Tnfrsf17 Cas9-KO Strategy

Designer: Huan Fan

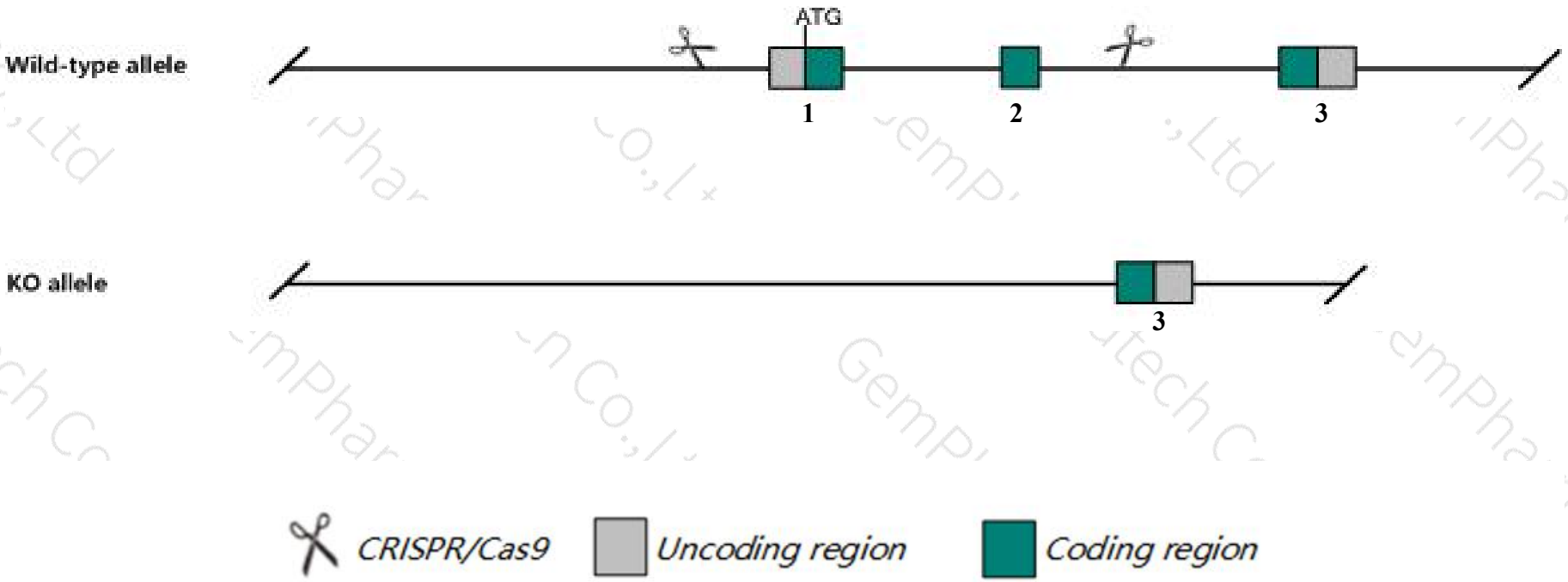
Design Date: 2019-7-25

Project Overview

Project Name	***Tnfrsf17***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Tnfrsf17* gene. The schematic diagram is as follows:



Technical routes

➢ The *Tnfrsf17* gene has 1 transcript. According to the structure of *Tnfrsf17* gene, exon1-exon2 of *Tnfrsf17-201* (ENSMUST00000023140.5) 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 *Tnfrsf17* gene. The brief process is as follows: CRISPR/Cas9 syste

Notice

- According to the existing MGI data,Mice homozygous for targeted null mutations in this gene are viable and fertile with no apparent defects in immune system development or function.

- The *Tnfrsf17* gene is located on the Chr16. 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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Tnfrsf17 tumor necrosis factor receptor superfamily, member 17 [Mus musculus (house mouse)]

Gene ID: 21935, updated on 31-Jan-2019

Summary

Official Symbol	Tnfrsf17 provided by MGI
Official Full Name	tumor necrosis factor receptor superfamily, member 17 provided by MGI
Primary source	MGI:MGI:1343050
See related	Ensembl:ENSMUSG00000022496
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	BCM, BCMA, Tnfrsf13, Tnfrsf13a
Expression	Biased expression in large intestine adult (RPKM 2.7), duodenum adult (RPKM 1.8) and 10 other tissues See more
Orthologs	human all

