

Mettl9 Cas9-CKO Strategy

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Project Overview

Project Name

Mettl9

Project type

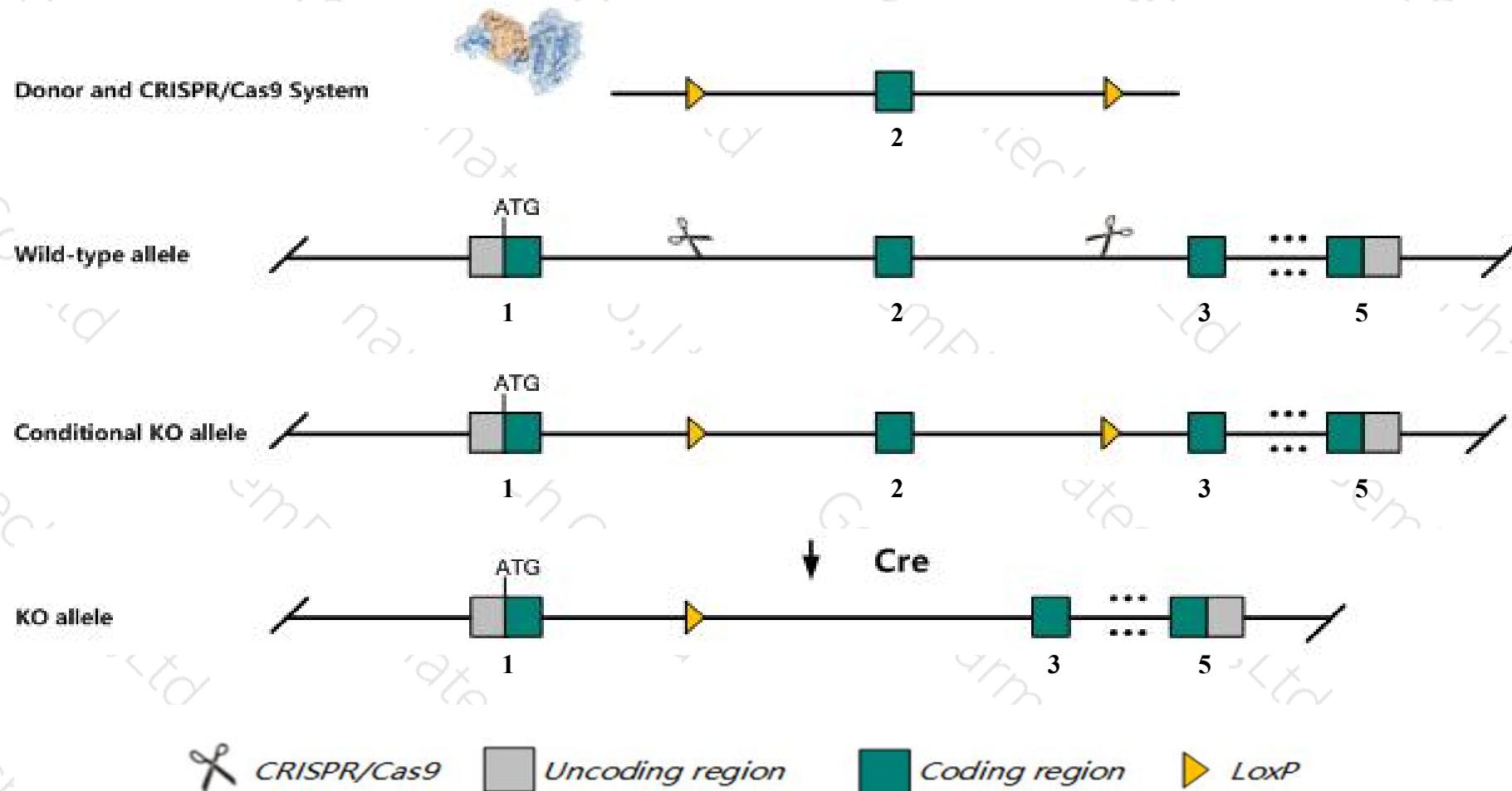
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Mettl9* gene. The schematic diagram is as follows:



- The *Mettl9* gene has 4 transcripts. According to the structure of *Mettl9* gene, exon2 of *Mettl9-201* (ENSMUST00000033163.7) transcript is recommended as the knockout region. The region contains 191bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Mettl9* 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 *Mettl9* gene is located on the Chr7. 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)

