Trim11 Cas9-KO Strategy

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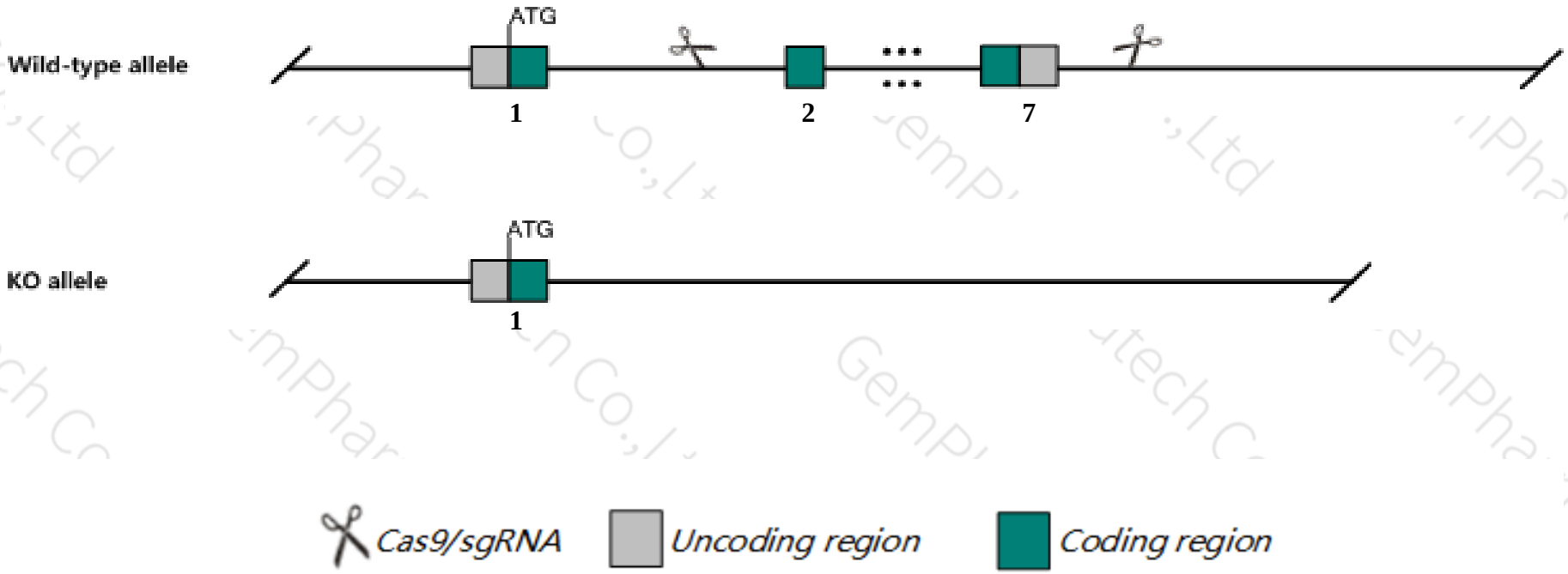
Design Date: 2018-6-13

Project Overview

Project Name	***Trim11***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Trim11* gene. The schematic diagram is as follows:



Technical routes

- The *Trim11* gene has 3 transcripts. According to the structure of *Trim11* gene, exon2-exon7 of *Trim11-203* (ENSMUST00000108810.9) 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 *Trim11* 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 *Trim11* gene is located on the Chr11. 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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Trim11 tripartite motif-containing 11 [*Mus musculus* (house mouse)]

Gene ID: 94091, updated on 12-Aug-2019

Summary

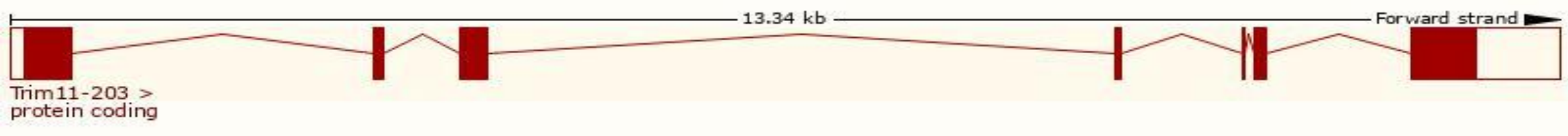
Official Symbol	Trim11 provided by MGI
Official Full Name	tripartite motif-containing 11 provided by MGI
Primary source	MGI:MGI:2137355
See related	Ensembl:ENSMUSG00000020455
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Expression	Ubiquitous expression in thymus adult (RPKM 23.0), spleen adult (RPKM 15.4) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

