

***Trim6* Cas9-KO Strategy**

Designer: JiaYu

Project Overview

Project Name

Trim6

Project type

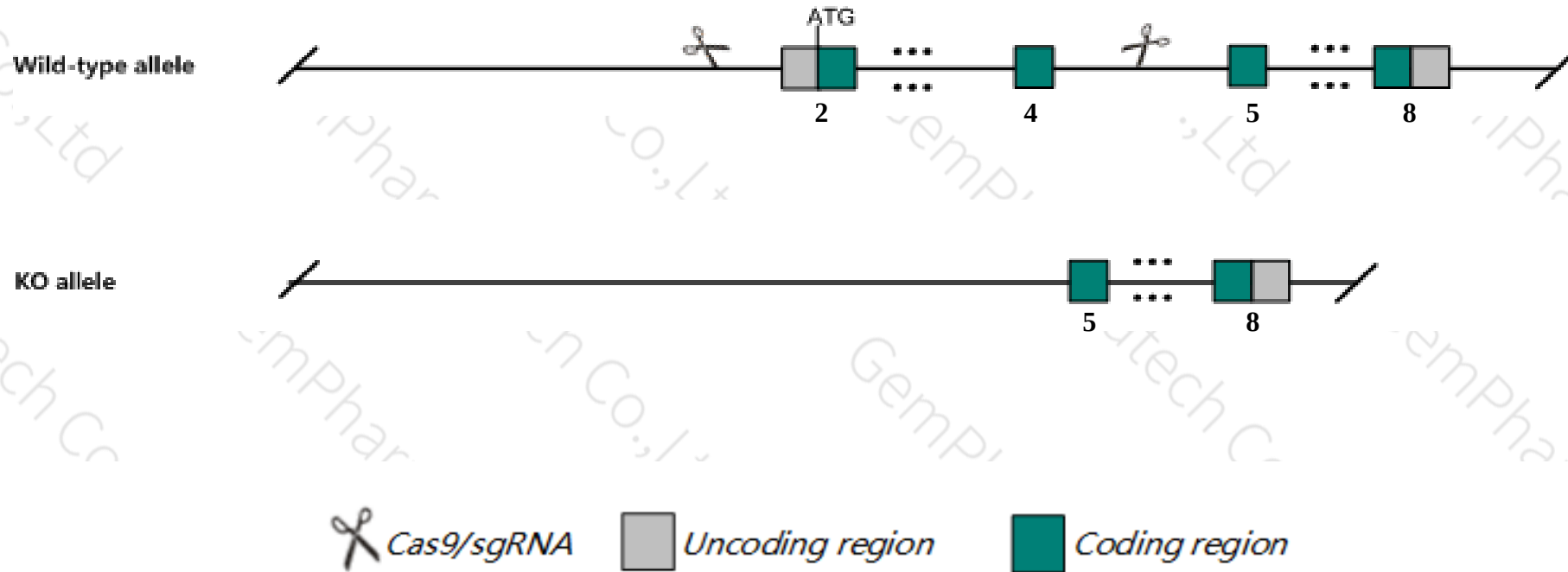
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Trim6* gene. The schematic diagram is as follows:



Technical routes

- The *Trim6* gene has 6 transcripts. According to the structure of *Trim6* gene, exon2-exon4 of *Trim6*-201 (ENSMUST00000098180.9) 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 *Trim6* 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.

