

***Fbxl2* Cas9-CKO Strategy**

Designer: JiaYu

Project Overview

Project Name

Fbxl2

Project type

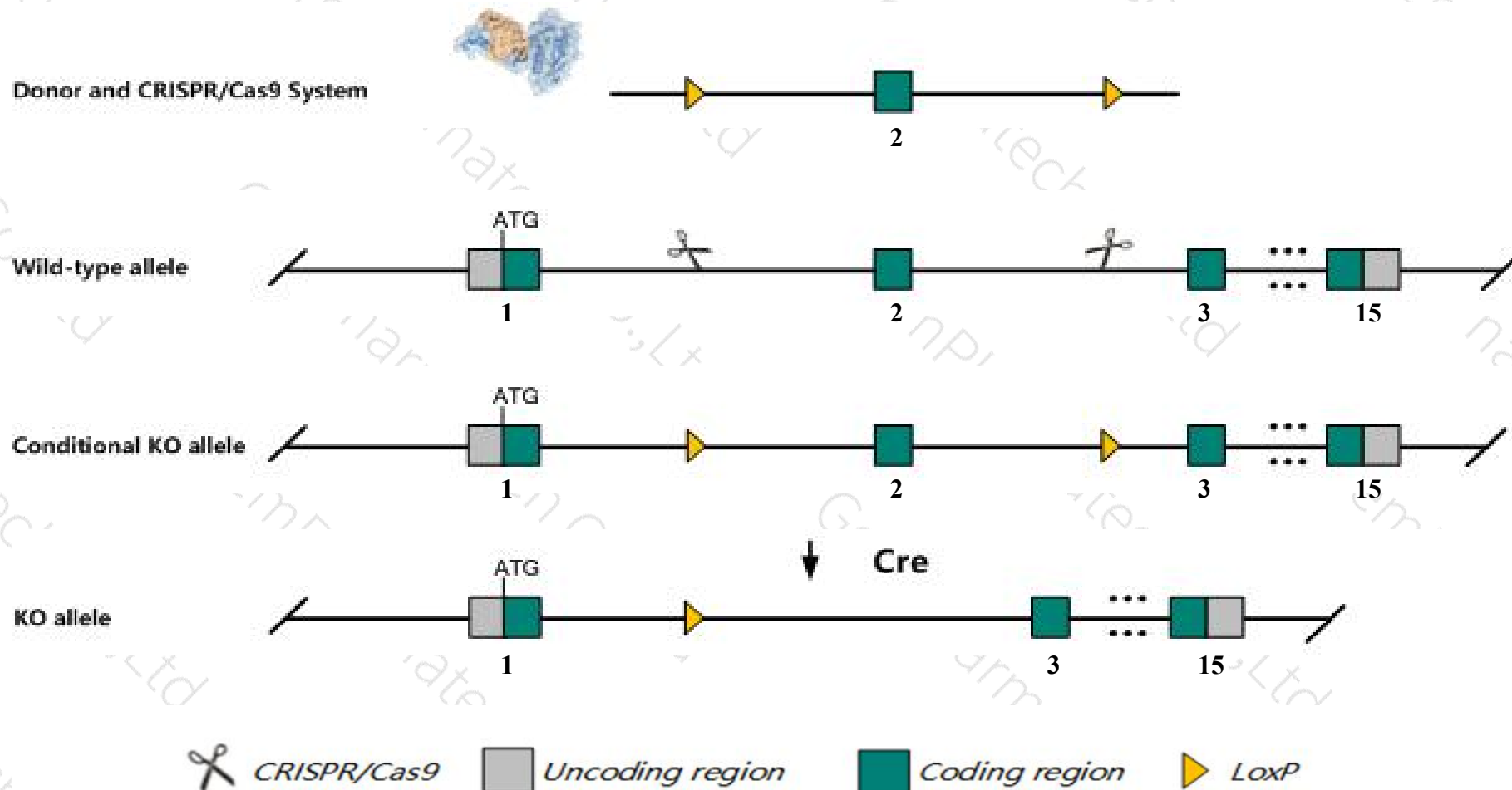
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxl2* gene. The schematic diagram is as follows:



- The *Fbxl2* gene has 6 transcripts. According to the structure of *Fbxl2* gene, exon2 of *Fbxl2-201* (ENSMUST00000035090.13) transcript is recommended as the knockout region. The region contains 62bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fbxl2* 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 *Fbxl2* 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.
- 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)

