Trim44 Cas9-KO Strategy

Designer: **Jing Jin**

Reviewer: **Yang Zeng**

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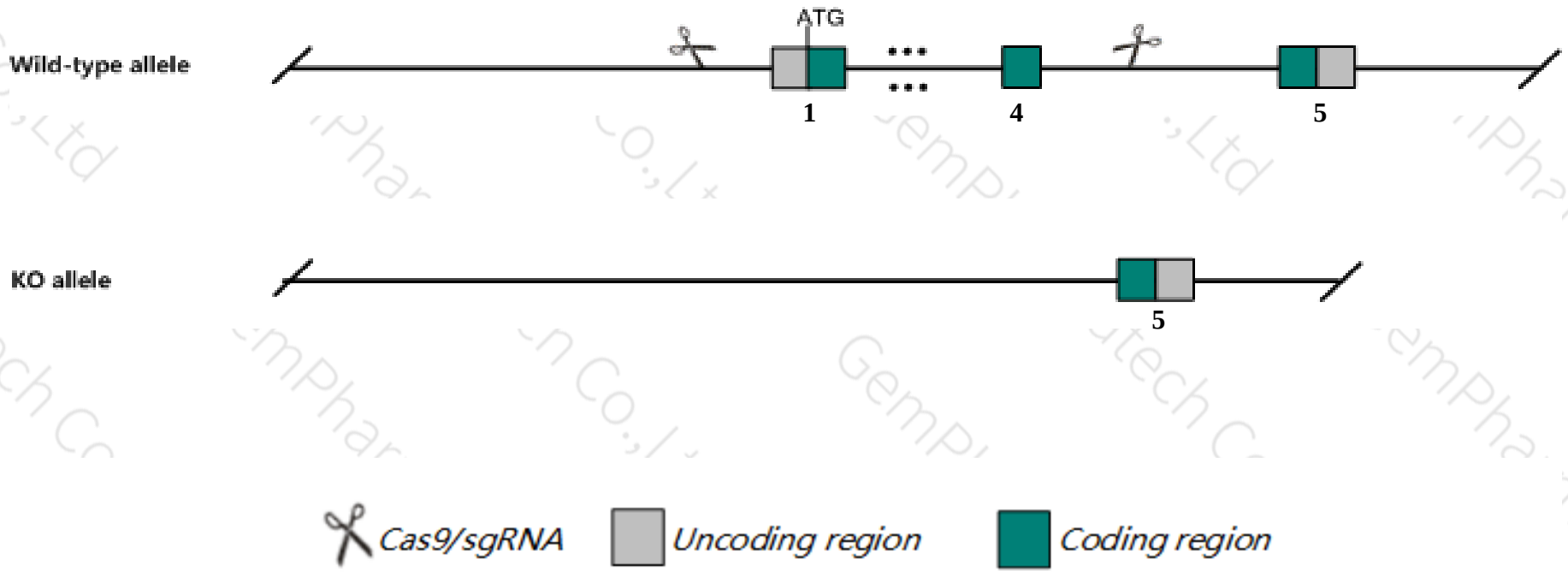
集萃药康 GemPharmatech

Project Overview

Project Name	***Trim44***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Trim44* gene. The schematic diagram is as follows:



Technical routes

- The *Trim44* gene has 3 transcripts. According to the structure of *Trim44* gene, exon1-exon4 of *Trim44-201* (ENSMUST00000102573.7) 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 *Trim44* 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.

Notice

- The *Trim44* gene is located on the Chr2. 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）

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Trim44 tripartite motif-containing 44 [*Mus musculus* (house mouse)]

Gene ID: 80985, updated on 12-Aug-2019

Summary

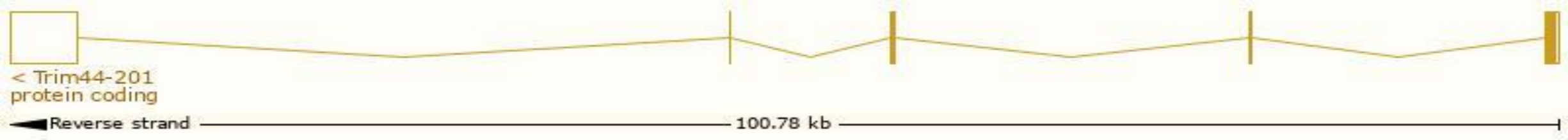
Official Symbol	Trim44 provided by MGI
Official Full Name	tripartite motif-containing 44 provided by MGI
Primary source	MGI:MGI:1931835
See related	Ensembl:ENSMUSG00000027189
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Mc7; Dipb
Expression	Ubiquitous expression in frontal lobe adult (RPKM 39.5), CNS E18 (RPKM 31.5) and 27 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

