

Tmem115 Cas9-KO Strategy

Designer: Yumeng wang

Reviewer: Huan wang

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Project Overview

Project Name

Tmem115

Project type

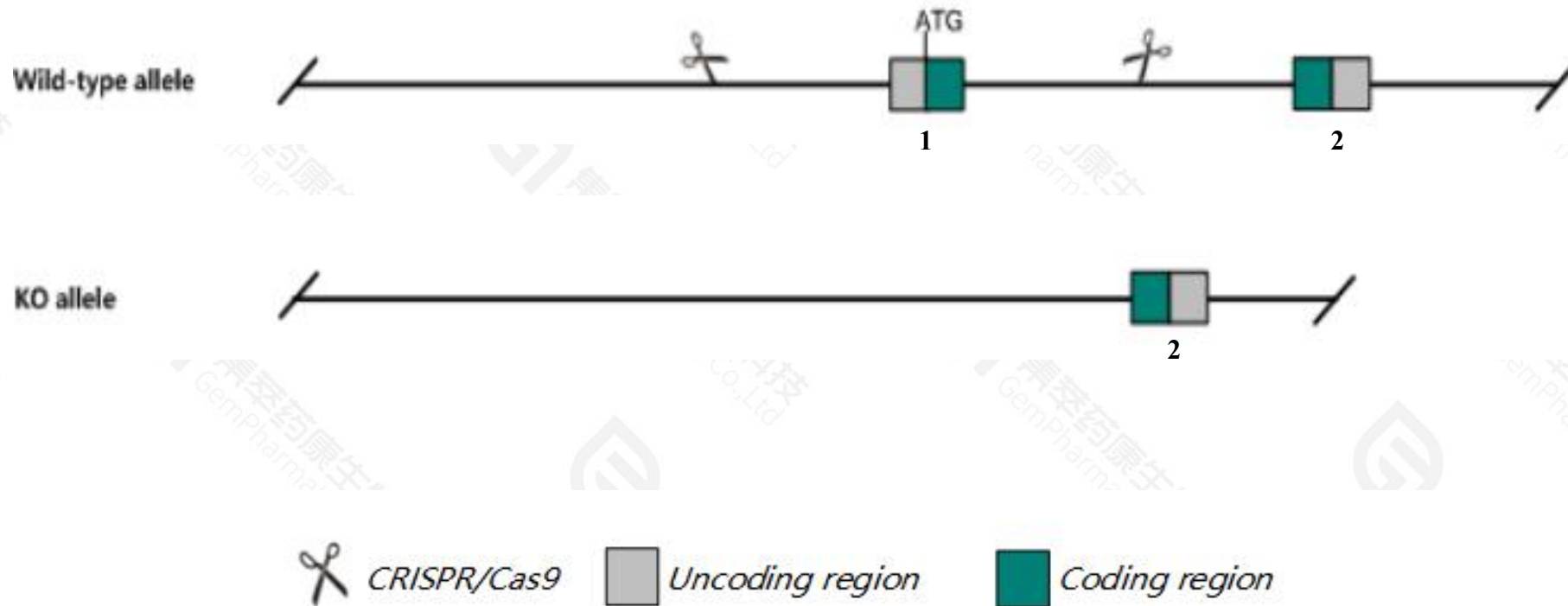
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Tmem115* gene. The schematic diagram is as follows:



Technical routes

- The *Tmem115* gene has 1 transcript. According to the structure of *Tmem115* gene, exon1 of *Tmem115*-201(ENSMUST00000010189.3) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Tmem115* 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 *Tmem115* 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)

Tmem115 transmembrane protein 115 [Mus musculus (house mouse)]

Gene ID: 56395, updated on 17-Nov-2020

Summary



Official Symbol Tmem115 provided by [MGI](#)

Official Full Name transmembrane protein 115 provided by [MGI](#)

Primary source [MGI:MGI:1930765](#)

See related [Ensembl:ENSMUSG00000010045](#)

Gene type protein coding

RefSeq status PROVISIONAL

Organism [Mus musculus](#)

Lineage Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus

Also known as C78915, P, Pl6, Pp6

Expression Ubiquitous expression in adrenal adult (RPKM 40.7), ovary adult (RPKM 37.6) and 28 other tissues [See more](#)

Orthologs [human](#) [all](#)

Transcript information (Ensembl)