Mettl9 methyltransferase like 9 [Mus musculus (house mouse)]

Gene ID: 59052, updated on 13-Mar-2020

Summary



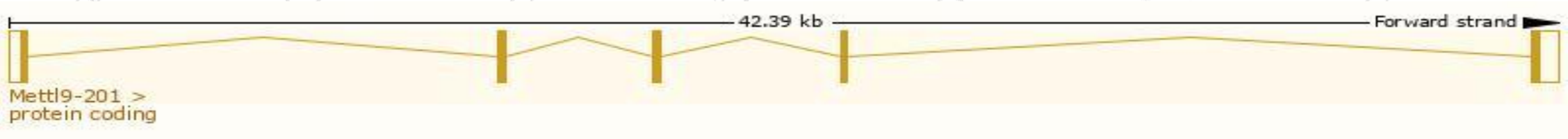
Official Symbol	Mettl9 provided by MGI
Official Full Name	methyltransferase like 9 provided by MGI
Primary source	MGI:MGI:1914862
See related	Ensembl:ENSMUSG00000030876
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	0610012D09Rik, AA517660, Drev, MNCb-5680
Expression	Ubiquitous expression in CNS E11.5 (RPKM 36.9), CNS E14 (RPKM 28.6) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

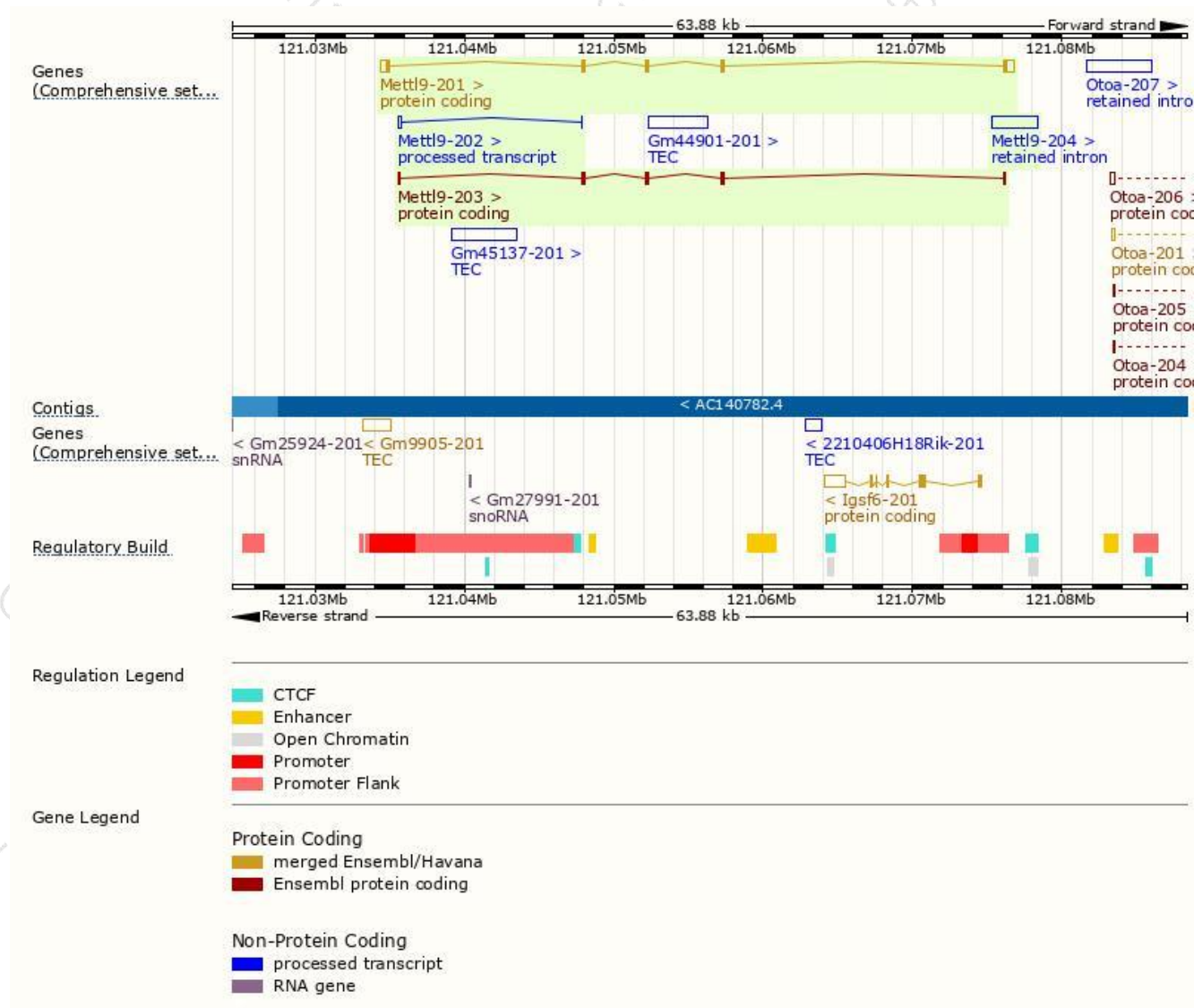
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Mettl9-201	ENSMUST00000033163.7	1823	318aa	Protein coding	CCDS21800	Q9EPL4	TSL:1 GENCODE basic APPRIS P1
Mettl9-203	ENSMUST00000207351.1	740	168aa	Protein coding	-	A0A140LJ45	CDS 3' incomplete TSL:5
Mettl9-202	ENSMUST00000207332.1	265	No protein	Processed transcript	-	-	TSL:5
Mettl9-204	ENSMUST00000207835.1	3043	No protein	Retained intron	-	-	TSL:NA

