

Fbx15 Cas9-KO Strategy

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Project Overview

Project Name

Fbx15

Project type

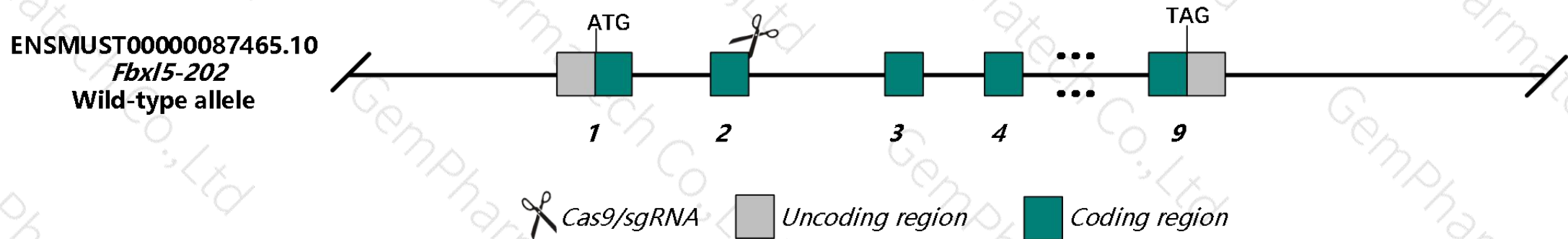
Cas9-KO

Strain background

C57BL/6N

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxl5* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Fbxl5* 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.

- The *Fbxl5* gene is located on the Chr5. 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)

Fbxl5 F-box and leucine-rich repeat protein 5 [*Mus musculus* (house mouse)]

Gene ID: 242960, updated on 12-Aug-2019

Summary

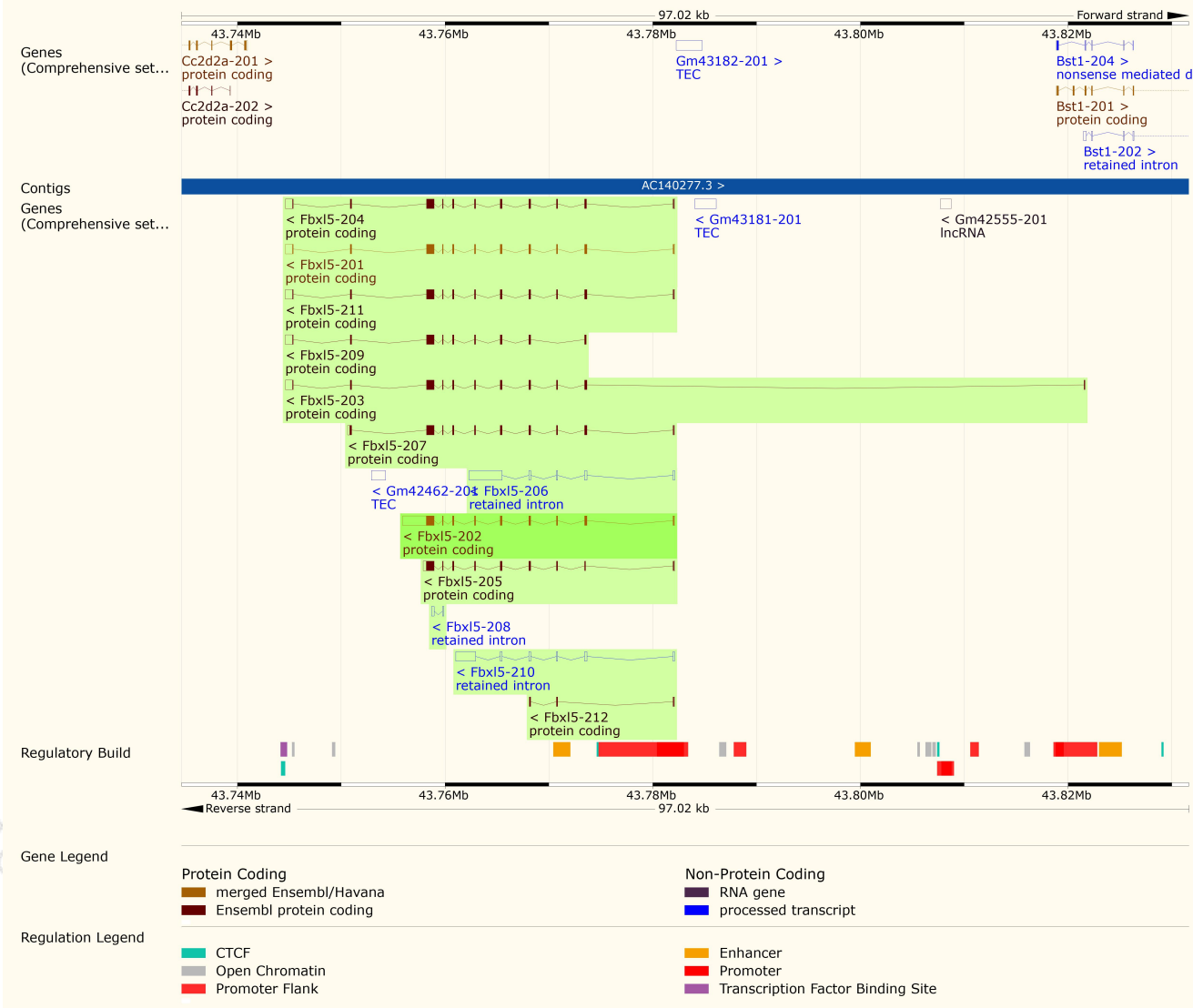
Official Symbol	Fbxl5 provided by MGI
Official Full Name	F-box and leucine-rich repeat protein 5 provided by MGI
Primary source	MGI:MGI:2152883
See related	Ensembl:ENSMUSG000000039753
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Fbl4; Fir4
Expression	Ubiquitous expression in cerebellum adult (RPKM 17.0), placenta adult (RPKM 16.2) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