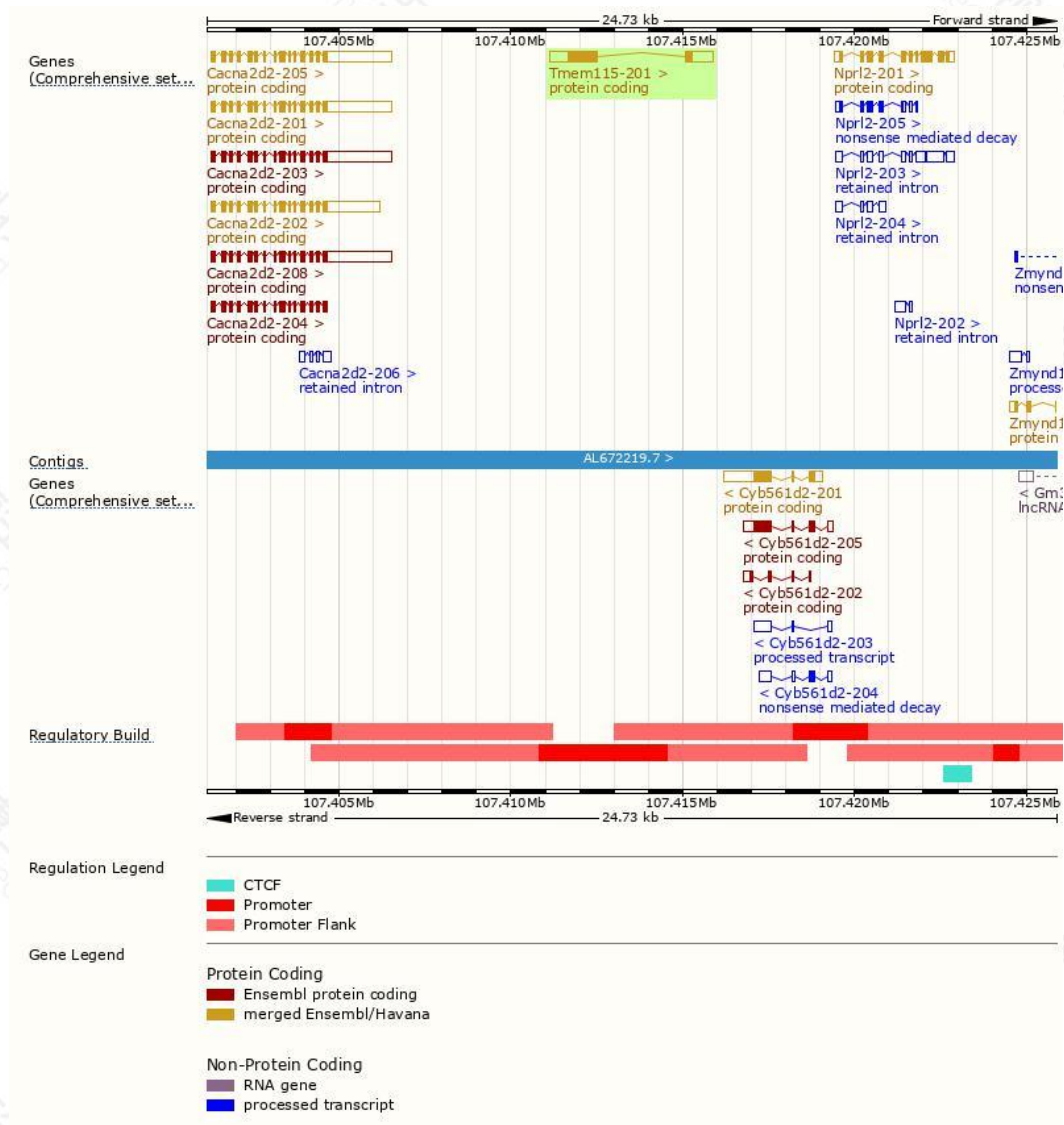
The gene has 1 transcript,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Tmem115-201	ENSMUST00000010189.3	2194	350aa	Protein coding	CCDS23490		TSL:1 , GENCODE basic , APPRIS P1 ,