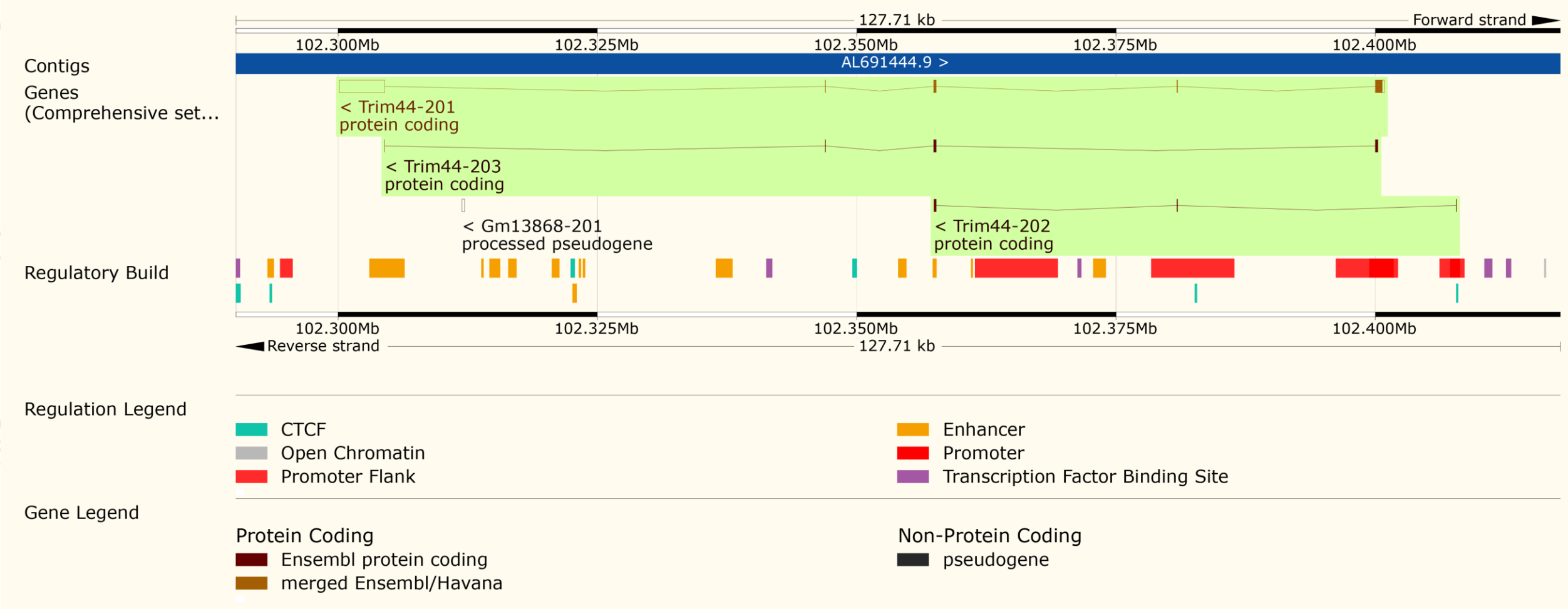
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Trim44-201	ENSMUST00000102573.7	5612	345aa	Protein coding	CCDS16466	Q4KMS1	TSL:1 GENCODE basic APPRIS P1
Trim44-203	ENSMUST00000152929.1	516	172aa	Protein coding	-	F7B7X2	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:2
Trim44-202	ENSMUST00000144110.1	325	87aa	Protein coding	-	A2AGP1	CDS 3' incomplete TSL:3

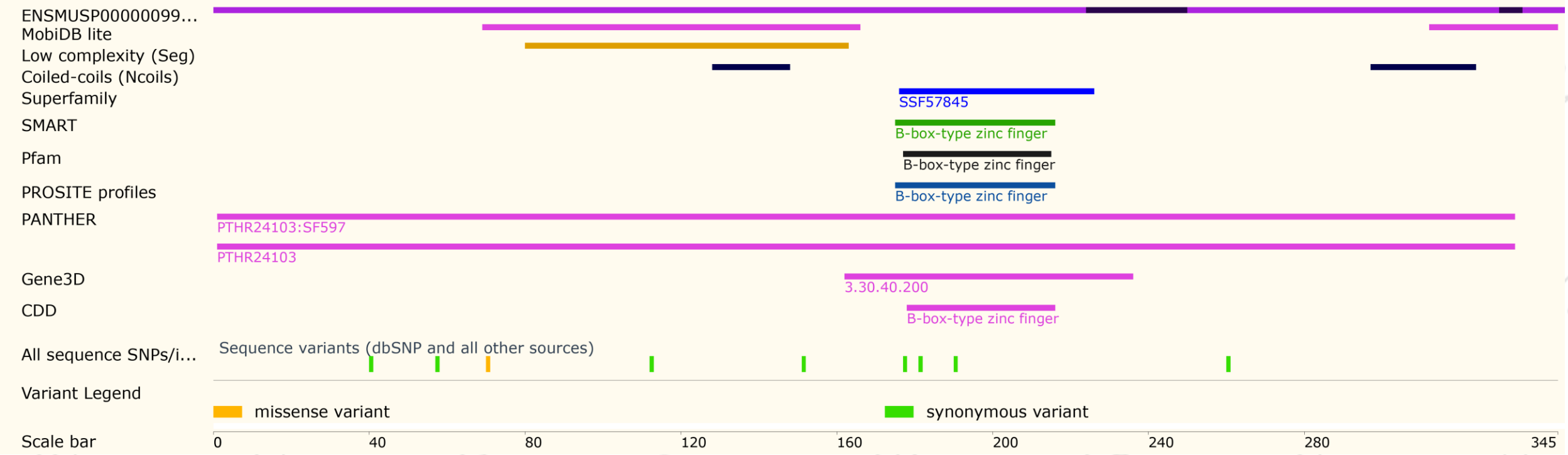
The strategy is based on the design of *Trim44-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 025-5864 1534

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GemPharmatech Co.,Ltd