

***Fbxo17* Cas9-KO Strategy**

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Project Overview

Project Name

Fbxo17

Project type

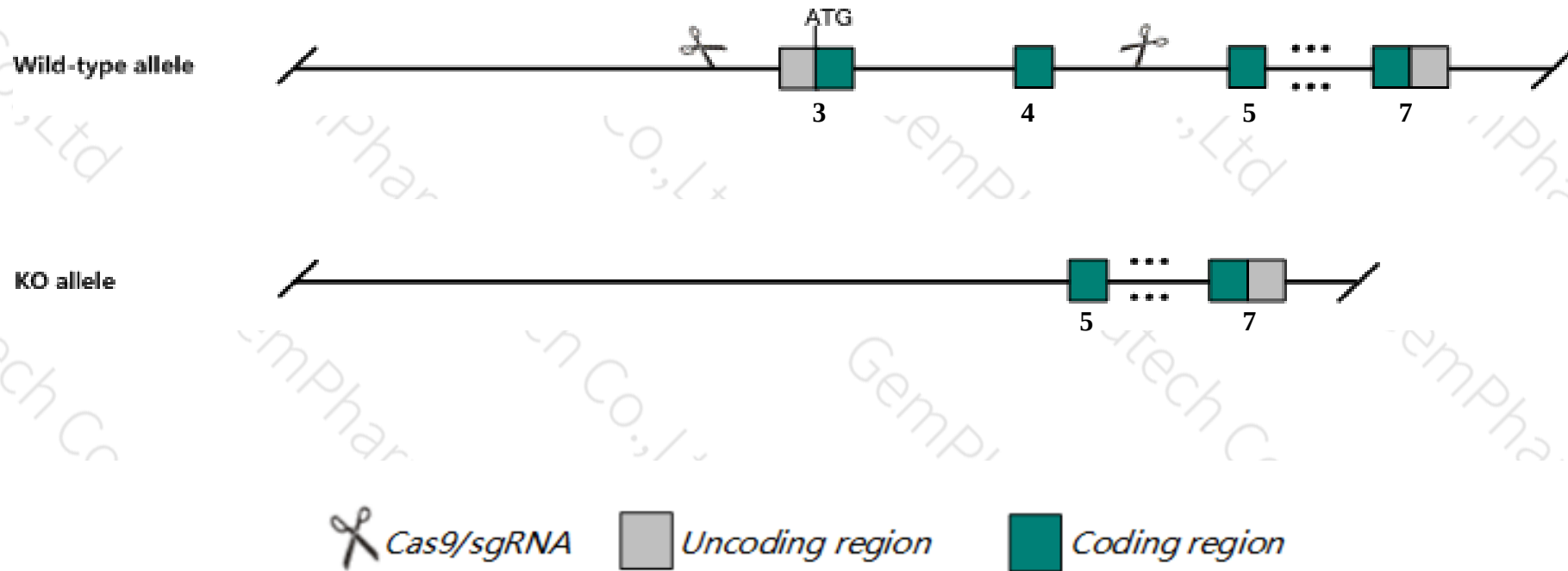
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxo17* gene. The schematic diagram is as follows:



- The *Fbxo17* gene has 5 transcripts. According to the structure of *Fbxo17* gene, exon3-exon4 of *Fbxo17-201* (ENSMUST00000032818.12) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fbxo17* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA 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.

- Transcript *Fbxo17-204* may not be affected.
- The *Fbxo17* 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Fbxo17 F-box protein 17 [Mus musculus (house mouse)]

Gene ID: 50760, updated on 3-Feb-2019

Summary



Official Symbol	Fbxo17 provided by MGI
Official Full Name	F-box protein 17 provided by MGI
Primary source	MGI:MGI:1354707
See related	Ensembl:ENSMUSG00000030598
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	Fbg4, Fbx17, Fbxo26
Expression	Broad expression in limb E14.5 (RPKM 11.3), ovary adult (RPKM 6.0) and 22 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

