

Rnf26 Cas9-CKO Strategy

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Project Overview

Project Name

Rnf26

Project type

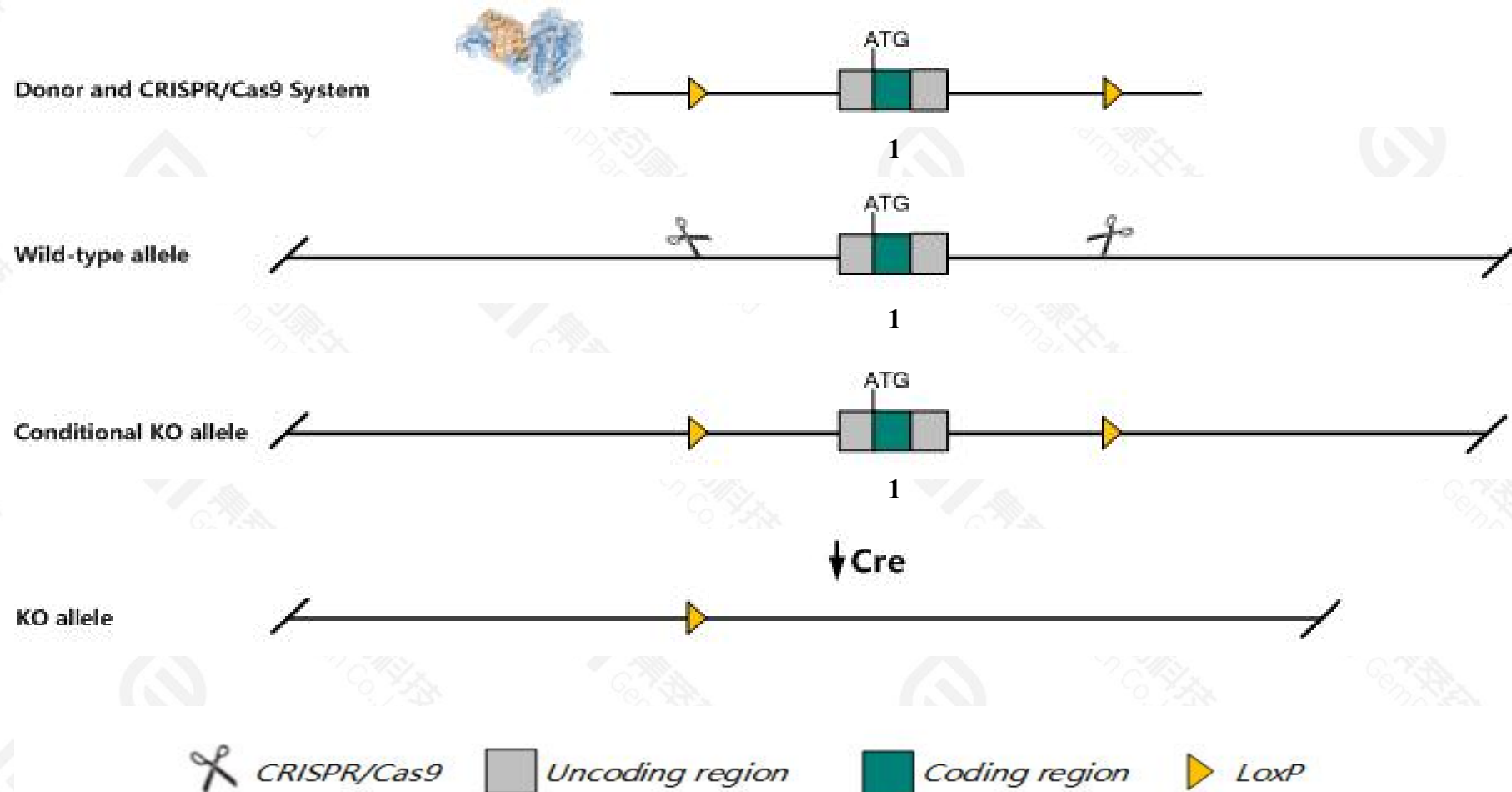
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rnf26* gene. The schematic diagram is as follows:



- The *Rnf26* gene has 6 transcripts. According to the structure of *Rnf26* gene, exon1 of *Rnf26-201*(ENSMUST00000056328.6) transcript is recommended as the knockout region. The region contains all 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 *Rnf26* 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.