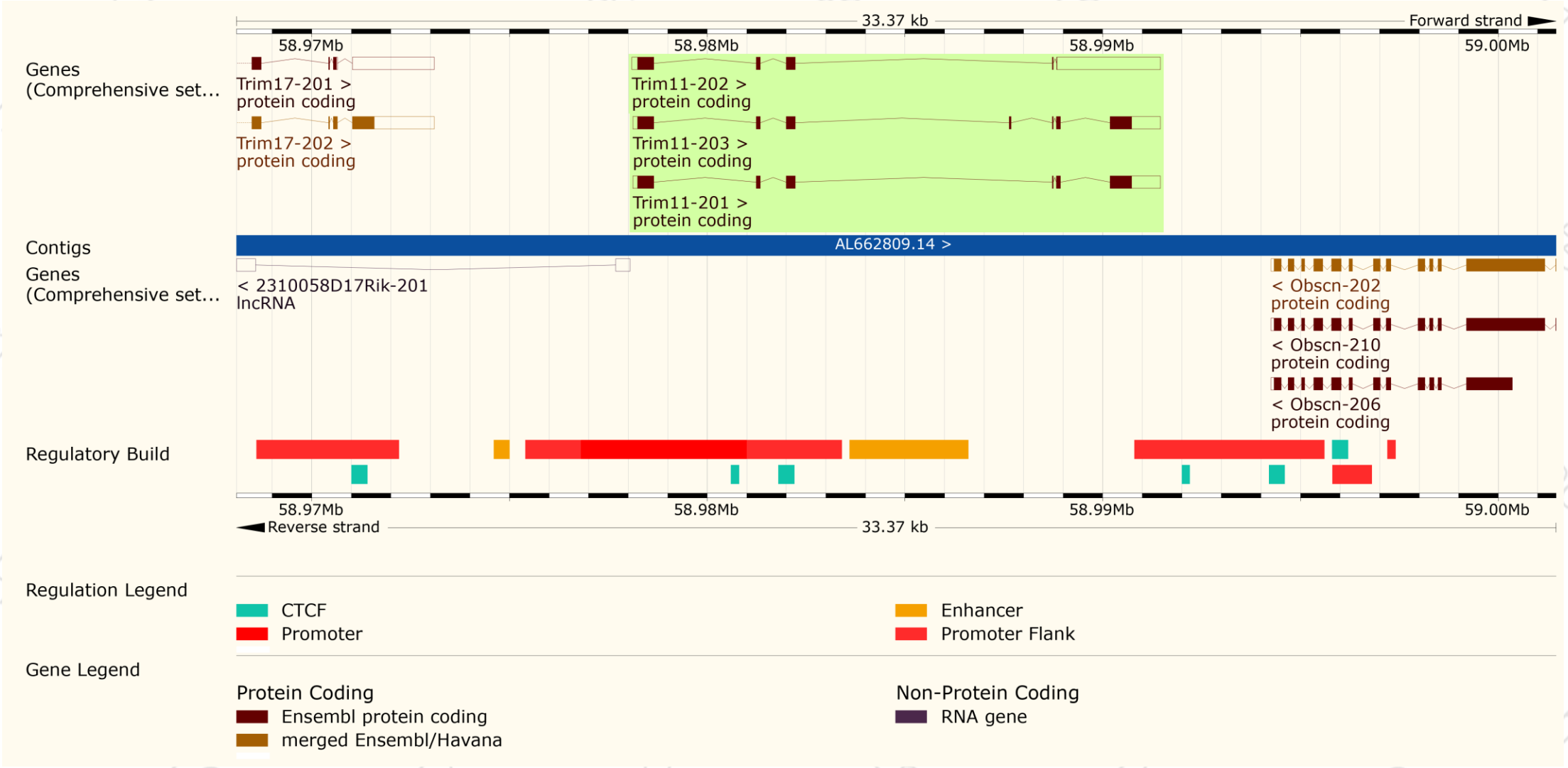
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Translation ID	Biotype	CCDS	UniProt	Flags
Trim11-201	ENSMUST00000093061.6	2251	467aa	ENSMUSP00000090749.6	Protein coding	CCDS36168	Q99PQ2	TSL:1 GENCODE basic APPRIS P1
Trim11-202	ENSMUST00000108809.7	3522	253aa	ENSMUSP00000104437.1	Protein coding	-	A2AB83	TSL:1 GENCODE basic
Trim11-203	ENSMUST00000108810.9	2301	483aa	ENSMUSP00000104438.3	Protein coding	CCDS70195	Q99PQ2	TSL:1 GENCODE basic