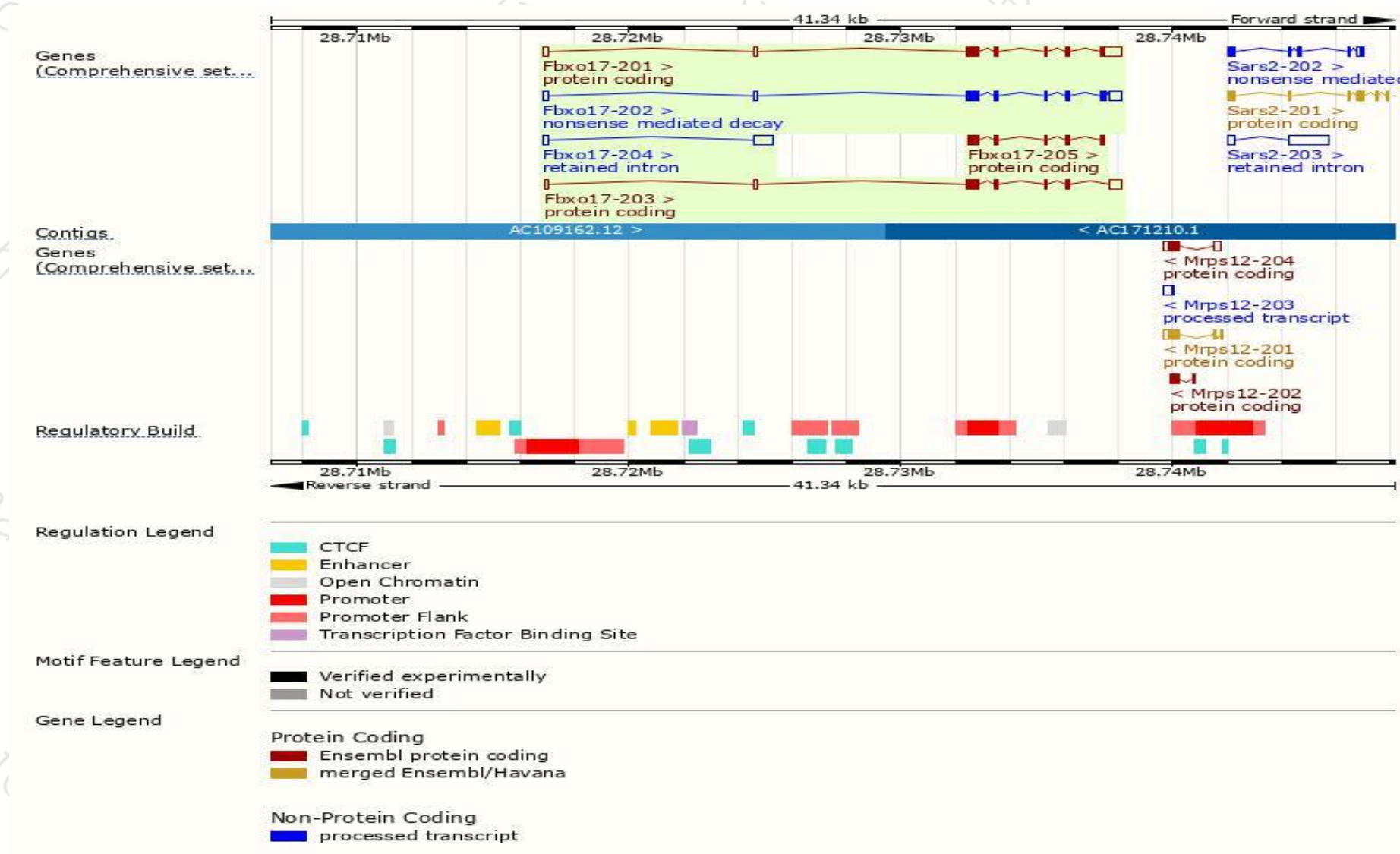
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxo17-201	ENSMUST00000032818.12	1958	286aa	Protein coding	CCDS39863	Q3V064 Q9QZM8	TSL:1 GENCODE basic APPRIS P1
Fbxo17-203	ENSMUST00000108279.8	1563	242aa	Protein coding	CCDS80688	Q9QZM8	TSL:1 GENCODE basic
Fbxo17-205	ENSMUST00000167118.1	861	286aa	Protein coding	CCDS39863	Q3V064 Q9QZM8	TSL:5 GENCODE basic APPRIS P1
Fbxo17-202	ENSMUST00000108278.8	1806	286aa	Nonsense mediated decay	-	Q3V064 Q9QZM8	TSL:2
Fbxo17-204	ENSMUST00000139172.1	835	No protein	Retained intron	-	-	TSL:2

