

***Trank1* Cas9-CKO Strategy**

Designer:Fengjuan Wang

Reviewer:Shilei Zhu

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Project Overview

Project Name

Trank1

Project type

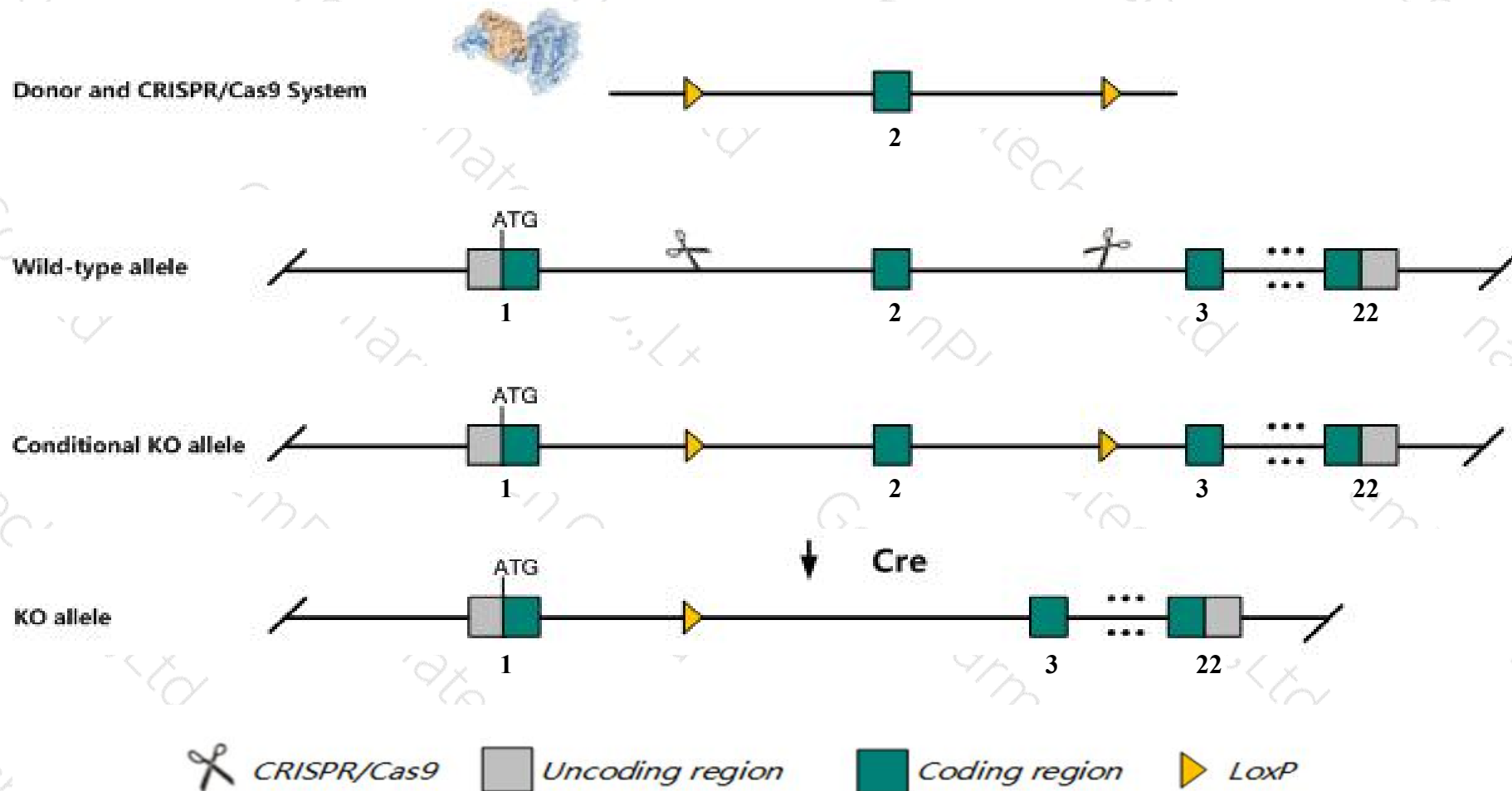
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Trank1* gene. The schematic diagram is as follows:



- The *Trank1* gene has 7 transcripts. According to the structure of *Trank1* gene, exon2 of *Trank1-201* (ENSMUST00000078626.7) transcript is recommended as the knockout region. The region contains 127bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Trank1* gene. The brief process is as follows: gRNA was transcribed in vitro, donor was constructed. Cas9, gRNA and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Trank1* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Trank1 tetratricopeptide repeat and ankyrin repeat containing 1 [Mus musculus (house mouse)]

