

***Fbxl8* Cas9-CKO Strategy**

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Project Overview

Project Name

Fbxl8

Project type

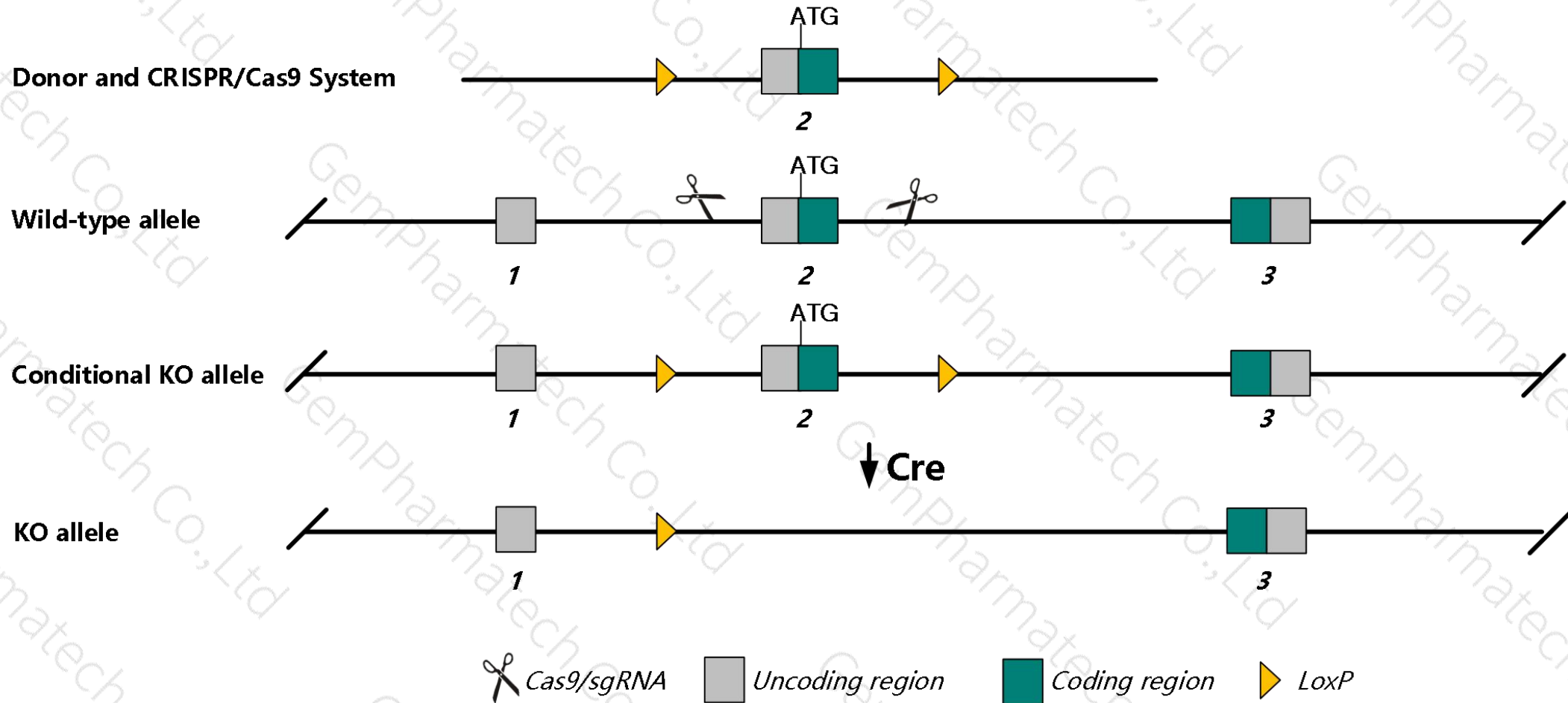
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxl8* gene. The schematic diagram is as follows:



Technical routes

- The *Fbxl8* gene has 2 transcripts. According to the structure of *Fbxl8* gene, exon2 of *Fbxl8-201* (ENSMUST00000036221.11) transcript is recommended as the knockout region. The region contains ATG of coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fbxl8* 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 *Fbxl8* gene is located on the Chr8. 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)