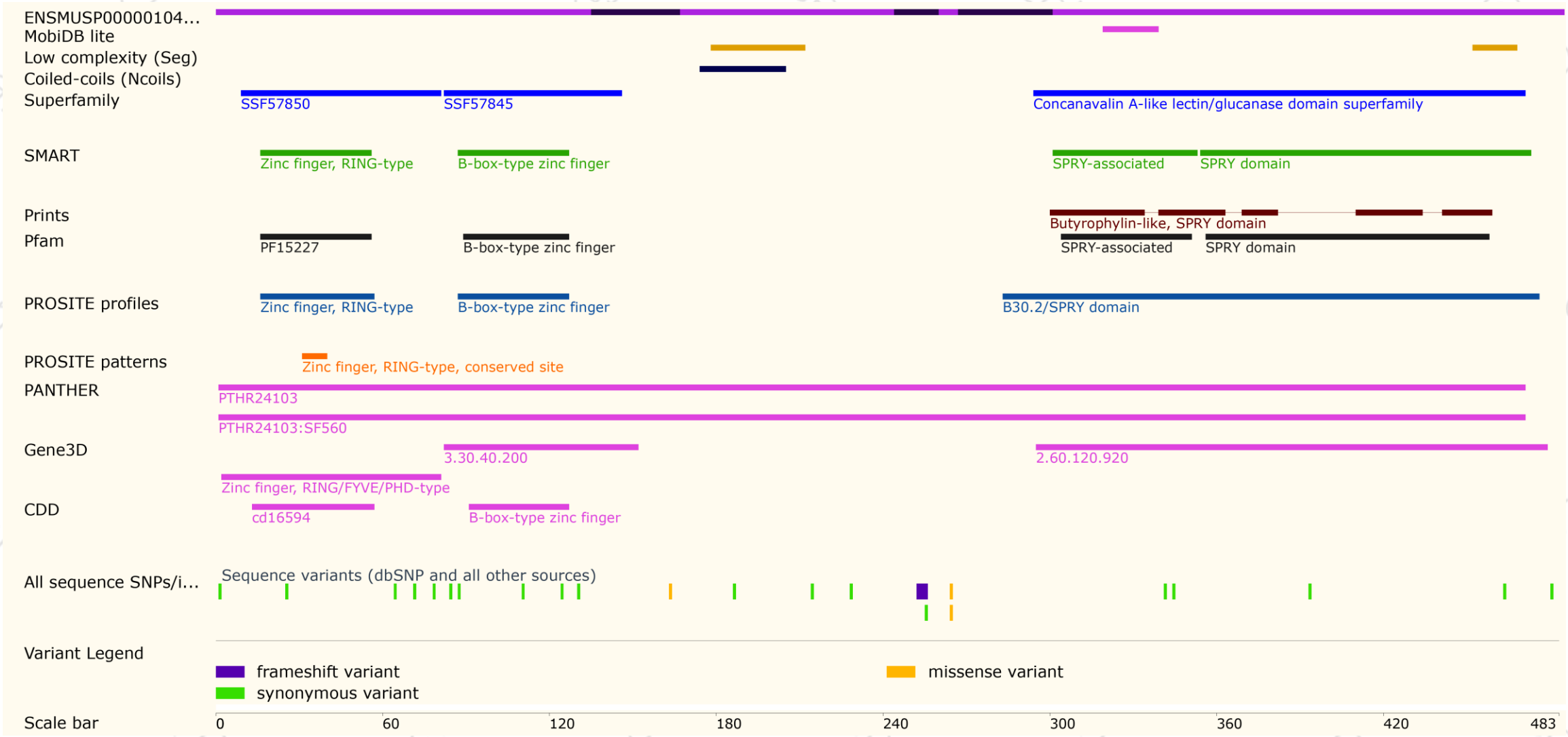
The strategy is based on the design of *Trim11-203* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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