Gene ID: 320429, updated on 31-Jan-2019

Summary



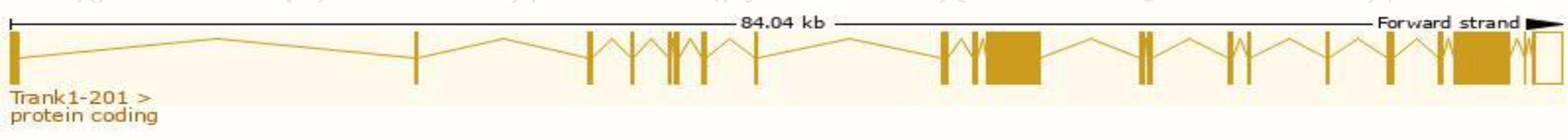
Official Symbol	Trank1 provided by MGI
Official Full Name	tetratricopeptide repeat and ankyrin repeat containing 1 provided by MGI
Primary source	MGI:MGI:1341834
See related	Ensembl:ENSMUSG00000062296
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	A230061D21Rik, C030048J01Rik, Gm187, Lba1
Expression	Biased expression in frontal lobe adult (RPKM 42.3), cortex adult (RPKM 41.4) and 7 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

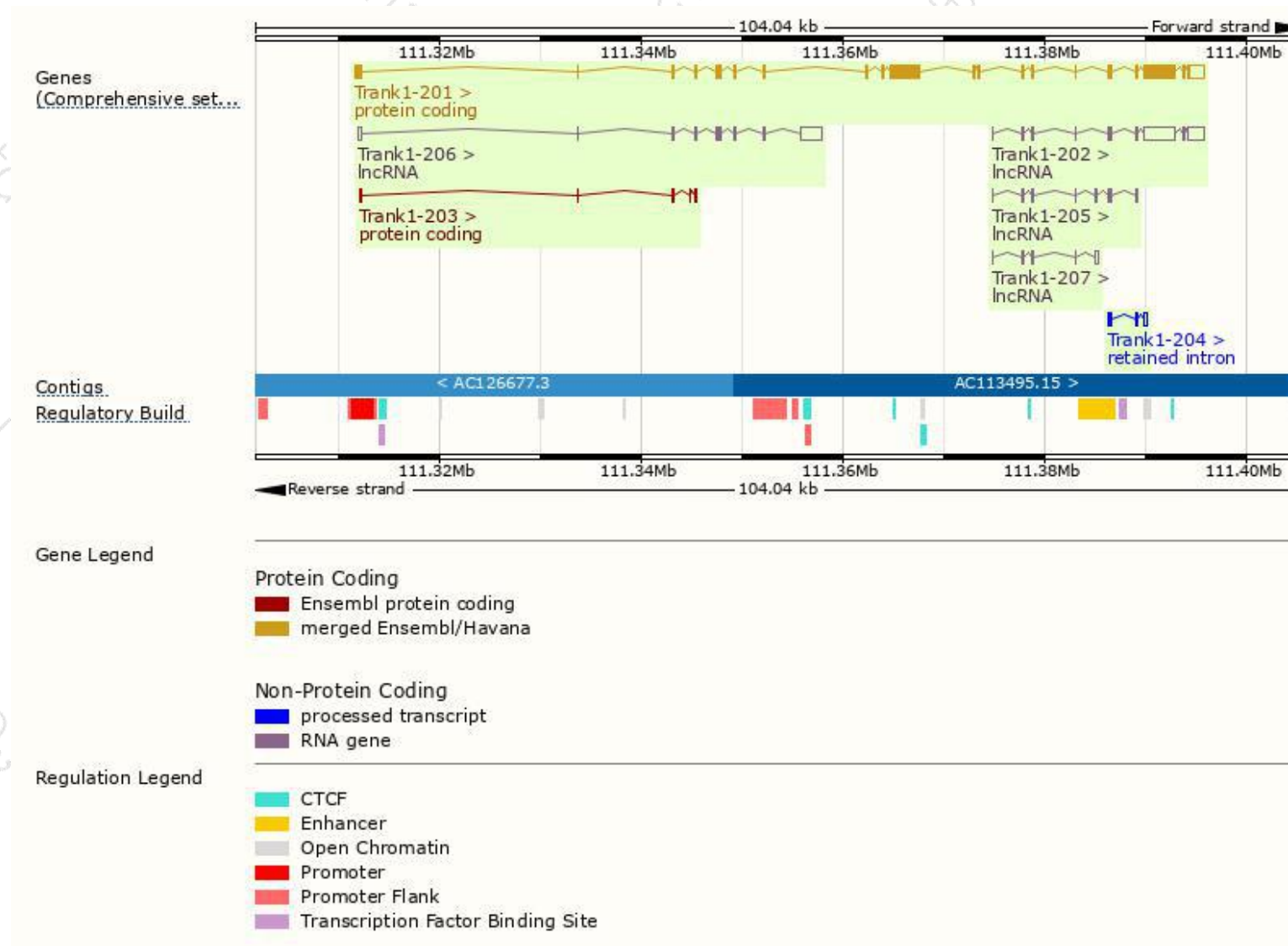
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Trank1-201	ENSMUST00000078626.7	10520	2999aa	Protein coding	CCDS52942	Q8BV79	TSL:5 GENCODE basic APPRIS P1
Trank1-203	ENSMUST00000197049.1	560	142aa	Protein coding	-	A0A0G2JGE4	CDS 3' incomplete TSL:2
Trank1-204	ENSMUST00000197650.1	618	No protein	Retained intron	-	-	TSL:2
Trank1-202	ENSMUST00000196945.4	5546	No protein	lncRNA	-	-	TSL:1
Trank1-206	ENSMUST00000200151.1	3356	No protein	lncRNA	-	-	TSL:1
Trank1-205	ENSMUST00000198890.4	835	No protein	lncRNA	-	-	TSL:3
Trank1-207	ENSMUST00000200272.1	750	No protein	lncRNA	-	-	TSL:3