- The *Trim6* gene is located on the Chr7. 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)

Trim6 tripartite motif-containing 6 [Mus musculus (house mouse)]

Gene ID: 94088, updated on 31-Jan-2019

Summary



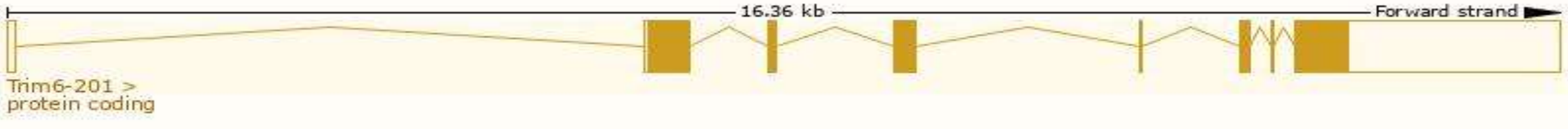
Official Symbol	Trim6 provided by MGI
Official Full Name	tripartite motif-containing 6 provided by MGI
Primary source	MGI:MGI:2137352
See related	Ensembl:ENSMUSG00000072244
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	C430046K18Rik, D7Erd684e
Expression	Biased expression in placenta adult (RPKM 14.8) and colon adult (RPKM 1.4) See more
Orthologs	human all

Transcript information (Ensembl)

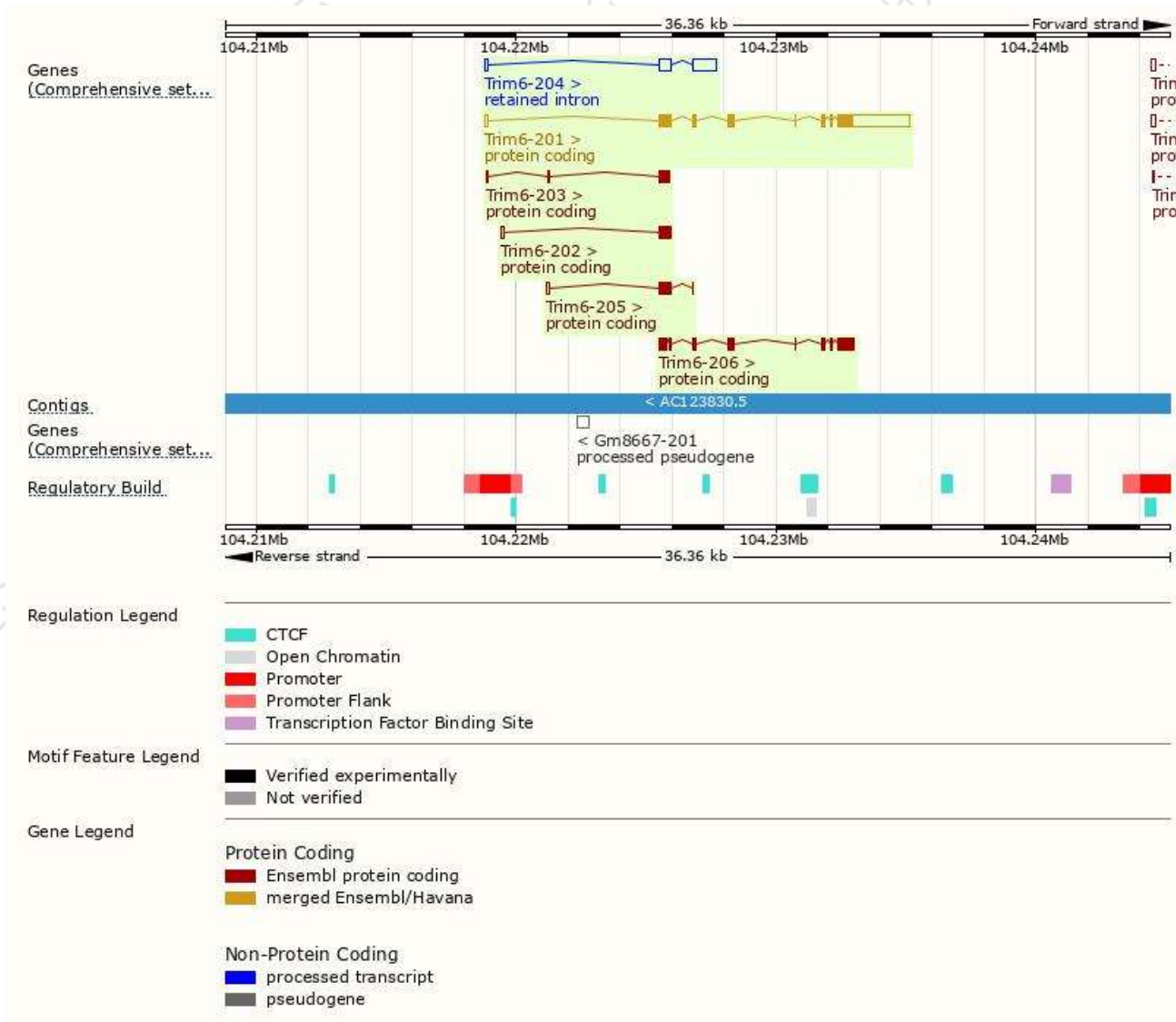
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Trim6-201	ENSMUST00000098180.9	3827	488aa	Protein coding	CCDS40065	Q8BGE7	TSL:1 GENCODE basic APPRIS P1
Trim6-206	ENSMUST00000214578.1	1506	462aa	Protein coding	-	A0A1L1SS93	TSL:5 GENCODE basic
Trim6-205	ENSMUST00000153324.1	622	148aa	Protein coding	-	D3Z7U8	CDS 3' incomplete TSL:3
Trim6-202	ENSMUST00000128493.1	536	125aa	Protein coding	-	D3YY77	CDS 3' incomplete TSL:3
Trim6-203	ENSMUST00000144455.1	520	113aa	Protein coding	-	D3Z676	CDS 3' incomplete TSL:3
Trim6-204	ENSMUST00000144538.1	1490	No protein	Retained intron	-	-	TSL:1

