

***Kdm3b* Cas9-CKO Strategy**

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Reviewer:

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Project Overview

Project Name

Kdm3b

Project type

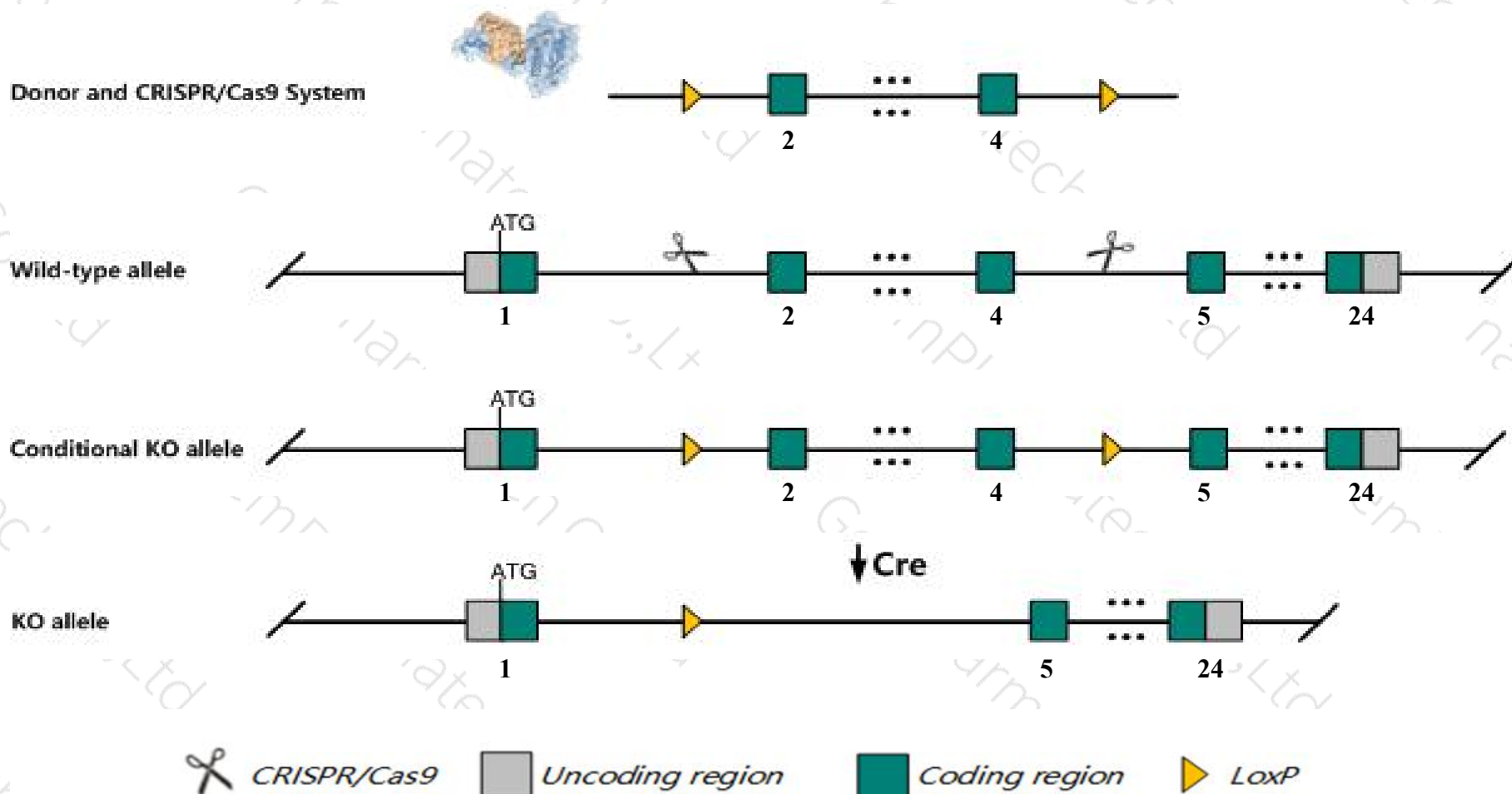
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Kdm3b* gene. The schematic diagram is as follows:



- The *Kdm3b* gene has 7 transcripts. According to the structure of *Kdm3b* gene, exon2-exon4 of *Kdm3b-201* (ENSMUST00000043775.8) transcript is recommended as the knockout region. The region contains 388bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Kdm3b* 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 *Kdm3b* gene is located on the Chr18. 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)

Kdm3b KDM3B lysine (K)-specific demethylase 3B [Mus musculus (house mouse)]

