

Fbxw11 Cas9-CKO Strategy

Designer: Xiaojing Li
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Reviewer: Jia Yu

Project Overview

Project Name

Fbxw11

Project type

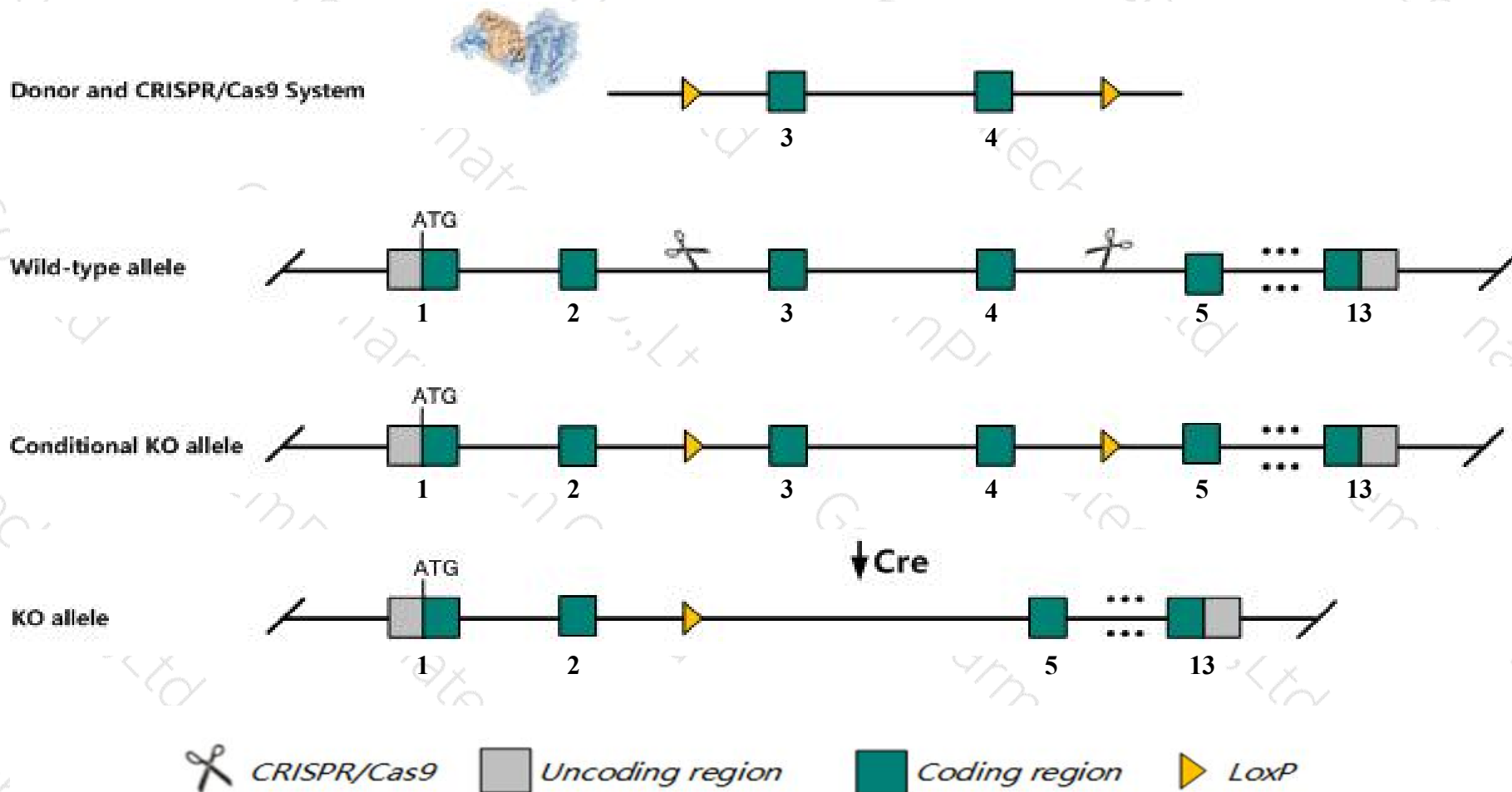
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxw11* gene. The schematic diagram is as follows:



- The *Fbxw11* gene has 5 transcripts. According to the structure of *Fbxw11* gene, exon3-exon4 of *Fbxw11-201* (ENSMUST00000076383.7) transcript is recommended as the knockout region. The region contains 289bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fbxw11* 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 *Fbxw11* gene is located on the Chr11. 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)

Fbxw11 F-box and WD-40 domain protein 11 [Mus musculus (house mouse)]

Gene ID: 103583, updated on 3-Feb-2019

Summary



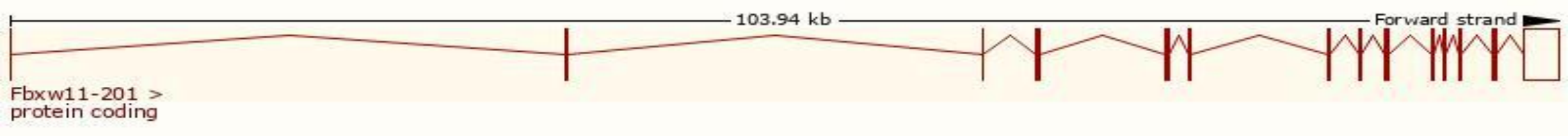
Official Symbol	Fbxw11 provided by MGI
Official Full Name	F-box and WD-40 domain protein 11 provided by MGI
Primary source	MGI:MGI:2144023
See related	Ensembl:ENSMUSG00000020271
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2310065A07Rik, AA536858, BTRC2, BTRCP2, Fbxw1b, HOS
Expression	Ubiquitous expression in cerebellum adult (RPKM 24.5), whole brain E14.5 (RPKM 24.2) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

