

Fbx16 Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Fbxl6

Project type

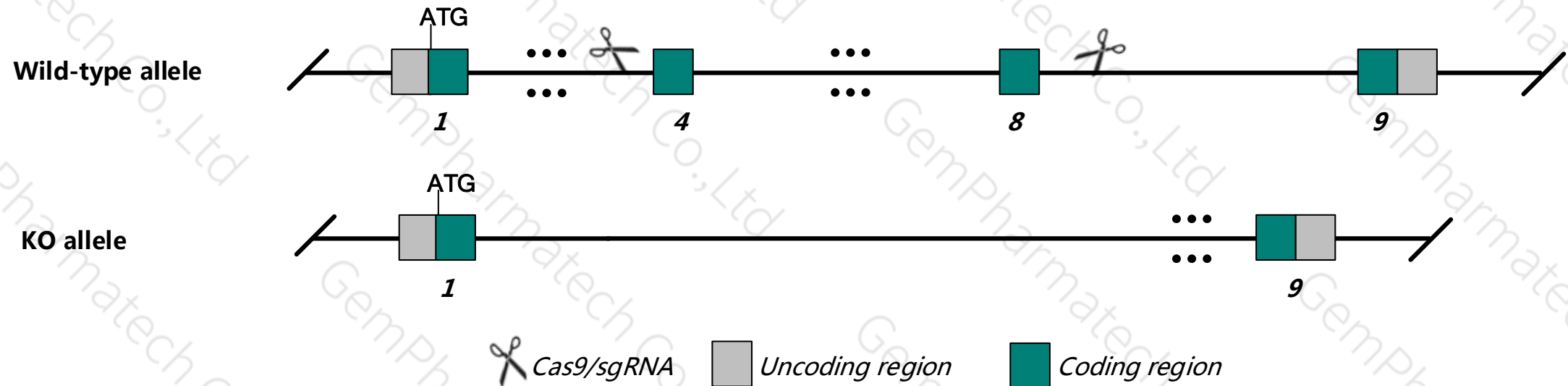
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxl6* gene. The schematic diagram is as follows:



Technical routes

- The *Fbxl6* gene has 6 transcripts. According to the structure of *Fbxl6* gene, exon4-exon8 of *Fbxl6*-201 (ENSMUST00000023219.8) transcript is recommended as the knockout region. The region contains 833bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fbxl6* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9, 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.

- This strategy may affect the 5-terminal regulation of *Slc52a2* and *Tmem249*.
- The *Fbxl6* gene is located on the Chr15. 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)



Fbxl6 F-box and leucine-rich repeat protein 6 [*Mus musculus* (house mouse)]

Gene ID: 30840, updated on 9-Sep-2018

Summary

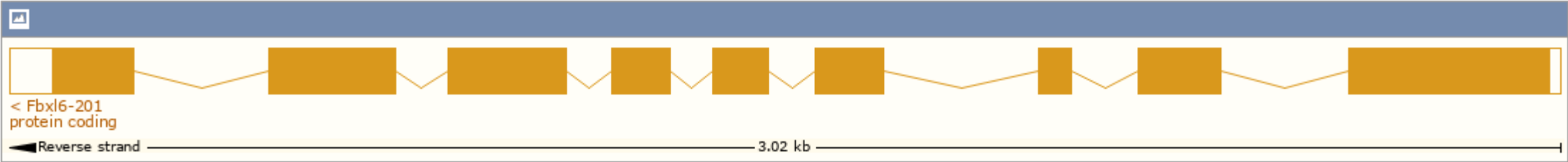
Official Symbol	Fbxl6 provided by MGI
Official Full Name	F-box and leucine-rich repeat protein 6 provided by MGI
Primary source	MGI:MGI:1354705
See related	Ensembl:ENSMUSG00000022559
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Fbl6; AU021795
Expression	Ubiquitous expression in ovary adult (RPKM 75.4), adrenal adult (RPKM 61.6) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