Fbxl8 F-box and leucine-rich repeat protein 8 [*Mus musculus* (house mouse)]

Gene ID: 50788, updated on 3-Feb-2019

Summary

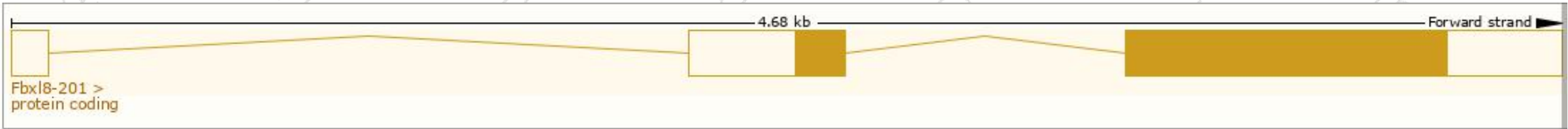
Official Symbol	Fbxl8 provided by MGI
Official Full Name	F-box and leucine-rich repeat protein 8 provided by MGI
Primary source	MGI:MGI:1354697
See related	Ensembl:ENSMUSG00000033313
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	FBL8
Expression	Broad expression in colon adult (RPKM 13.7), duodenum adult (RPKM 10.0) and 19 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

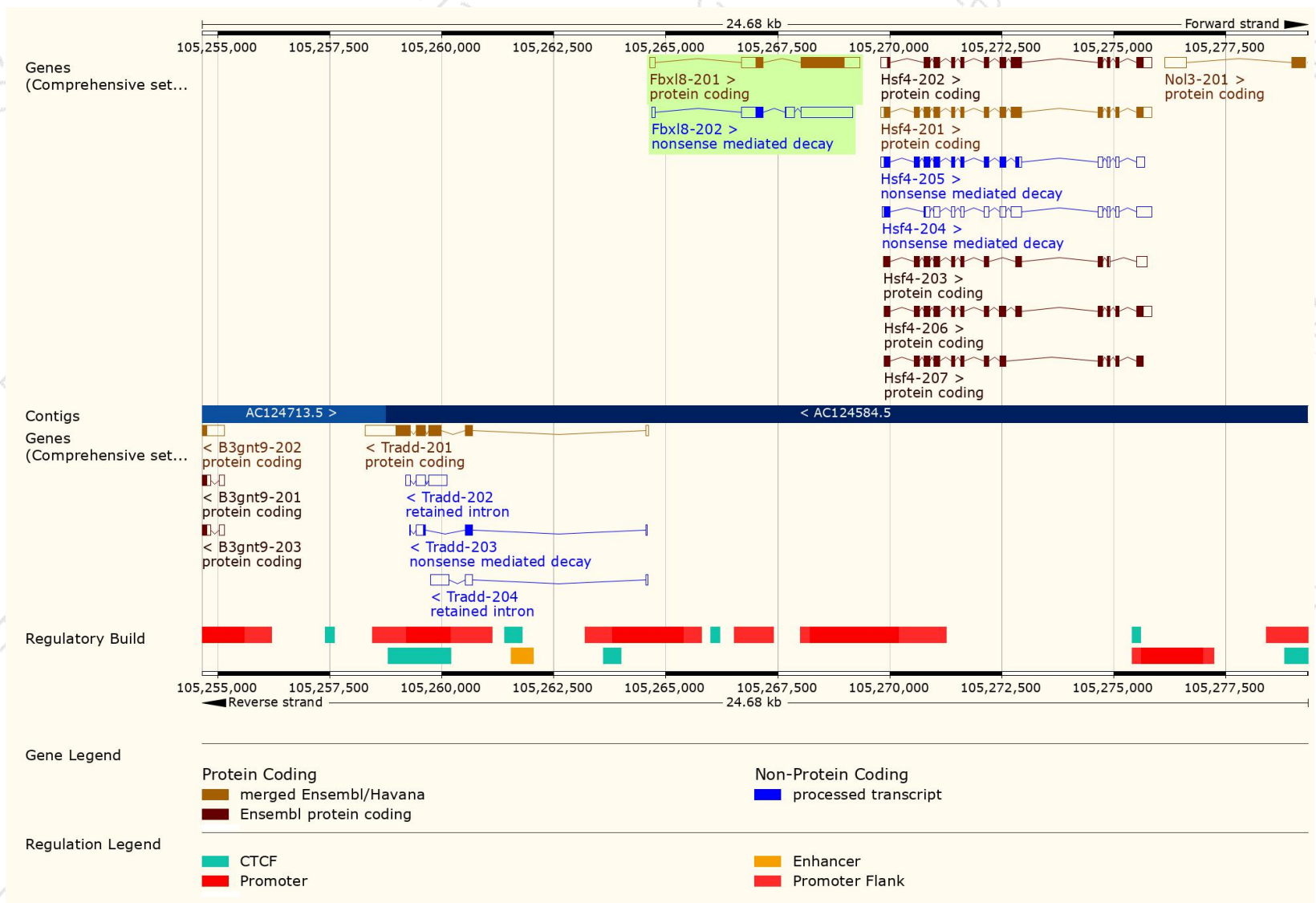
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxl8-201	ENSMUST00000036221.11	1901	374aa	Protein coding	CCDS22595	Q3TD55 Q8CIG9	TSL:1 Gencode basic APPRIS P1
Fbxl8-202	ENSMUST00000126923.1	1913	55aa	Nonsense mediated decay	-	D6RGN0	TSL:1

