-201* will be deleted.
- 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.

Tmem8b transmembrane protein 8B [Mus musculus (house mouse)]

Gene ID: 242409, updated on 17-Dec-2020

Summary



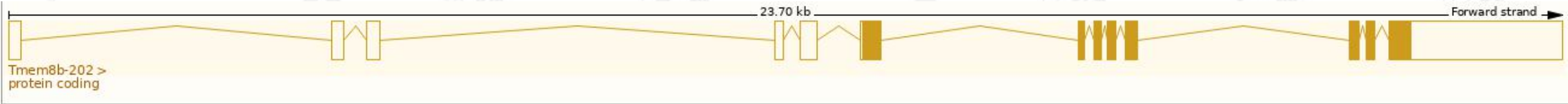
Official Symbol	Tmem8b provided by MGI
Official Full Name	transmembrane protein 8B provided by MGI
Primary source	MGI:MGI:2441680
See related	Ensembl:ENSMUSG00000078716
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4930500O05Rik
Expression	Broad expression in testis adult (RPKM 21.3), whole brain E14.5 (RPKM 8.4) and 22 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

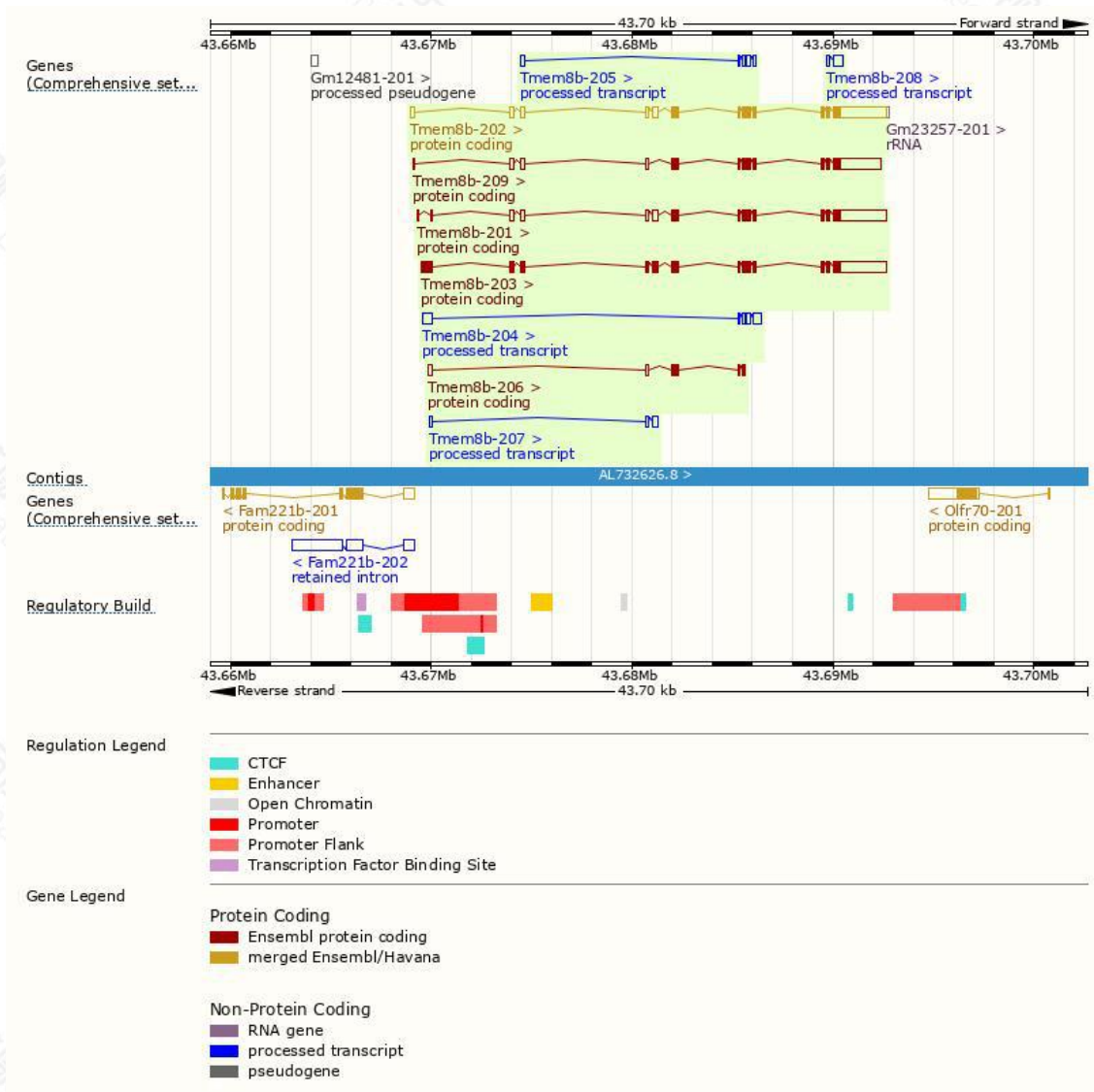
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Tmem8b-202	ENSMUST00000107865.9	4775	472aa	Protein coding	CCDS51168		TSL:1 , GENCODE basic , APPRIS P1 ,
Tmem8b-201	ENSMUST00000107864.8	4726	472aa	Protein coding	CCDS51168		TSL:5 , GENCODE basic , APPRIS P1 ,
Tmem8b-209	ENSMUST00000167153.8	4101	472aa	Protein coding	CCDS51168		TSL:1 , GENCODE basic , APPRIS P1 ,
Tmem8b-203	ENSMUST00000107866.9	5102	931aa	Protein coding	-		TSL:5 , GENCODE basic ,
Tmem8b-206	ENSMUST00000143339.8	824	154aa	Protein coding	-		CDS 3' incomplete , TSL:5 ,
Tmem8b-204	ENSMUST00000134869.8	1243	No protein	Processed transcript	-		TSL:5 ,
Tmem8b-205	ENSMUST00000141864.2	741	No protein	Processed transcript	-		TSL:5 ,
Tmem8b-208	ENSMUST00000154112.2	584	No protein	Processed transcript	-		TSL:3 ,
Tmem8b-207	ENSMUST00000143774.2	521	No protein	Processed transcript	-		TSL:5 ,

