

***Kank1* Cas9-CKO Strategy**

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Project Overview

Project Name

Kank1

Project type

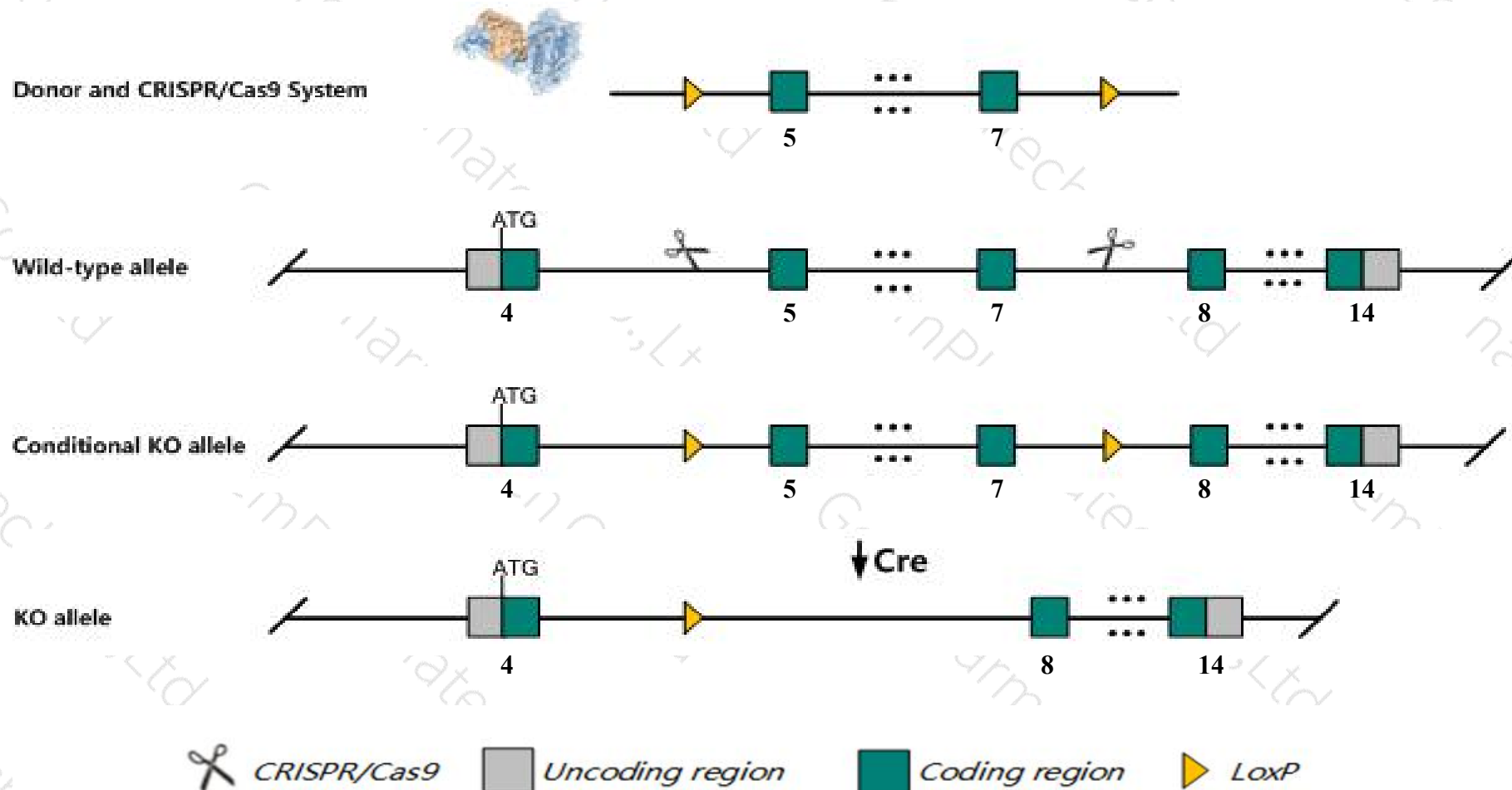
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Kank1* gene. The schematic diagram is as follows:



- The *Kank1* gene has 4 transcripts. According to the structure of *Kank1* gene, exon5-exon7 of *Kank1-201* (ENSMUST00000049400.14) transcript is recommended as the knockout region. The region contains 2986bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Kank1* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Kank1* gene is located on the Chr19. 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)

Kank1 KN motif and ankyrin repeat domains 1 [Mus musculus (house mouse)]

Gene ID: 107351, updated on 17-Feb-2019

Summary



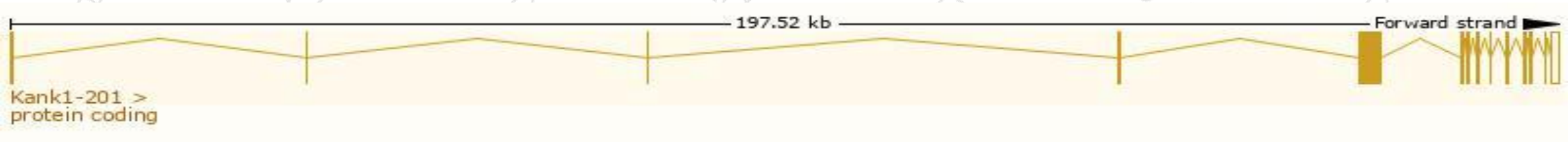
Official Symbol	Kank1 provided by MGI
Official Full Name	KN motif and ankyrin repeat domains 1 provided by MGI
Primary source	MGI:MGI:2147707
See related	Ensembl:ENSMUSG00000032702
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	A930031B09Rik, AU015049, AW121052, Ankrd15, D330024H06Rik, mKIAA0172
Expression	Ubiquitous expression in bladder adult (RPKM 22.5), ovary adult (RPKM 15.3) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