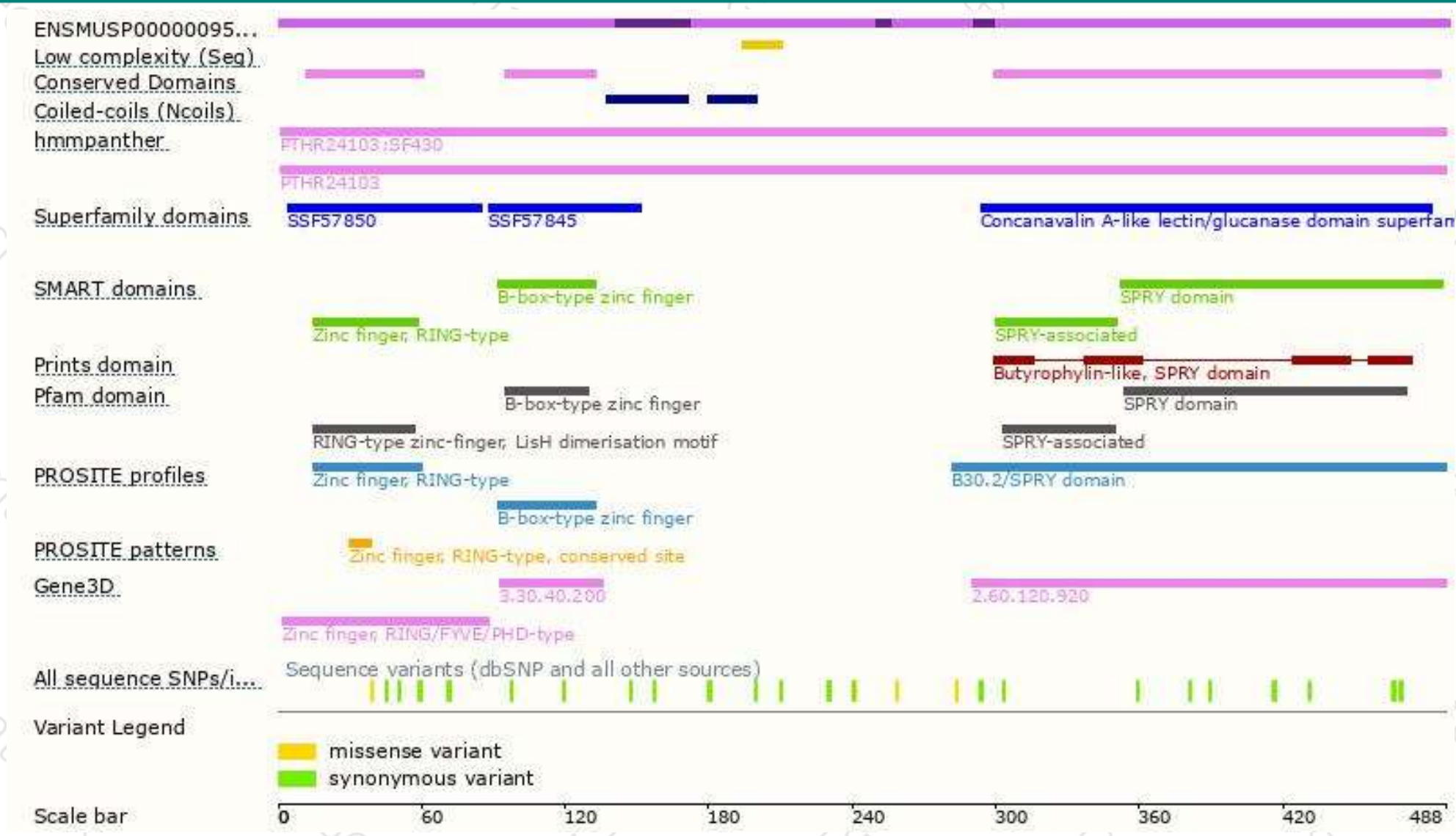
The strategy is based on the design of *Trim6-201* transcript,The transcription is shown below