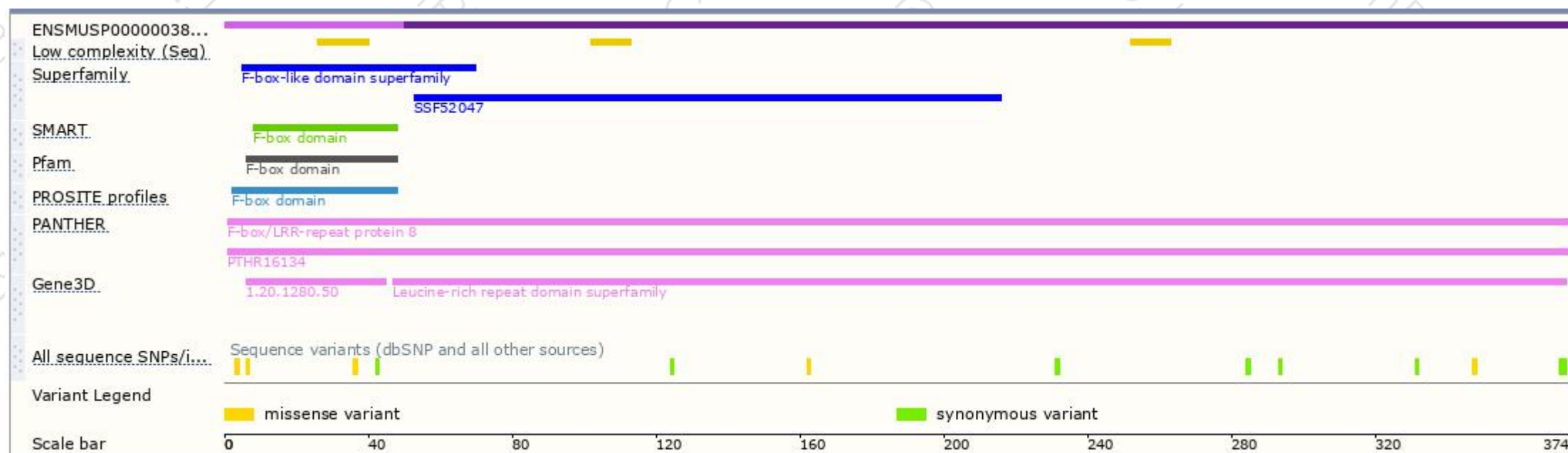
The strategy is based on the design of *Fbxl8-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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