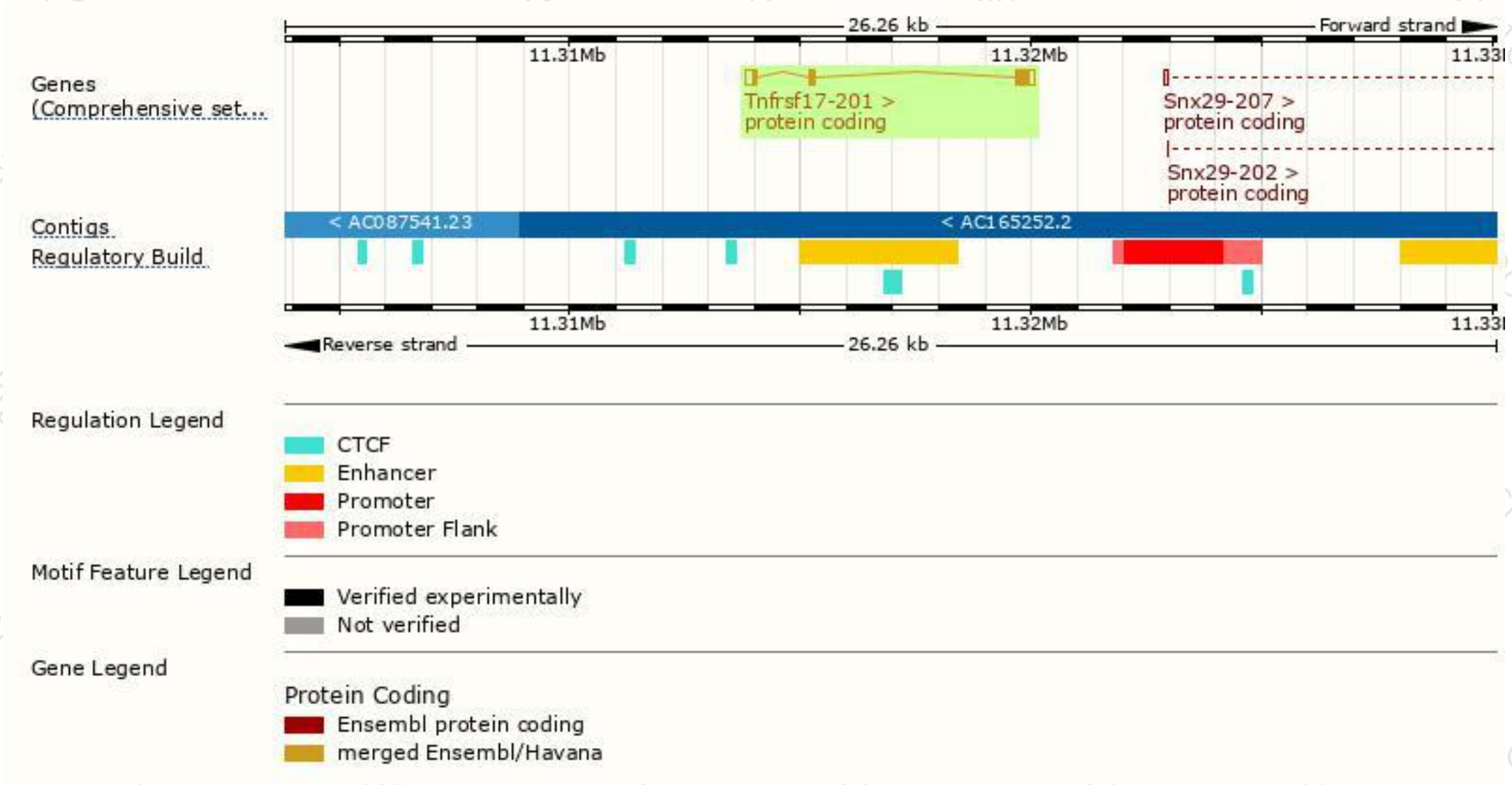
Transcript information（Ensembl）

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

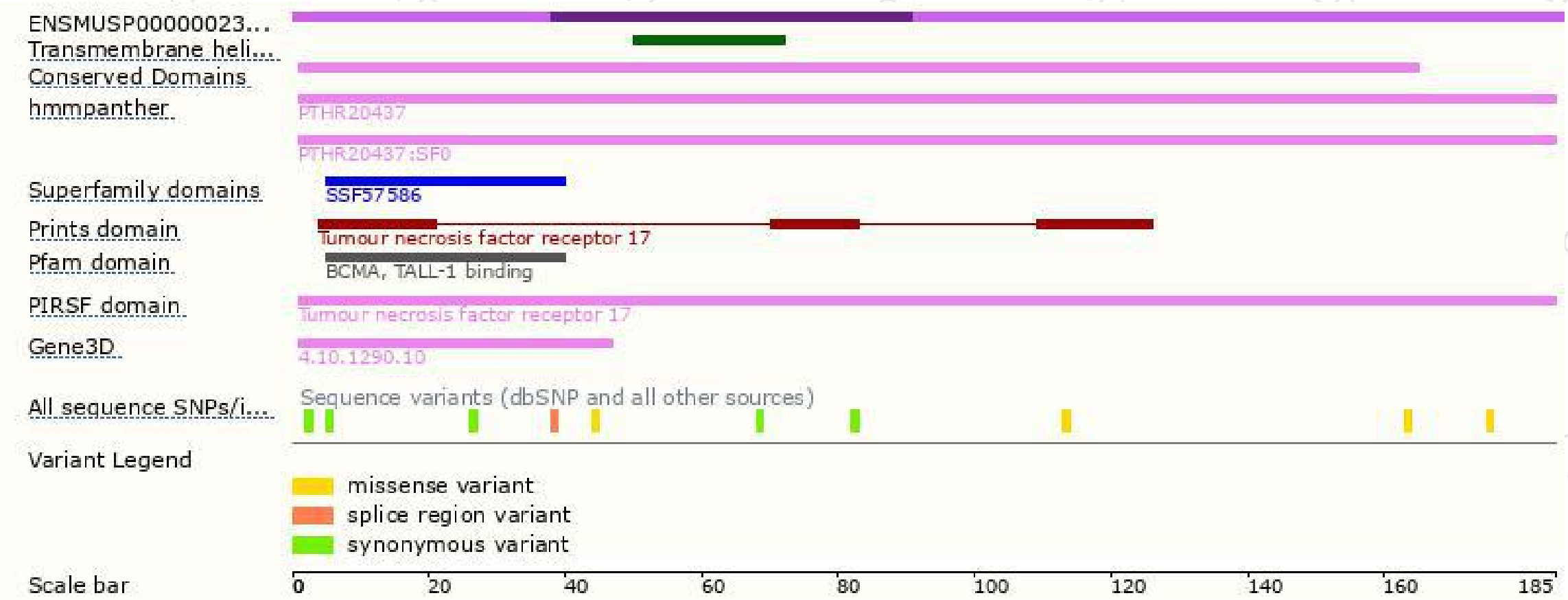
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Tnfrsf17-201	ENSMUST00000023140.5	815	185aa	Protein coding	CCDS27962	O88472	TSL:1 GENCODE basic APPRIS P1