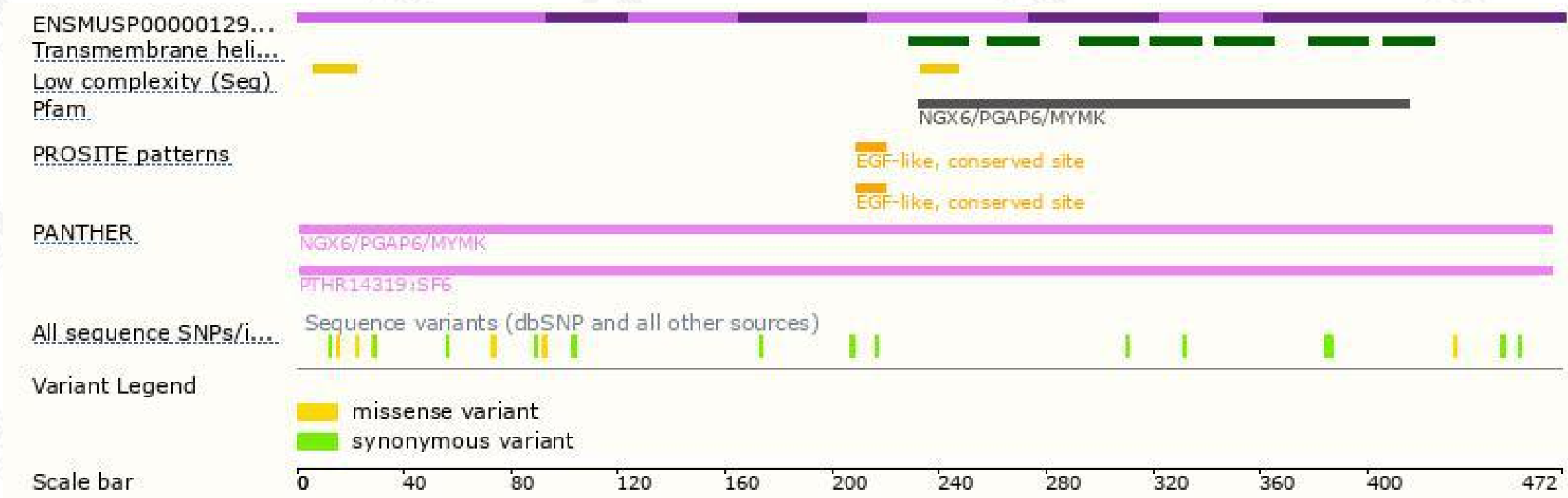
The strategy is based on the design of *Tmem8b-202* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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