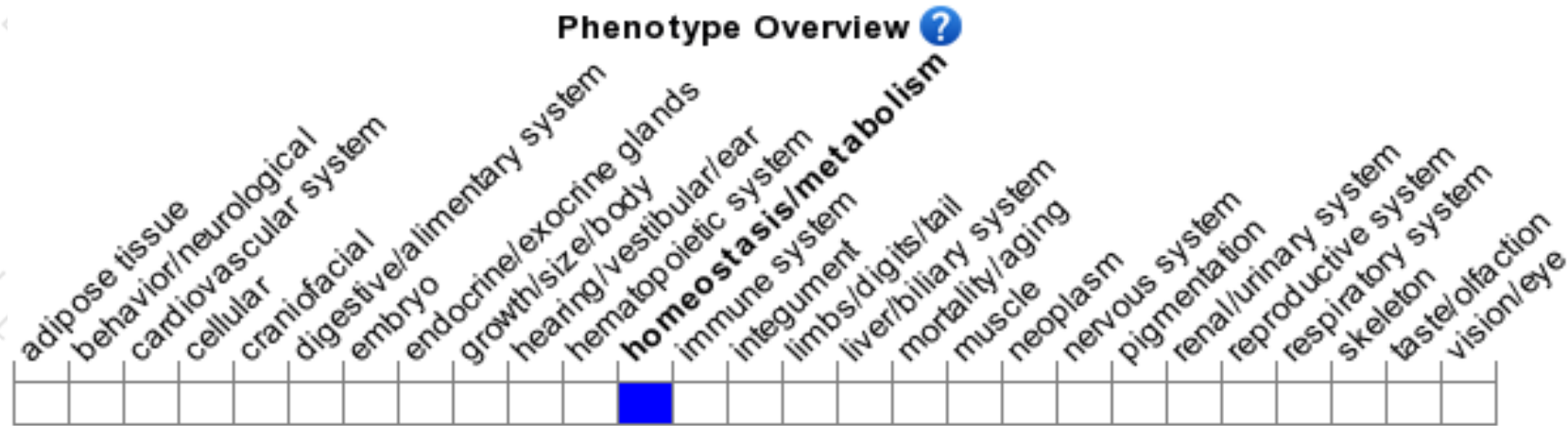
Genomic location distribution



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: 025-5864 1534