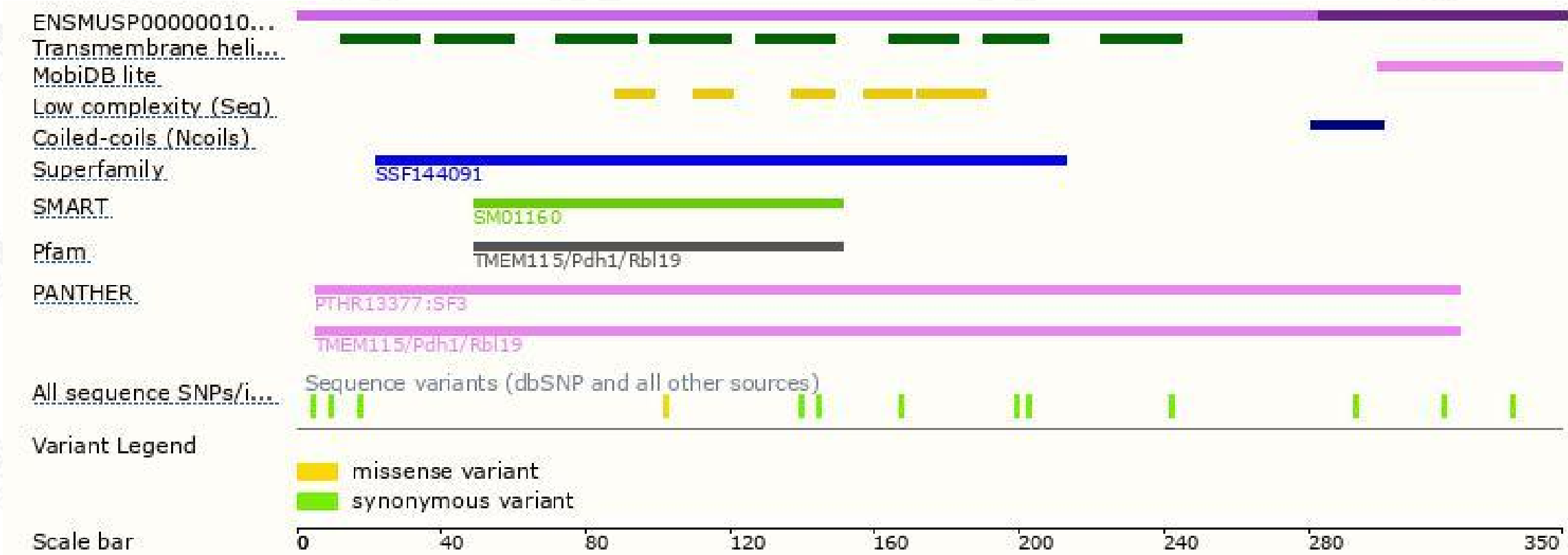
The strategy is based on the design of *Tmem115-201* transcript,the transcription is shown below:



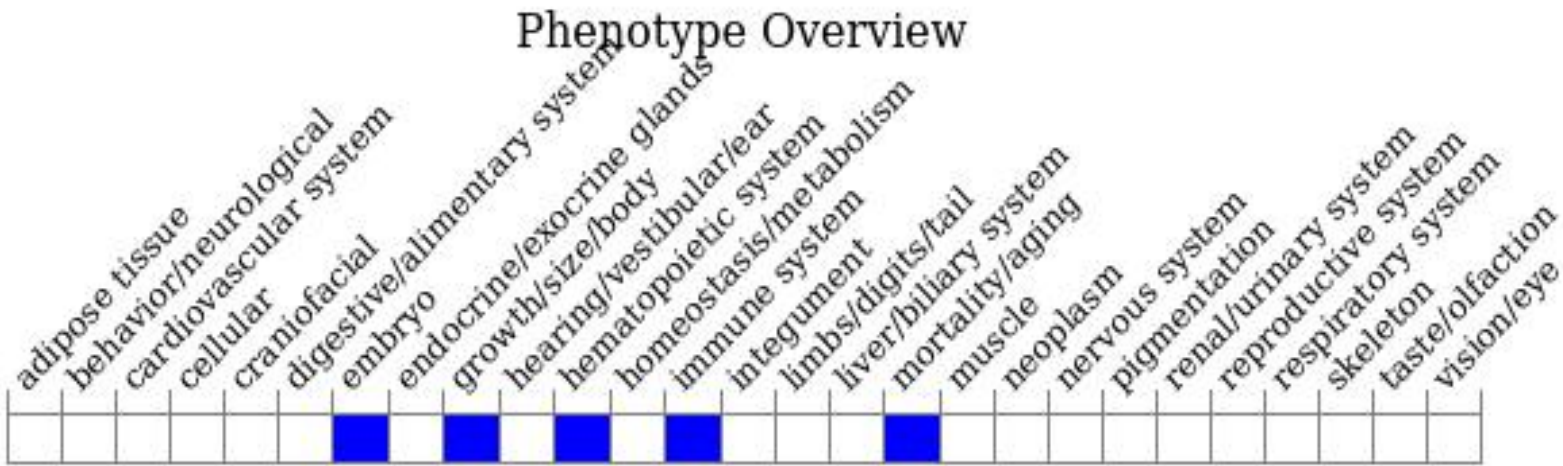
Genomic location distribution



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.
Tel: 400-9660890