Fbxl2 F-box and leucine-rich repeat protein 2 [Mus musculus (house mouse)]

Gene ID: 72179, updated on 31-Jan-2019

Summary



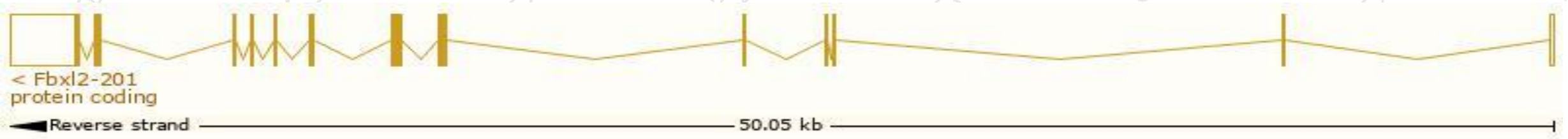
Official Symbol	Fbxl2 provided by MGI
Official Full Name	F-box and leucine-rich repeat protein 2 provided by MGI
Primary source	MGI:MGI:1919429
See related	Ensembl:ENSMUSG00000032507
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2810423A21Rik, Fbl3
Expression	Broad expression in cortex adult (RPKM 11.6), CNS E18 (RPKM 10.1) and 24 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

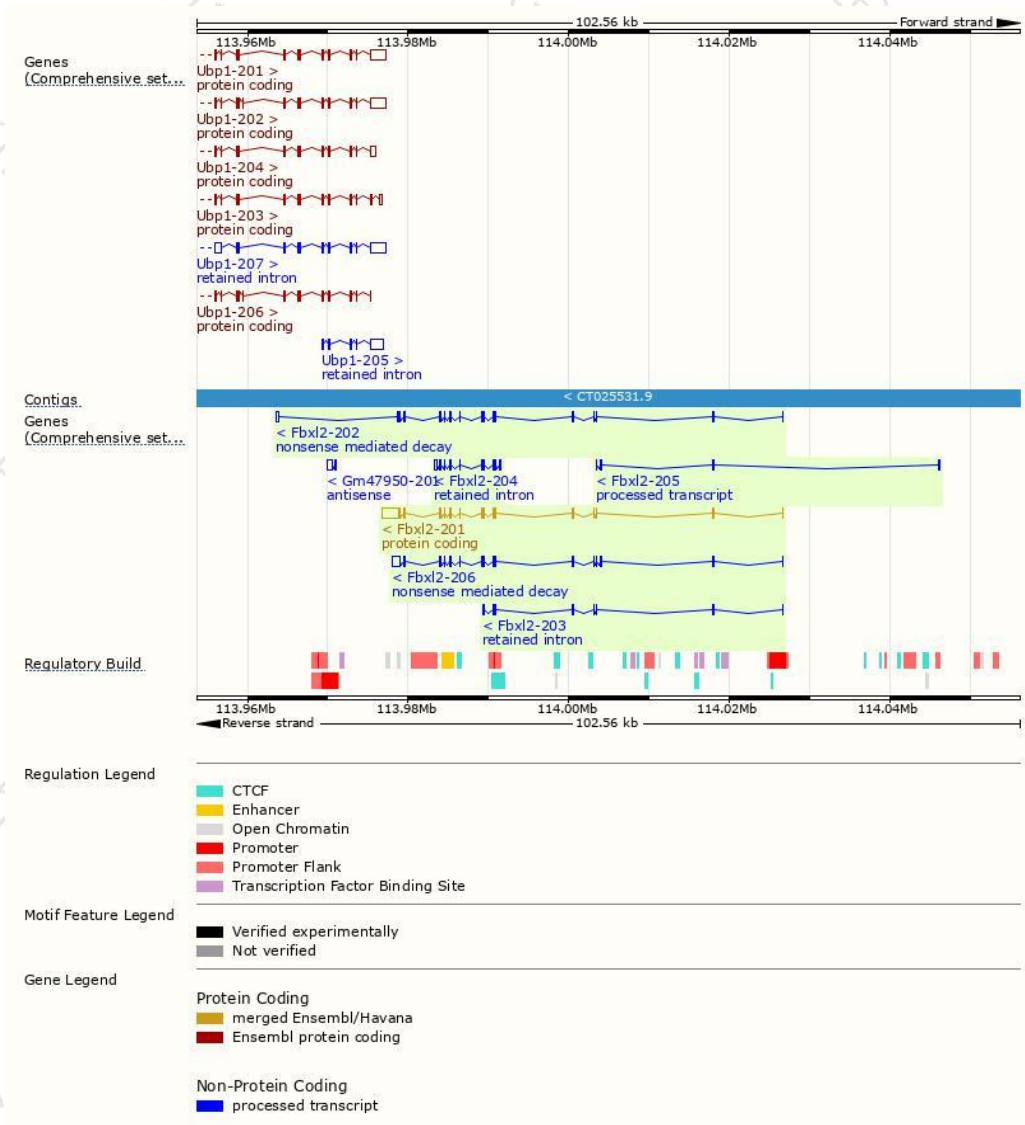
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxl2-201	ENSMUST00000035090.13	3464	423aa	Protein coding	CCDS40790	Q4VA21 Q8BH16	TSL:1 GENCODE basic APPRIS P1
Fbxl2-206	ENSMUST00000143180.7	2257	39aa	Nonsense mediated decay	-	D6RFC8	TSL:1
Fbxl2-202	ENSMUST00000117537.7	1620	423aa	Nonsense mediated decay	-	Q4VA21 Q8BH16	TSL:2
Fbxl2-205	ENSMUST00000141832.1	394	No protein	Processed transcript	-	-	TSL:5
Fbxl2-204	ENSMUST00000139757.7	1101	No protein	Retained intron	-	-	TSL:1
Fbxl2-203	ENSMUST00000127352.7	615	No protein	Retained intron	-	-	TSL:3