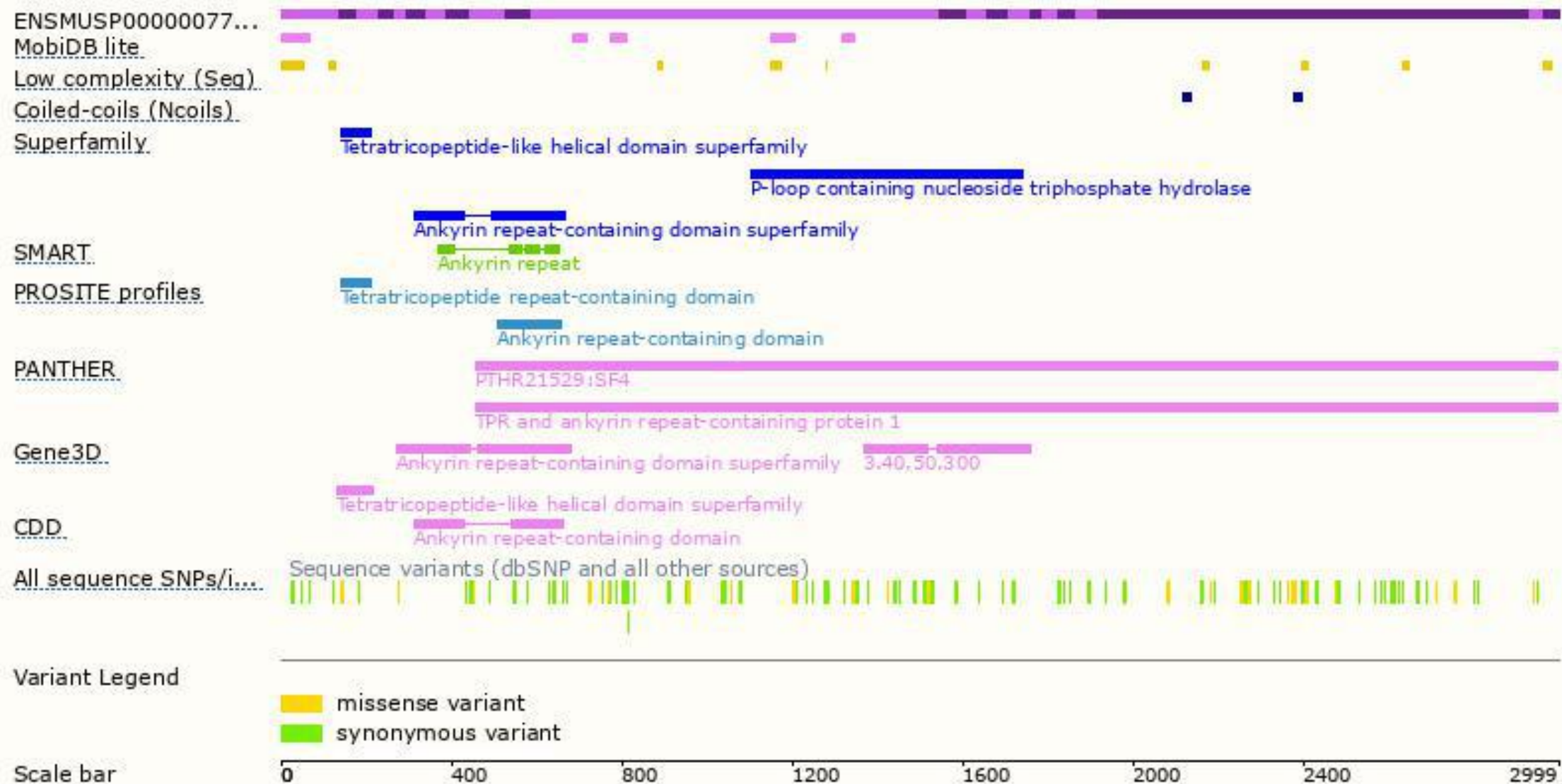
The strategy is based on the design of *Trank1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