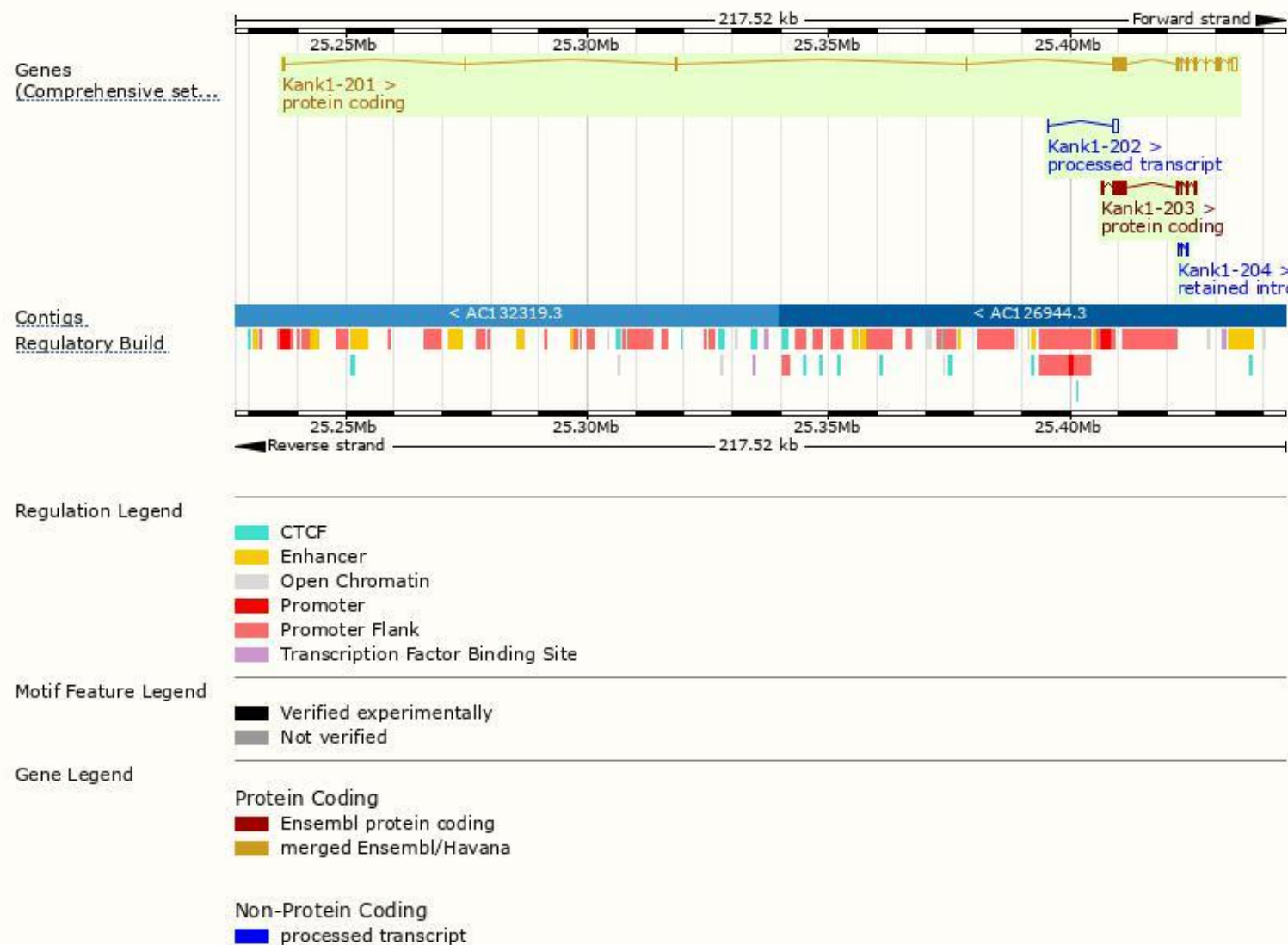
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Kank1-201	ENSMUST00000049400.14	5637	1360aa	Protein coding	CCDS37944	E9Q238	TSL:5 GENCODE basic APPRIS P1
Kank1-203	ENSMUST00000146647.2	3655	1147aa	Protein coding	-	E9Q944	CDS 3' incomplete TSL:1
Kank1-202	ENSMUST00000137260.1	756	No protein	Processed transcript	-	-	TSL:3
Kank1-204	ENSMUST00000155788.1	583	No protein	Retained intron	-	-	TSL:2

The strategy is based on the design of *Kank1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain

ENSMUSP000000042...

[MobiDB lite](#)

[Low complexity \(Seq\)](#)

[Conserved Domains](#)

[Coiled-coils \(Ncoils\)](#)

[hmmpanther](#)

[Superfamily domains](#)

[SMART domains](#)

[Pfam domain](#)

[PROSITE profiles](#)

[Gene3D](#)

[All sequence SNPs/i...](#)

Variant Legend

Scale bar



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

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