The strategy is based on the design of *Tnfrsf17-201* transcript,The transcription is shown below

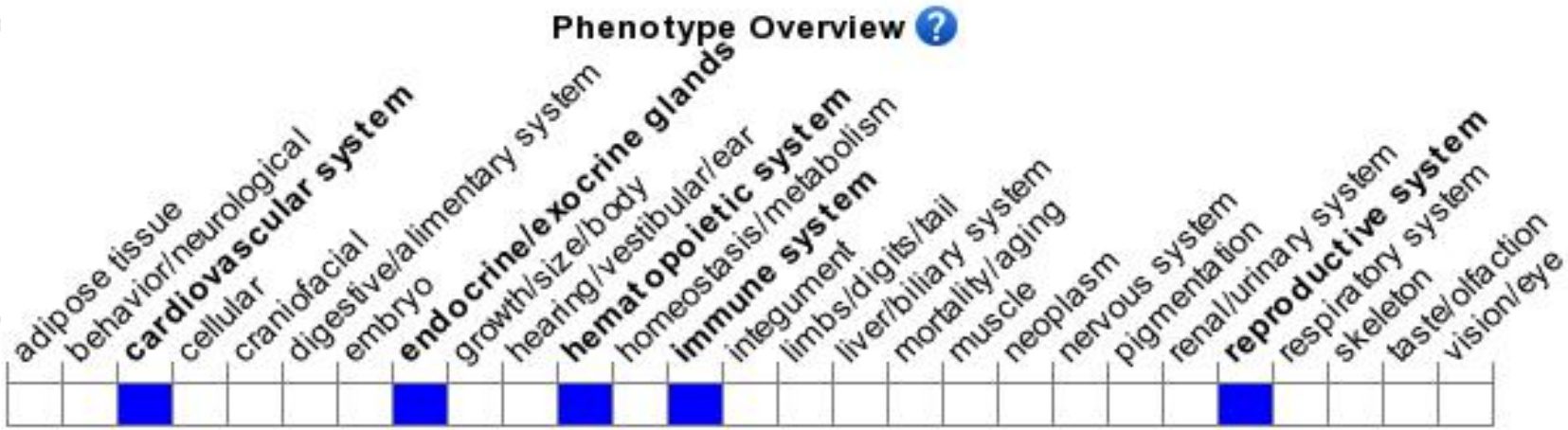
Genomic location distribution



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/).

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

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