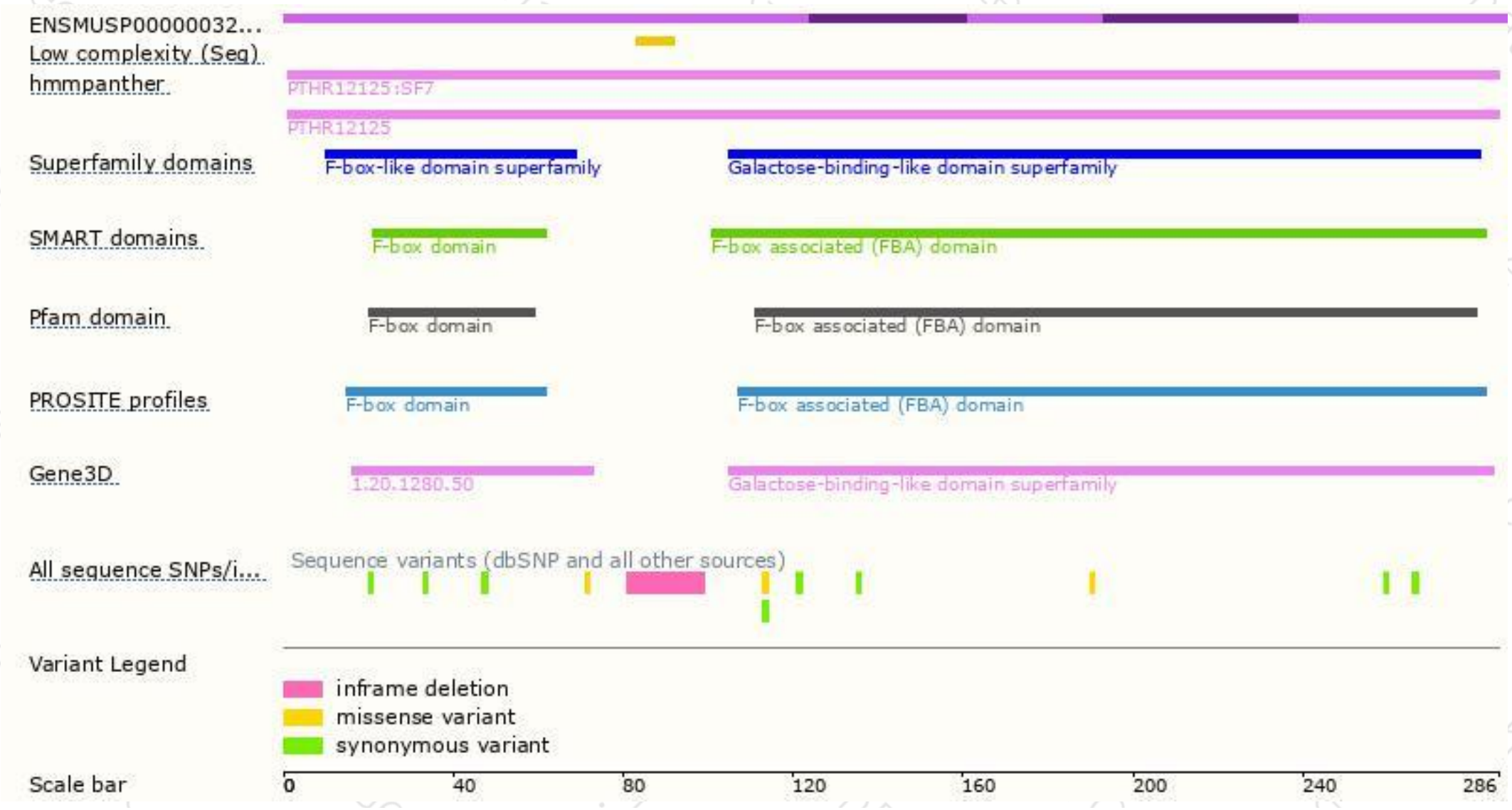
The strategy is based on the design of *Fbxo17-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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