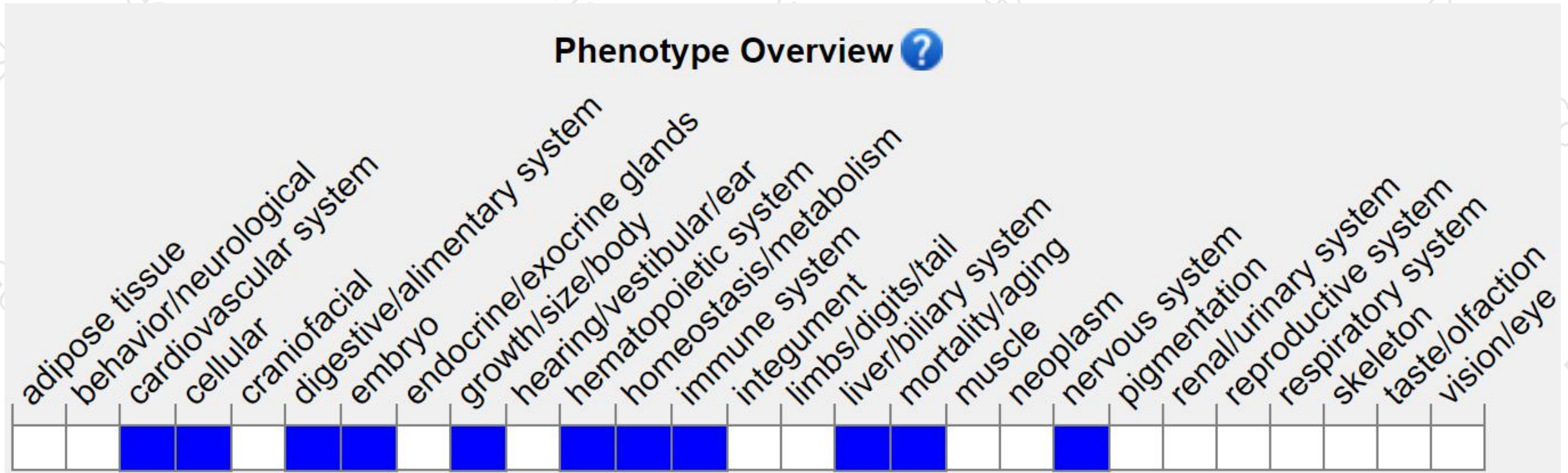
The gene has 12 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Translation ID	Biotype	CCDS	UniProt	Flags
Fbxl5-202	ENSMUST00000087465.10	4237	623aa	ENSMUSP00000084733.4	Protein coding	CCDS19263	Q8C2S5	TSL:1 GENCODE basic
Fbxl5-201	ENSMUST00000047857.15	2858	690aa	ENSMUSP00000045792.9	Protein coding	CCDS51489	Q8C2S5	TSL:1 GENCODE basic APPRIS P2
Fbxl5-211	ENSMUST00000196483.4	2814	689aa	ENSMUSP00000143703.1	Protein coding	-	Q8C2S5	TSL:1 GENCODE basic APPRIS ALT1
Fbxl5-204	ENSMUST00000119523.7	2801	673aa	ENSMUSP00000113557.1	Protein coding	-	D3Z584	TSL:5 GENCODE basic
Fbxl5-203	ENSMUST00000114047.9	2762	684aa	ENSMUSP00000109681.3	Protein coding	-	Q8C2S5	TSL:1 GENCODE basic
Fbxl5-209	ENSMUST00000141902.7	2517	611aa	ENSMUSP00000120338.1	Protein coding	-	F6W6I1	CDS 5' incomplete TSL:5
Fbxl5-207	ENSMUST00000124610.5	2306	679aa	ENSMUSP00000116720.2	Protein coding	-	F7BZC4	TSL:5 GENCODE basic
Fbxl5-205	ENSMUST00000121736.5	2144	580aa	ENSMUSP00000112444.1	Protein coding	-	Q8C2S5	TSL:1 GENCODE basic
Fbxl5-212	ENSMUST00000199055.1	374	107aa	ENSMUSP00000142582.1	Protein coding	-	A0A0G2JE06	CDS 3' incomplete TSL:5
Fbxl5-206	ENSMUST00000124421.1	3833	No protein	-	Retained intron	-	-	TSL:1
Fbxl5-210	ENSMUST00000143316.7	2731	No protein	-	Retained intron	-	-	TSL:1
Fbxl5-208	ENSMUST00000140469.2	397	No protein	-	Retained intron	-	-	TSL:2

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/>).

Mice homozygous for a null mutation display embryonic lethality before turning of the embryo with iron overload, growth retardation, and hemorrhage. Mice heterozygous for a knock-out allele exhibit abnormal iron homeostasis when fed a low iron diet.

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

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