

Map3k9 Cas9-CKO Strategy

Designer:

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Project Overview

Project Name

Map3k9

Project type

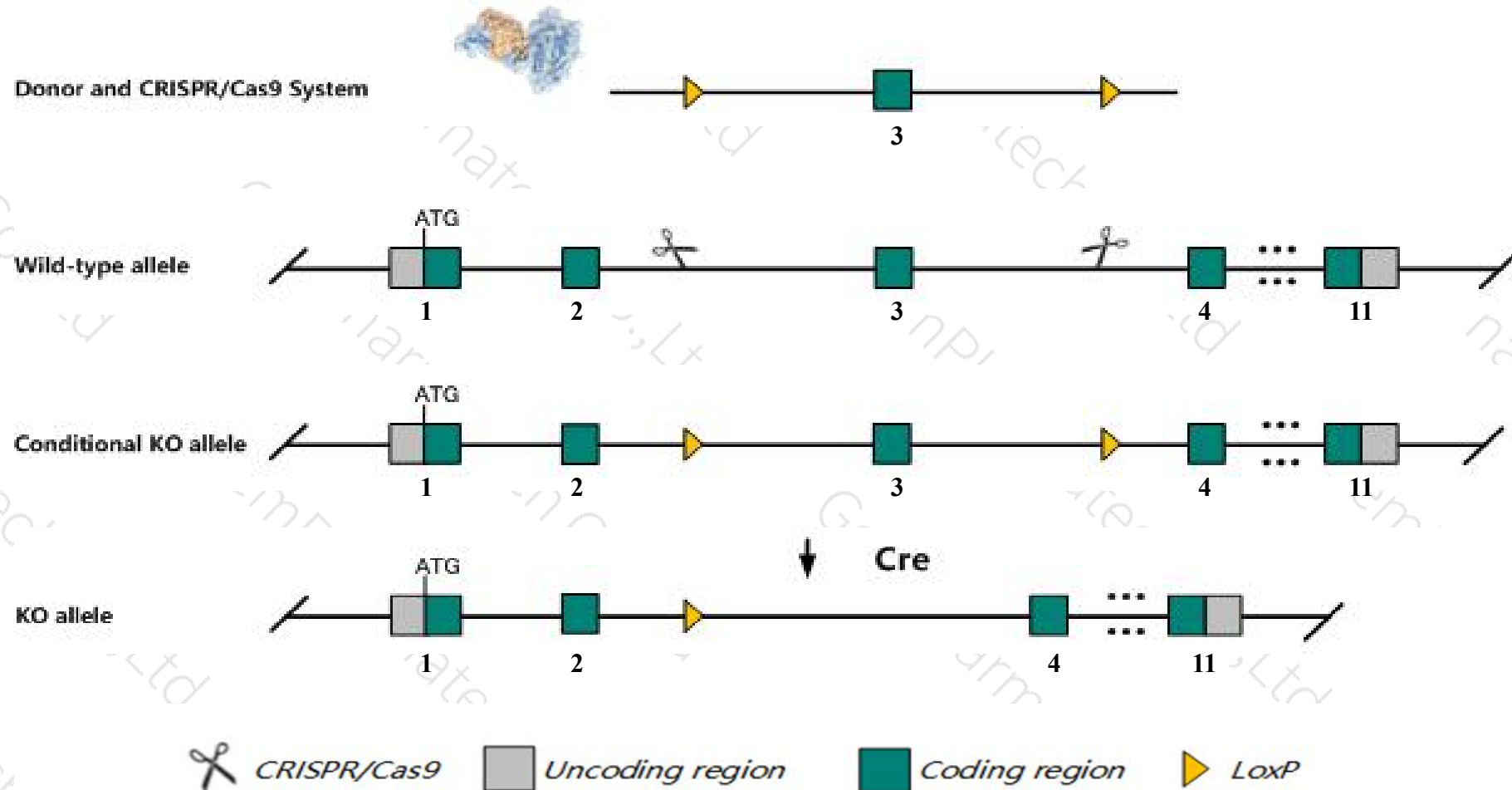
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Map3k9* gene. The schematic diagram is as follows:



Technical routes

- The *Map3k9* gene has 3 transcripts. According to the structure of *Map3k9* gene, exon3 of *Map3k9-201* (ENSMUST00000035987.8) transcript is recommended as the knockout region. The region contains 181bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Map3k9* 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

- According to the existing MGI data, Mice homozygous for a reporter/null allele exhibit normal development, reproduction and lifespan.
- The *Map3k9* gene is located on the Chr12. 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)

Map3k9 mitogen-activated protein kinase kinase kinase 9 [Mus musculus (house mouse)]

