

***Fbxl12* Cas9-KO Strategy**

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Project Overview

Project Name

Fbxl12

Project type

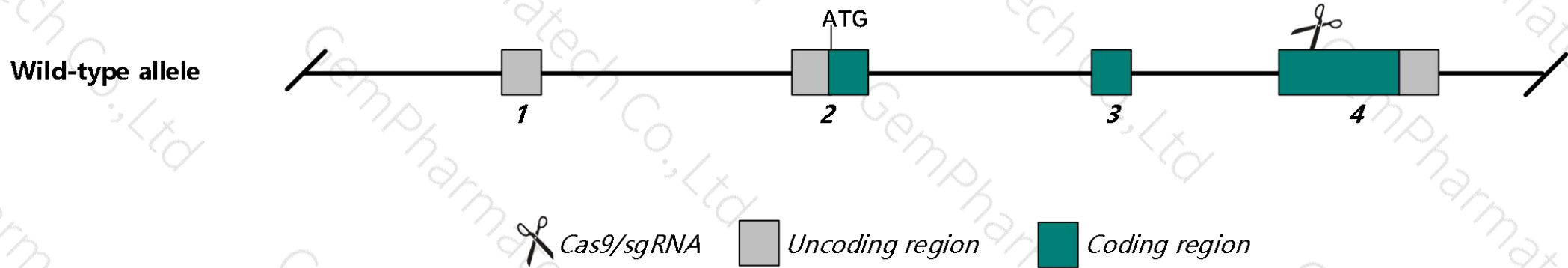
Cas9-KO

Strain background

C57BL/6N

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxl12* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Fbxl12* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6N 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/6N mice.

- According to the existing MGI data, mice homozygous for a knock-out allele exhibit partial postnatal lethality, growth retardation, small placenta, absent gastric milk in mice that die and abnormal placental.
- The *Fbxl12* 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Fbxl12 F-box and leucine-rich repeat protein 12 [*Mus musculus* (house mouse)]

Gene ID: 30843, updated on 12-Aug-2019

Summary

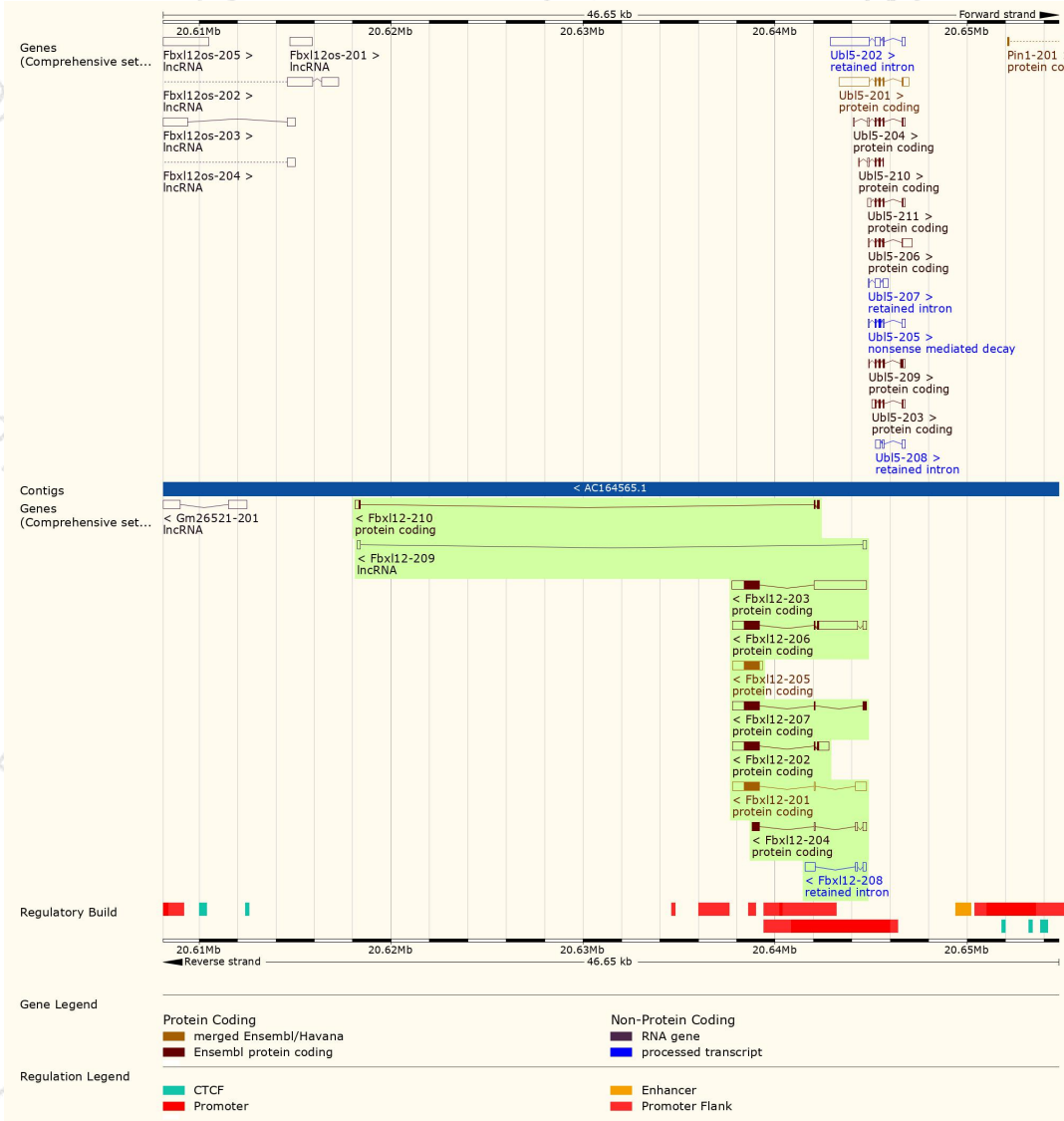
Official Symbol	Fbxl12 provided by MGI
Official Full Name	F-box and leucine-rich repeat protein 12 provided by MGI
Primary source	MGI:MGI:1354738
See related	Ensembl:ENSMUSG00000066892
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Fbl12; 3110048D16Rik
Expression	Broad expression in thymus adult (RPKM 77.7), spleen adult (RPKM 18.9) and 21 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

