

***Fbxo15* Cas9-CKO Strategy**

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Project Overview

Project Name

Fbxo15

Project type

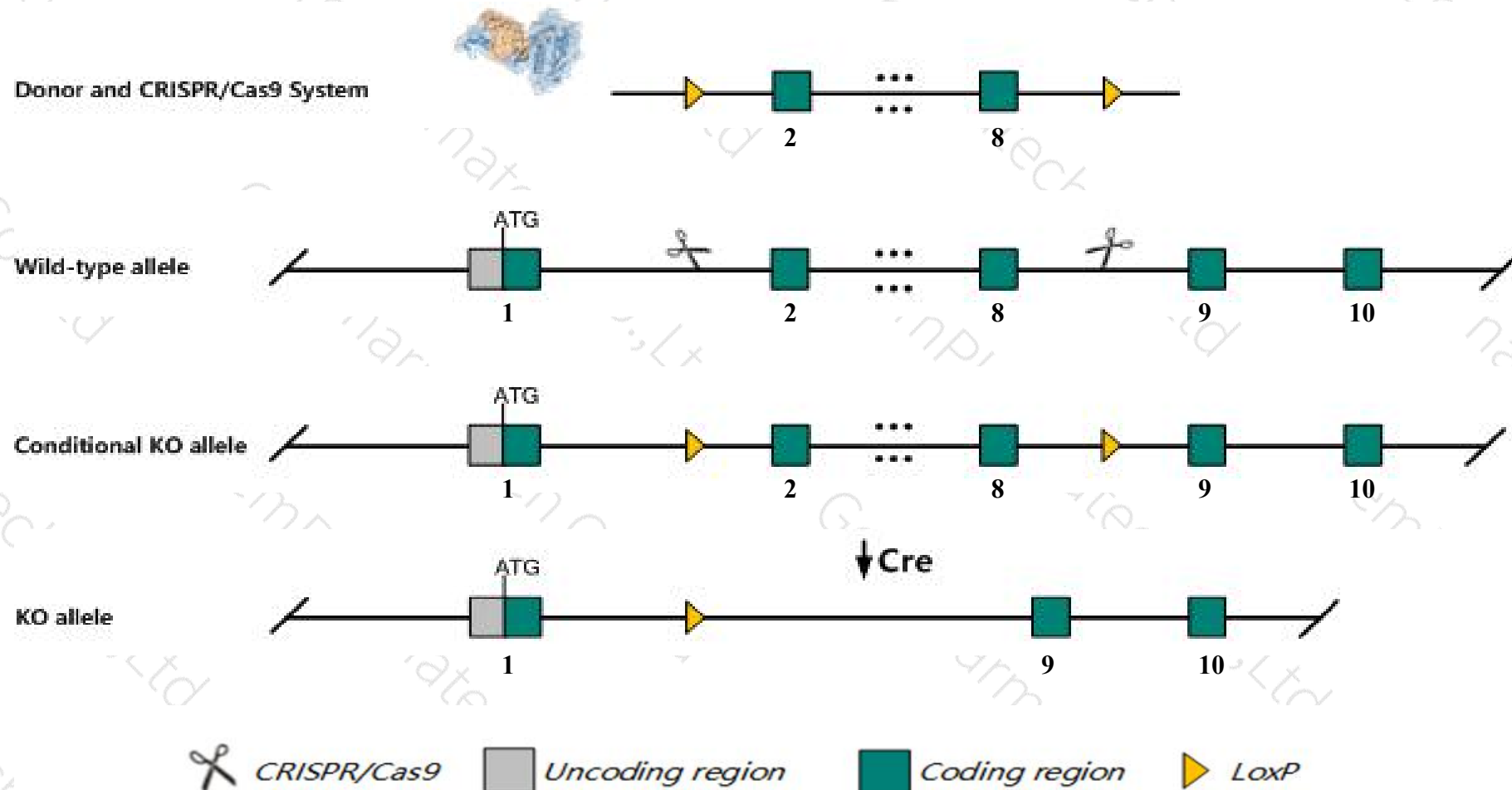
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxo15* gene. The schematic diagram is as follows:



Technical routes

- The *Fbxo15* gene has 6 transcripts. According to the structure of *Fbxo15* gene, exon2-exon8 of *Fbxo15-201* (ENSMUST00000037718.9) transcript is recommended as the knockout region. The region contains 1034bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fbxo15* 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.