Gene ID: 338372, updated on 31-Jan-2019

Summary



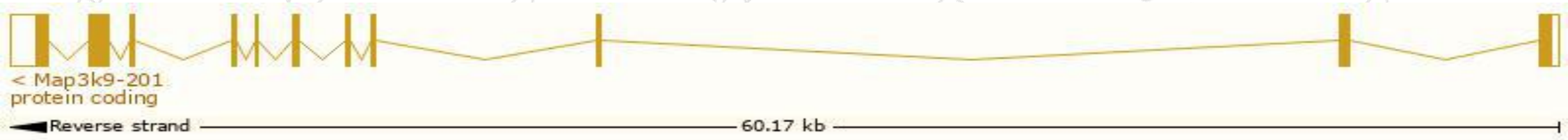
Official Symbol	Map3k9 provided by MGI
Official Full Name	mitogen-activated protein kinase kinase kinase 9 provided by MGI
Primary source	MGI:MGI:2449952
See related	Ensembl:ENSMUSG00000042724
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	E130314H24Rik, Mlk1, Prke1
Expression	Broad expression in whole brain E14.5 (RPKM 6.1), CNS E18 (RPKM 6.0) and 19 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

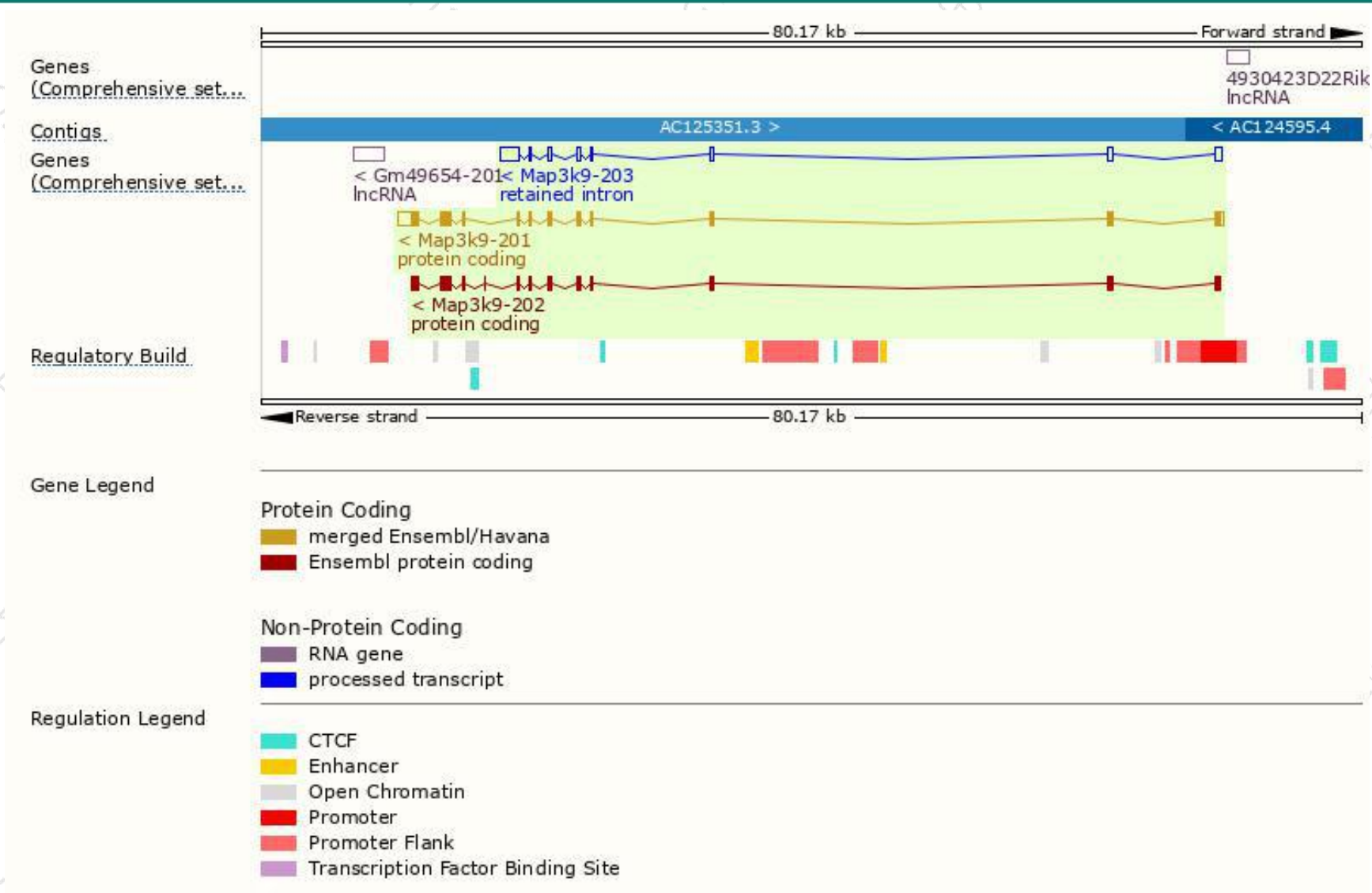
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Map3k9-201	ENSMUST00000035987.8	4564	1077aa	Protein coding	CCDS49104	Q3U1V8	TSL:1 GENCODE basic APPRIS P2
Map3k9-202	ENSMUST00000222322.1	3303	1100aa	Protein coding	-	A0A1Y7VKX4	TSL:5 GENCODE basic APPRIS ALT2
Map3k9-203	ENSMUST00000223292.1	3227	No protein	Retained intron	-	-	TSL:1