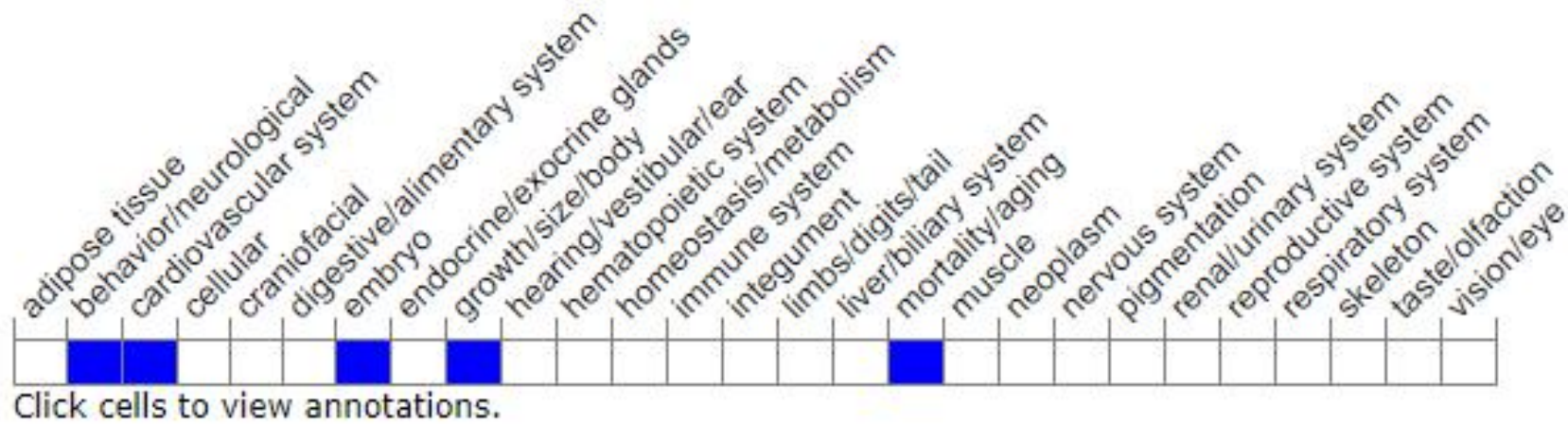
The gene has 10 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxl12-203	ENSMUST00000131128.1	4182	273aa	Protein coding	CCDS22881	A0A0R4J1Q8	TSL:1 GENCODE basic
Fbxl12-206	ENSMUST00000148631.7	3756	326aa	Protein coding	CCDS22880	Q9EPX5	TSL:1 GENCODE basic APPRIS P1
Fbxl12-202	ENSMUST00000086459.5	2086	326aa	Protein coding	CCDS22880	Q9EPX5	TSL:1 GENCODE basic APPRIS P1
Fbxl12-201	ENSMUST00000086458.9	2056	273aa	Protein coding	CCDS22881	A0A0R4J1Q8	TSL:1 GENCODE basic
Fbxl12-205	ENSMUST00000140702.2	1555	273aa	Protein coding	CCDS22881	A0A0R4J1Q8	TSL:NA GENCODE basic
Fbxl12-207	ENSMUST00000151861.8	1668	349aa	Protein coding	-	A0A0R4J1W2	TSL:2 GENCODE basic
Fbxl12-204	ENSMUST00000131343.7	761	132aa	Protein coding	-	D3YY70	CDS 3' incomplete TSL:3
Fbxl12-210	ENSMUST00000155301.7	476	86aa	Protein coding	-	D3YWZ8	TSL:3 GENCODE basic
Fbxl12-208	ENSMUST00000153154.1	808	No protein	Retained intron	-	-	TSL:3
Fbxl12-209	ENSMUST00000155280.7	356	No protein	lncRNA	-	-	TSL:5

Genomic location distribution



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

According to the existing MGI data, mice homozygous for a knock-out allele exhibit partial postnatal lethality, growth retardation, small placenta, absent gastric milk in mice that die and abnormal placental.

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

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