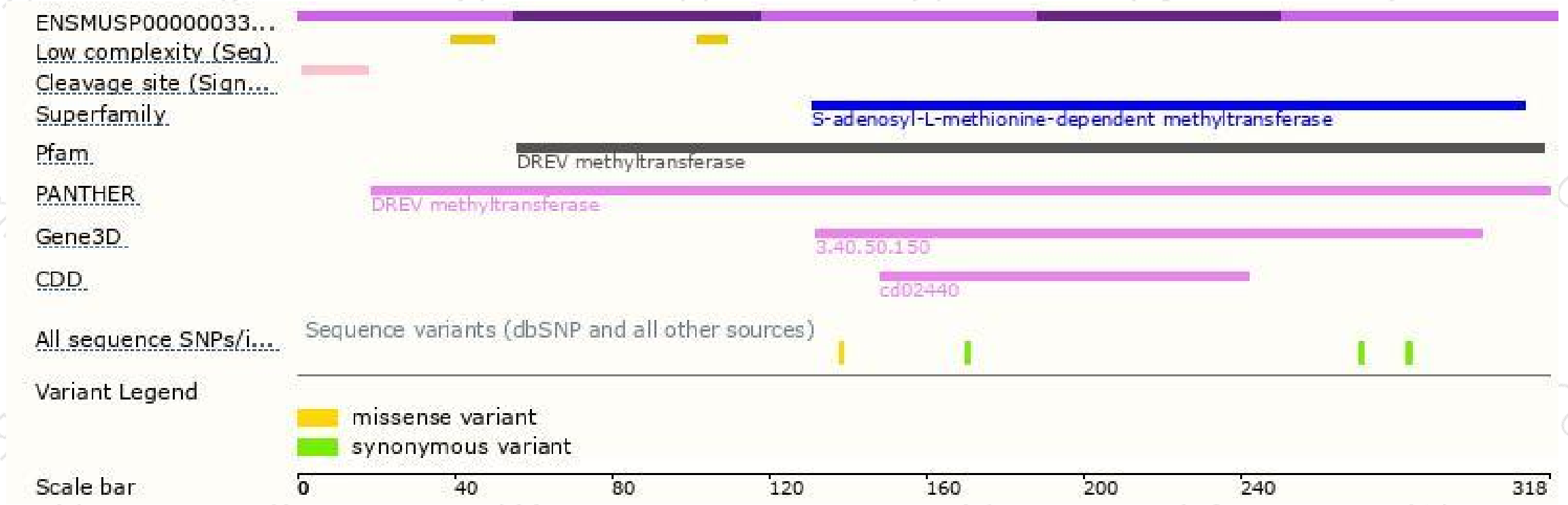
The strategy is based on the design of *Mettl9-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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