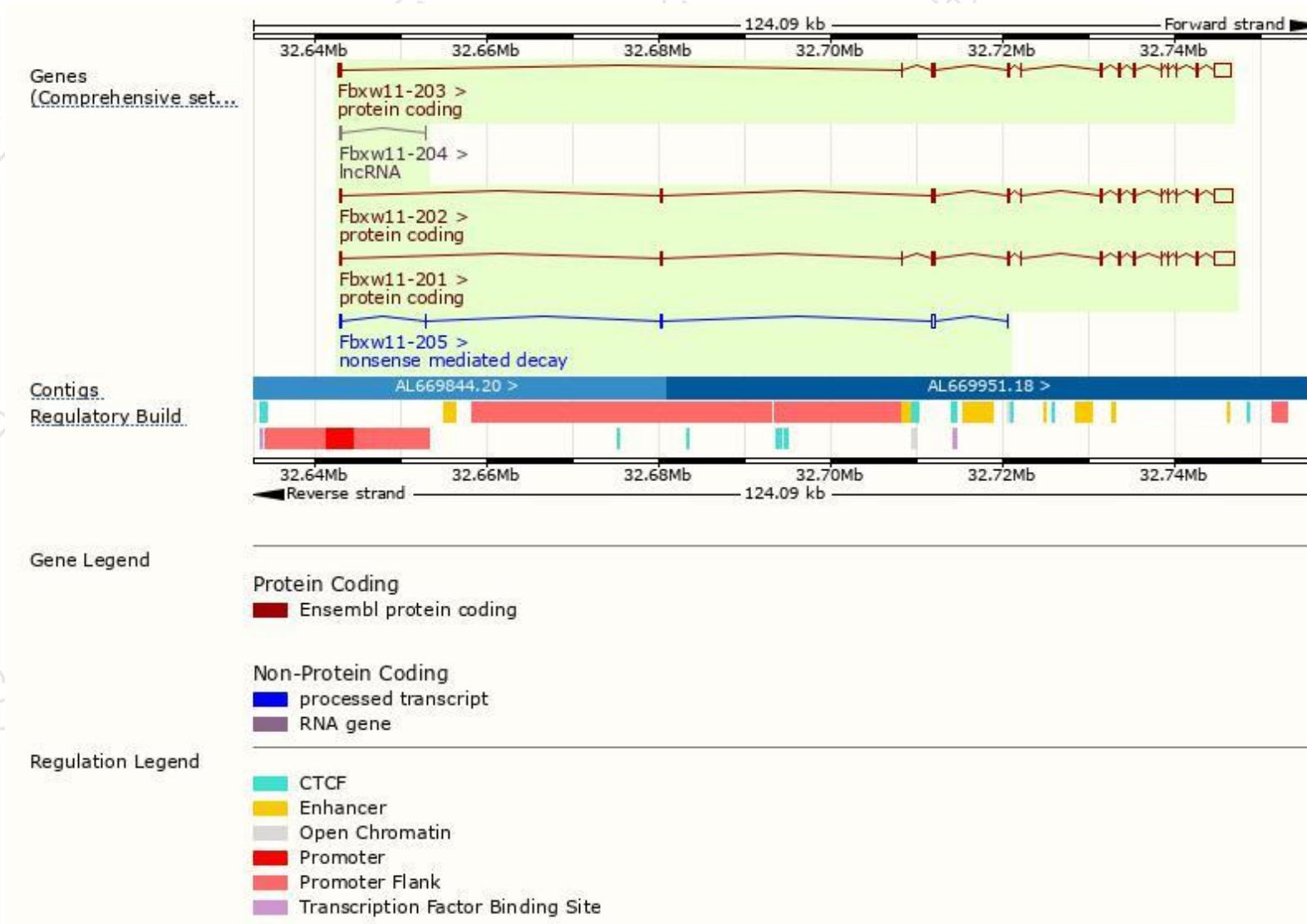
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxw11-201	ENSMUST00000076383.7	4019	563aa	Protein coding	CCDS36125	Q5SRY7	TSL:1 GENCODE basic APPRIS P3
Fbxw11-202	ENSMUST00000093205.12	3938	542aa	Protein coding	CCDS70157	Q5SRY7	TSL:1 GENCODE basic APPRIS ALT 1
Fbxw11-203	ENSMUST00000109366.7	3821	529aa	Protein coding	CCDS70158	Q5SRY7	TSL:1 GENCODE basic APPRIS ALT 1
Fbxw11-205	ENSMUST00000143290.1	620	43aa	Nonsense mediated decay	-	F7BGU3	CDS 5' incomplete TSL:3
Fbxw11-204	ENSMUST00000137898.1	309	No protein	lncRNA	-	-	TSL:1

The strategy is based on the design of *Fbxw11-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