- According to the existing MGI data, Both male and female homozygous null mice develop normally and are fertile.
- The *Fbxo15* 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)

Fbxo15 F-box protein 15 [Mus musculus (house mouse)]

Gene ID: 50764, updated on 3-Apr-2019

Summary



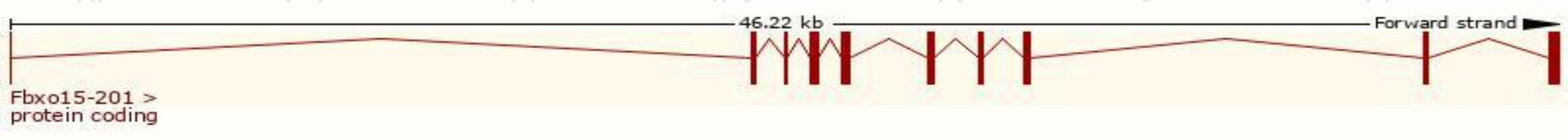
Official Symbol	Fbxo15 provided by MGI
Official Full Name	F-box protein 15 provided by MGI
Primary source	MGI:MGI:1354755
See related	Ensembl:ENSMUSG000000034391
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AU019763, Fbx15, ecat3
Expression	Biased expression in testis adult (RPKM 1.7) and placenta adult (RPKM 0.2) See more
Orthologs	human all

Transcript information (Ensembl)

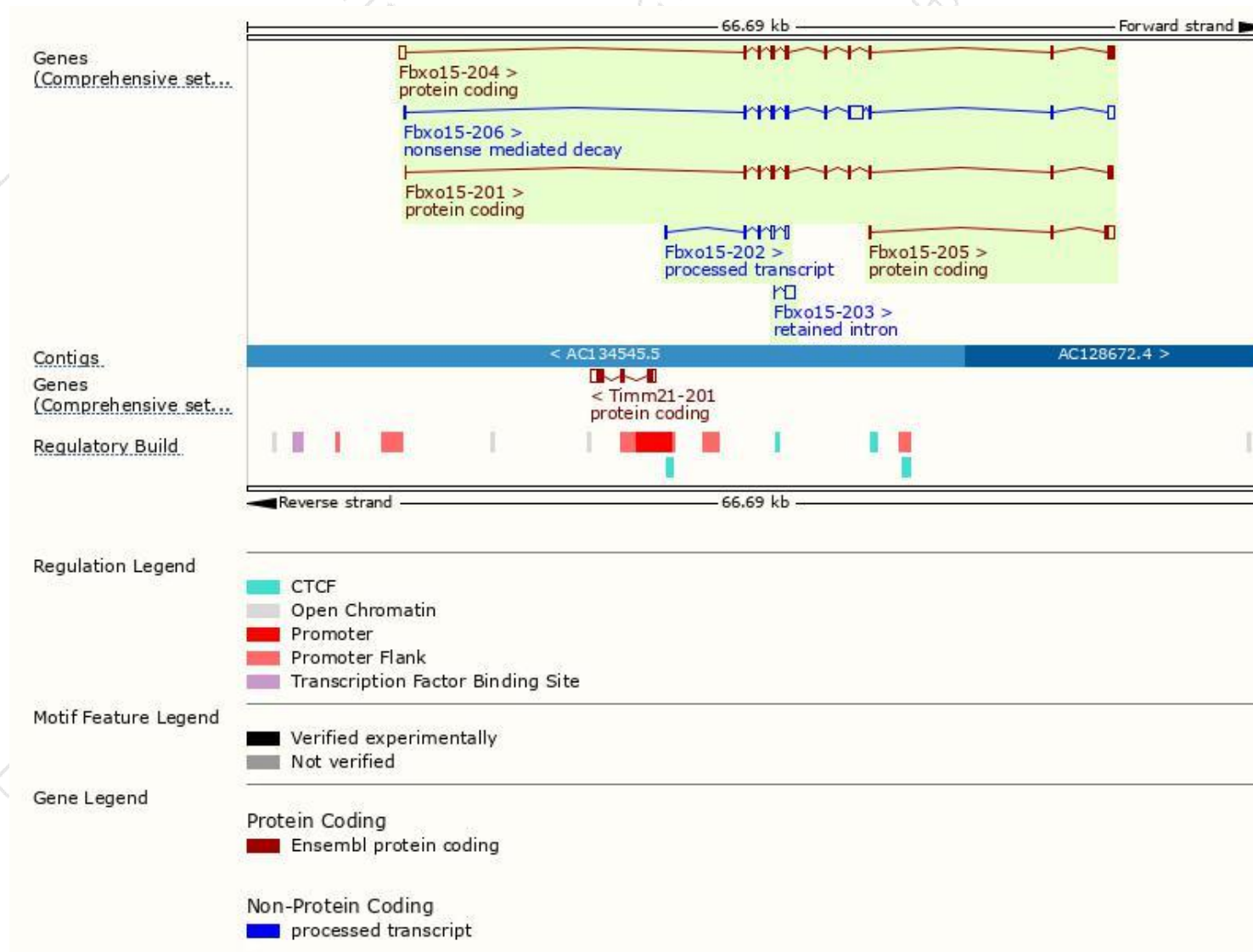
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxo15-201	ENSMUST00000037718.9	1437	478aa	Protein coding	CCDS37877	Q3TJW2	TSL:1 GENCODE basic APPRIS P2
Fbxo15-204	ENSMUST00000224467.2	1910	433aa	Protein coding	-	A0A286YDM4	GENCODE basic APPRIS ALT2
Fbxo15-202	ENSMUST00000223789.2	1557	512aa	Protein coding	-	-	GENCODE basic APPRIS ALT2
Fbxo15-205	ENSMUST00000225015.1	623	76aa	Protein coding	-	A0A286YCR3	CDS 5' incomplete
Fbxo15-206	ENSMUST00000225445.1	2532	282aa	Nonsense mediated decay	-	A0A286YCC7	
Fbxo15-203	ENSMUST00000224427.1	651	No protein	Retained intron	-	-	