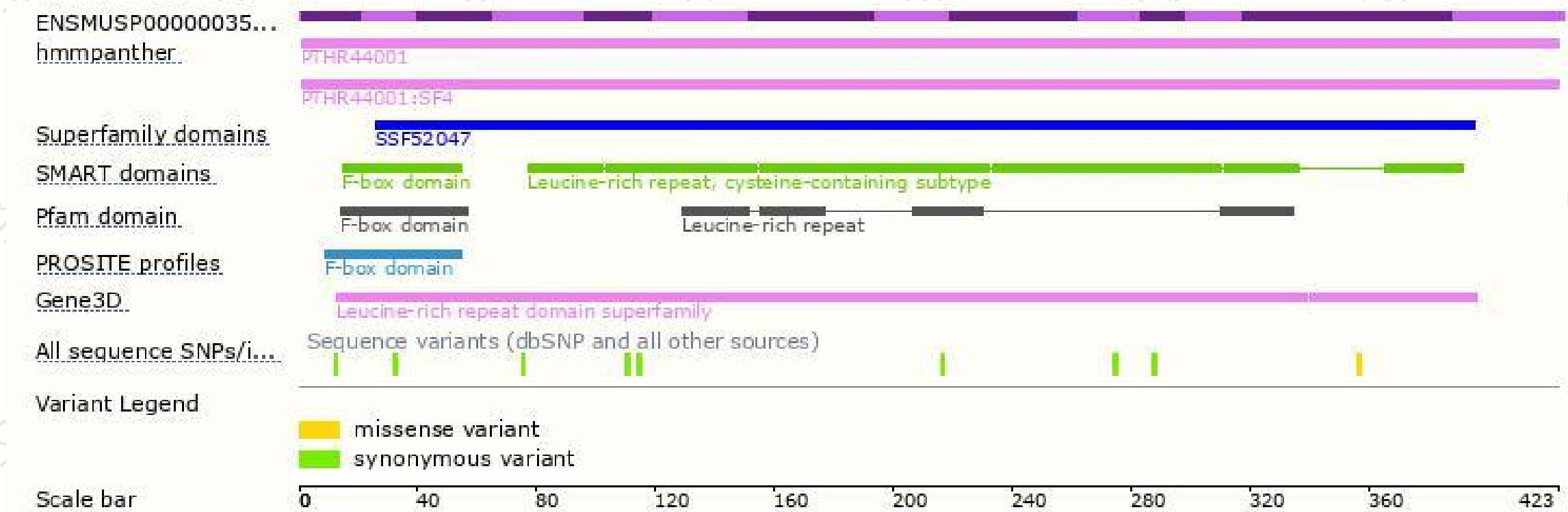
The strategy is based on the design of *Fbxl2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