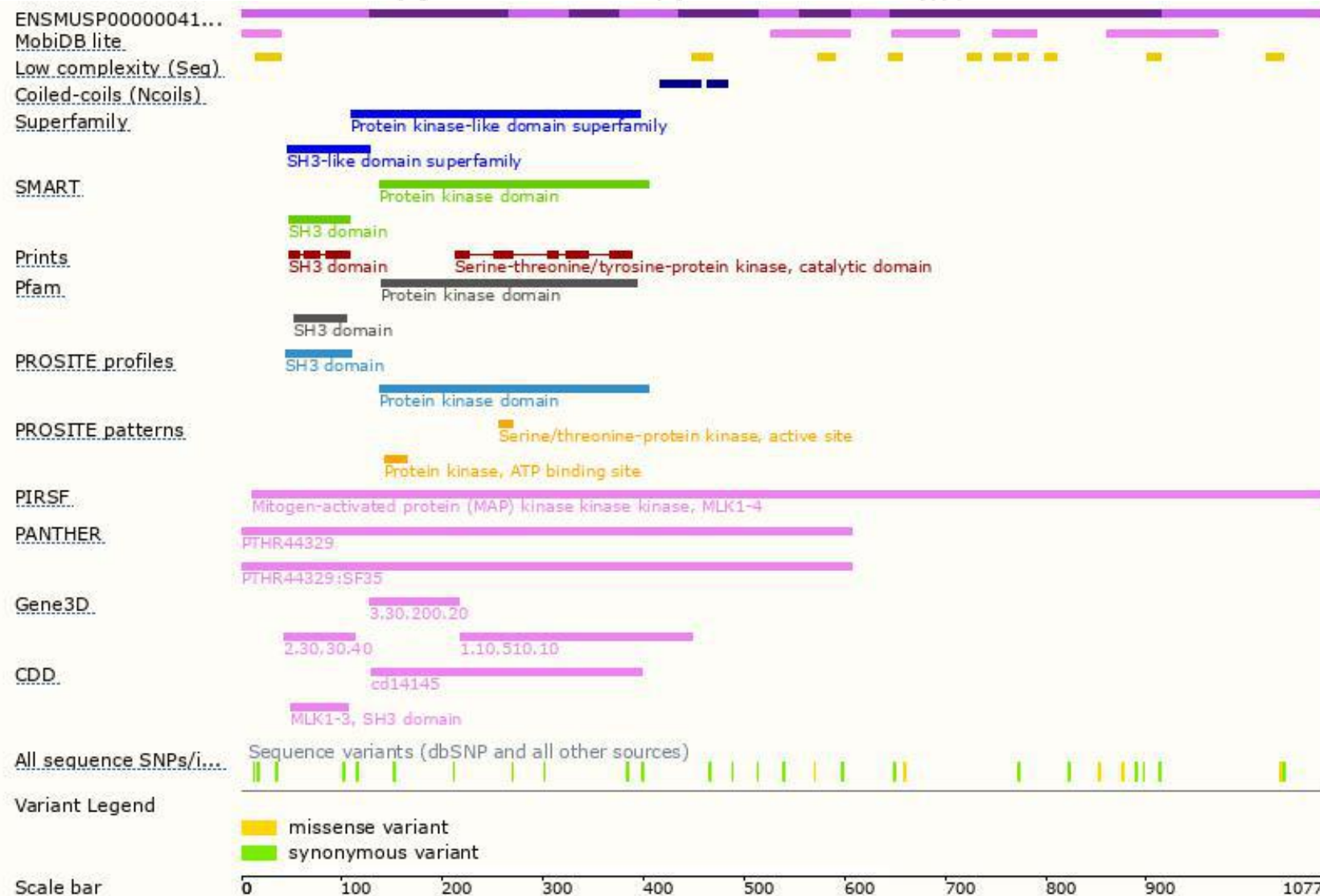
The strategy is based on the design of *Map3k9-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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