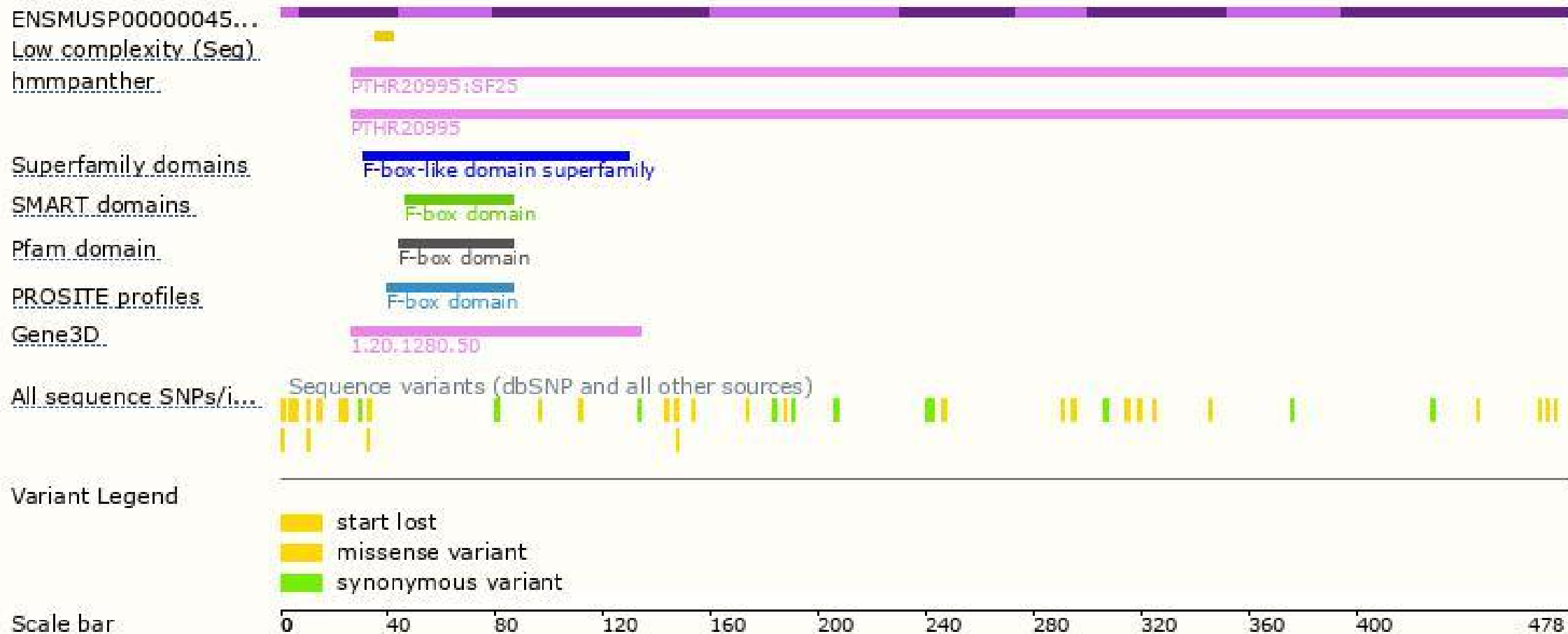
The strategy is based on the design of *Fbxo15-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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