- The *Rnf26* 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.
- The flox region overlap with part of the Gm49380, Gm47327, Gm26737 genes, which may affect the regulation of these genes.
- 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)

Rnf26 ring finger protein 26 [Mus musculus (house mouse)]

Gene ID: 213211, updated on 13-Mar-2020

Summary



Official Symbol	Rnf26 provided by MGI
Official Full Name	ring finger protein 26 provided by MGI
Primary source	MGI:MGI:2388131
See related	Ensembl:ENSMUSG00000053128
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	8030450I18Rik
Orthologs	human all

Transcript information (Ensembl)

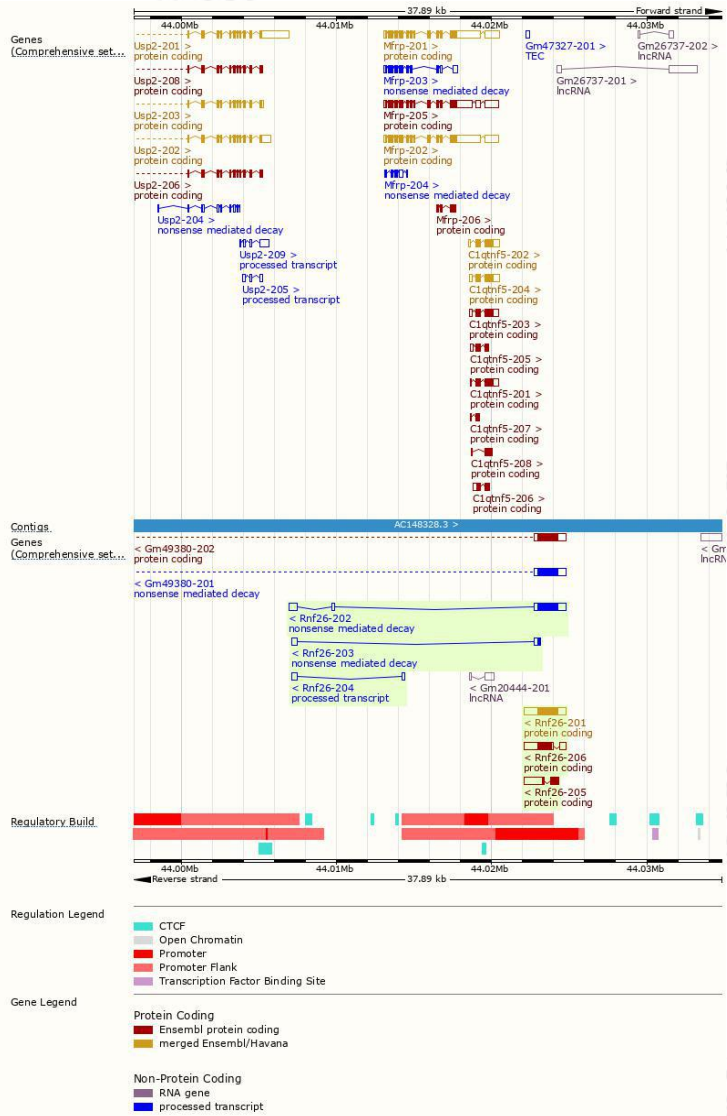
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rnf26-201	ENSMUST00000056328.5	2724	424aa	Protein coding	CCDS23096	Q8BUH7	TSL:NA GENCODE basic APPRIS P2
Rnf26-206	ENSMUST00000216511.1	2257	303aa	Protein coding	-	A0A1L1SQ68	TSL:5 GENCODE basic APPRIS ALT2
Rnf26-205	ENSMUST00000215685.1	1804	181aa	Protein coding	-	A0A1L1SUH0	TSL:5 GENCODE basic
Rnf26-202	ENSMUST00000065379.4	2833	424aa	Nonsense mediated decay	-	Q8BUH7	TSL:2
Rnf26-203	ENSMUST00000160985.1	809	64aa	Nonsense mediated decay	-	H9KV16	CDS 5' incomplete TSL:2
Rnf26-204	ENSMUST00000162196.2	521	No protein	Processed transcript	-	-	TSL:2

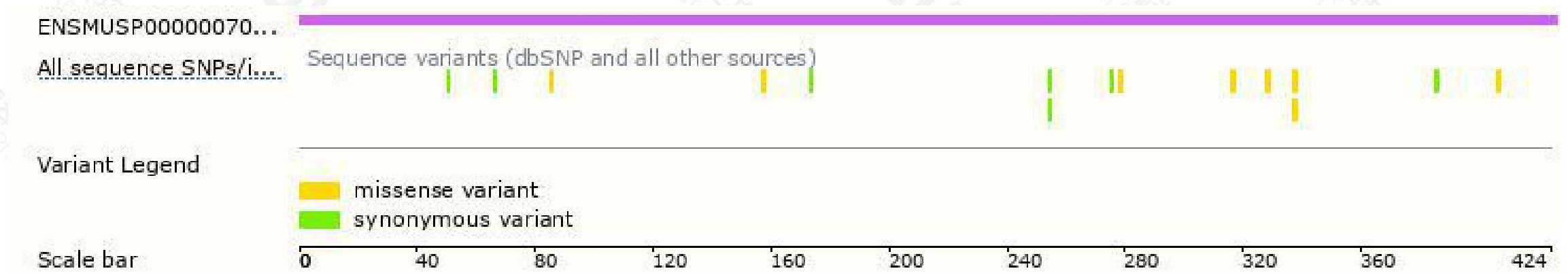
The strategy is based on the design of *Rnf26-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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