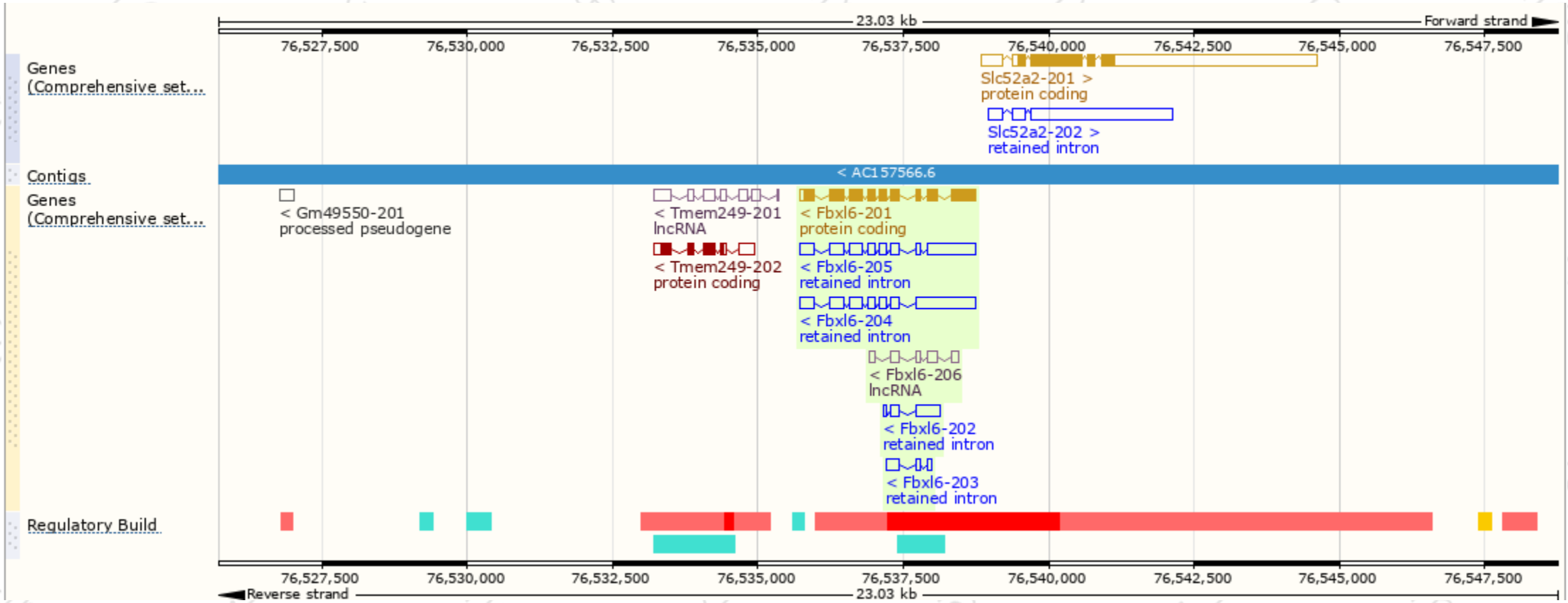
The gene has 6 transcripts, and all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxl6-201	ENSMUST00000023219.8	1710	535aa	Protein coding	CCDS49653	Q9QXW0	TSL:1 GENCODE basic APPRIS P1
Fbxl6-204	ENSMUST000000229813.1	2091	No protein	Retained intron	-	-	-
Fbxl6-205	ENSMUST000000230513.1	1953	No protein	Retained intron	-	-	-
Fbxl6-202	ENSMUST000000228994.1	586	No protein	Retained intron	-	-	-
Fbxl6-203	ENSMUST000000229273.1	336	No protein	Retained intron	-	-	-
Fbxl6-206	ENSMUST000000230938.1	570	No protein	lncRNA	-	-	-

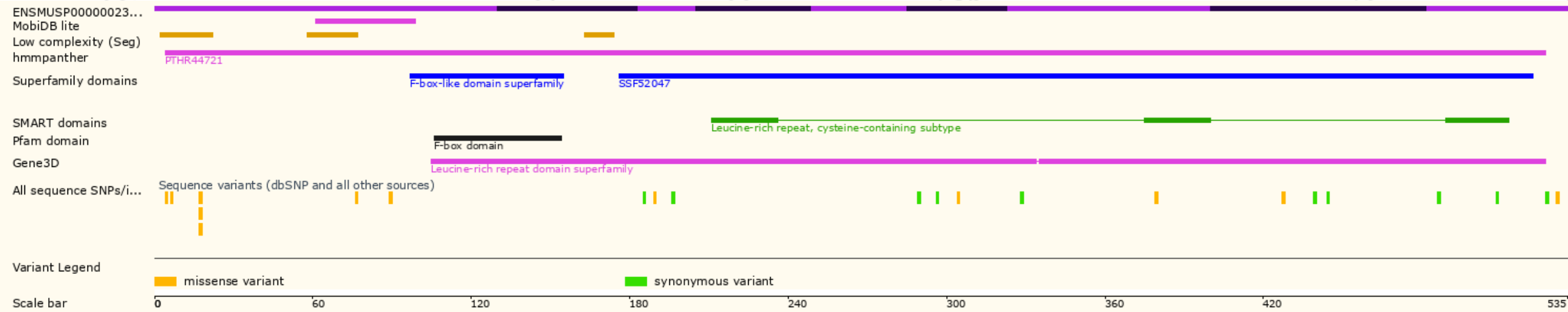
The strategy is based on the design of *Fbxl6*-201 transcript,The transcription is shown below



Genomic location distribution



Protein domain



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