Gene ID: 277250, updated on 16-Feb-2019

Summary



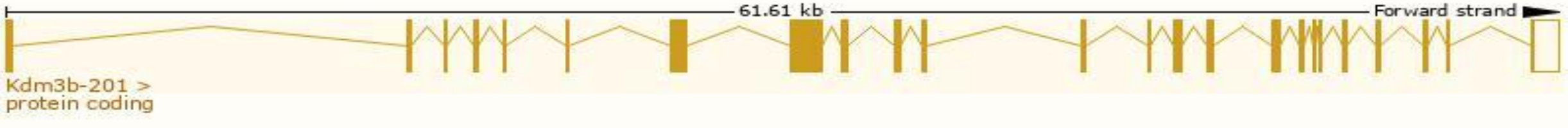
Official Symbol	Kdm3b provided by MGI
Official Full Name	KDM3B lysine (K)-specific demethylase 3B provided by MGI
Primary source	MGI:MGI:1923356
See related	Ensembl:ENSMUSG00000038773
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	5830462I21Rik, JHDM2B, Jmjd1b, mKIAA1082
Expression	Ubiquitous expression in CNS E11.5 (RPKM 12.5), thymus adult (RPKM 11.7) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

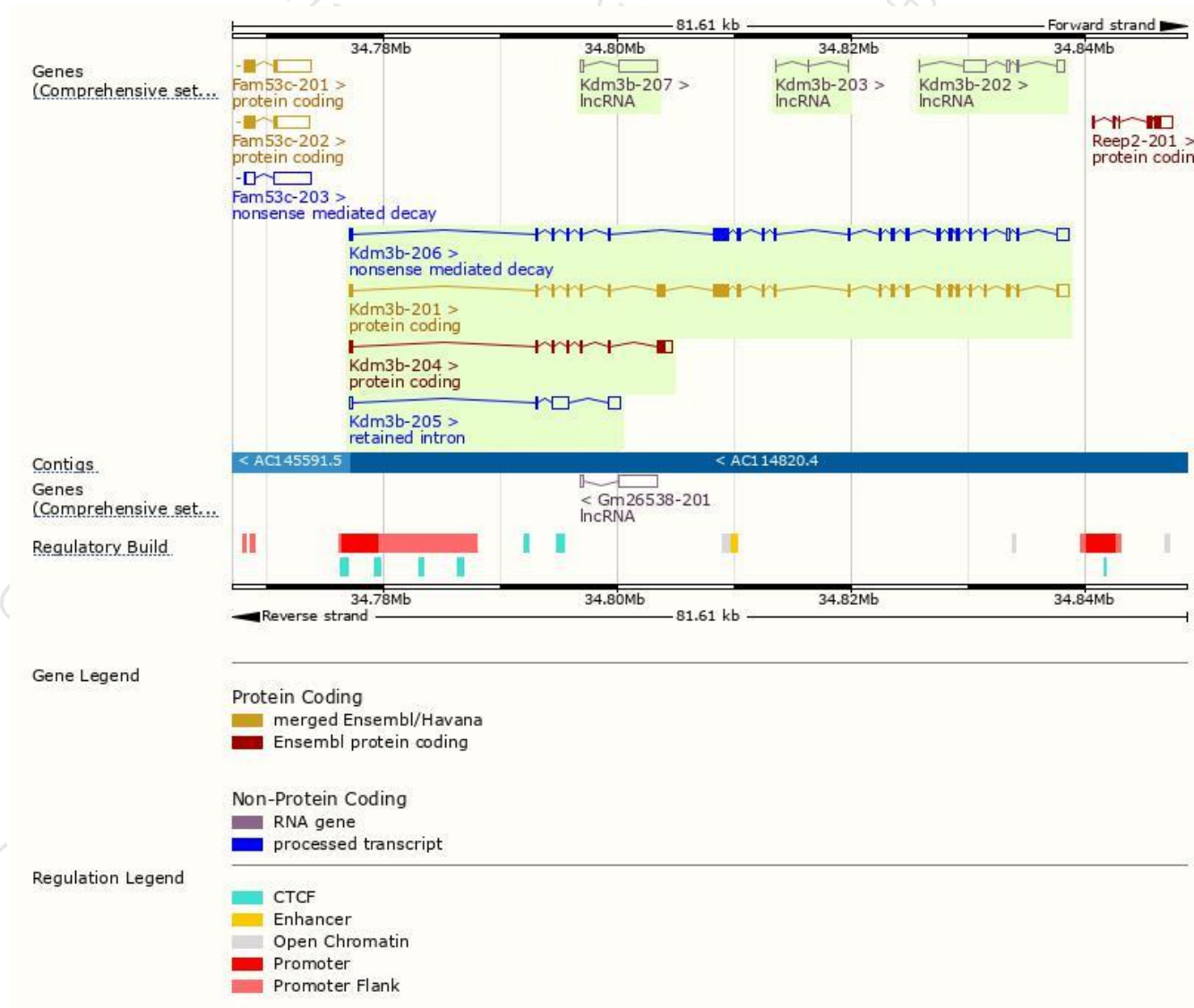
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Kdm3b-201	ENSMUST00000043775.8	6363	1762aa	Protein coding	CCDS37761	B9EKS2	TSL:1 GENCODE basic APPRIS P1
Kdm3b-204	ENSMUST00000224715.1	2032	481aa	Protein coding	-	Q3UI14	GENCODE basic
Kdm3b-206	ENSMUST00000225195.1	5723	1333aa	Nonsense mediated decay	-	A0A286YDJ6	
Kdm3b-205	ENSMUST00000225047.1	2638	No protein	Retained intron	-	-	
Kdm3b-207	ENSMUST00000225260.1	3498	No protein	lncRNA	-	-	
Kdm3b-202	ENSMUST00000223567.1	2997	No protein	lncRNA	-	-	
Kdm3b-203	ENSMUST00000224065.1	42	No protein	lncRNA	-	-	

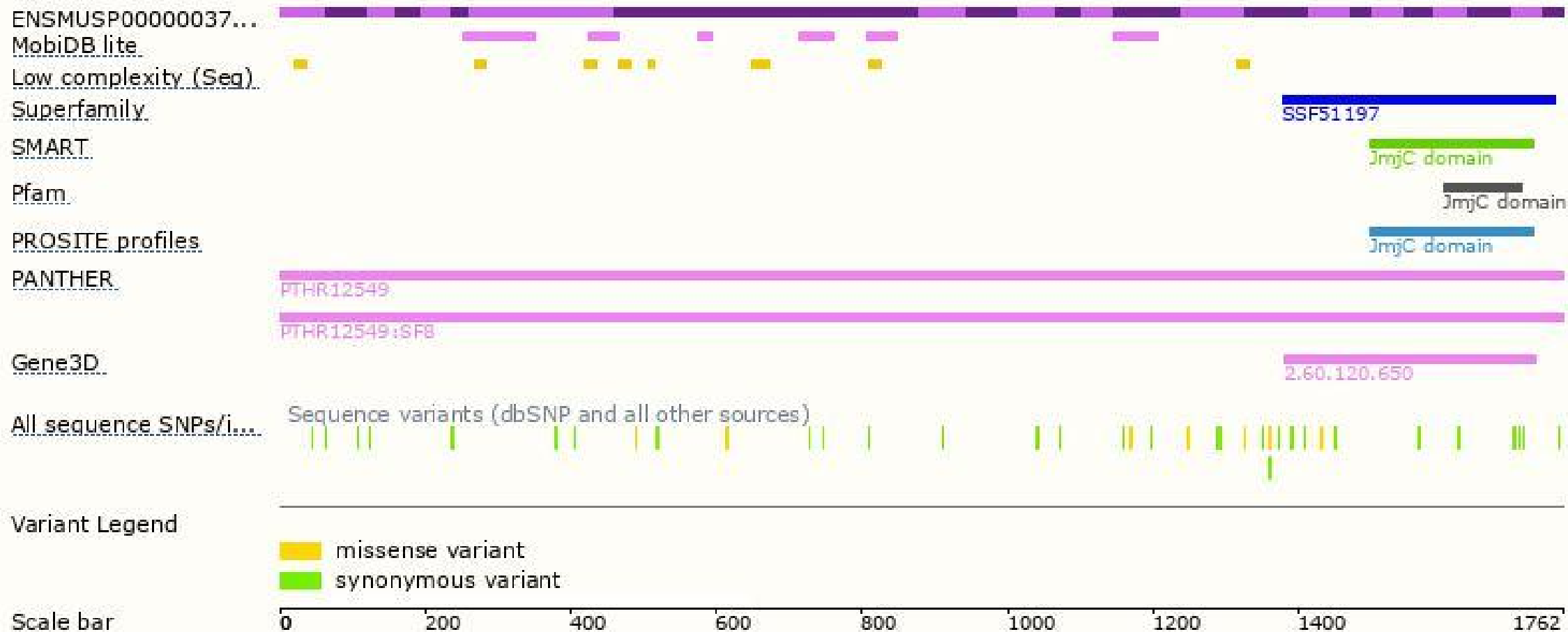
The strategy is based on the design of *Kdm3b-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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