

Fer1l5 Cas9-CKO Strategy

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Project Overview

Project Name

Fer1l5

Project type

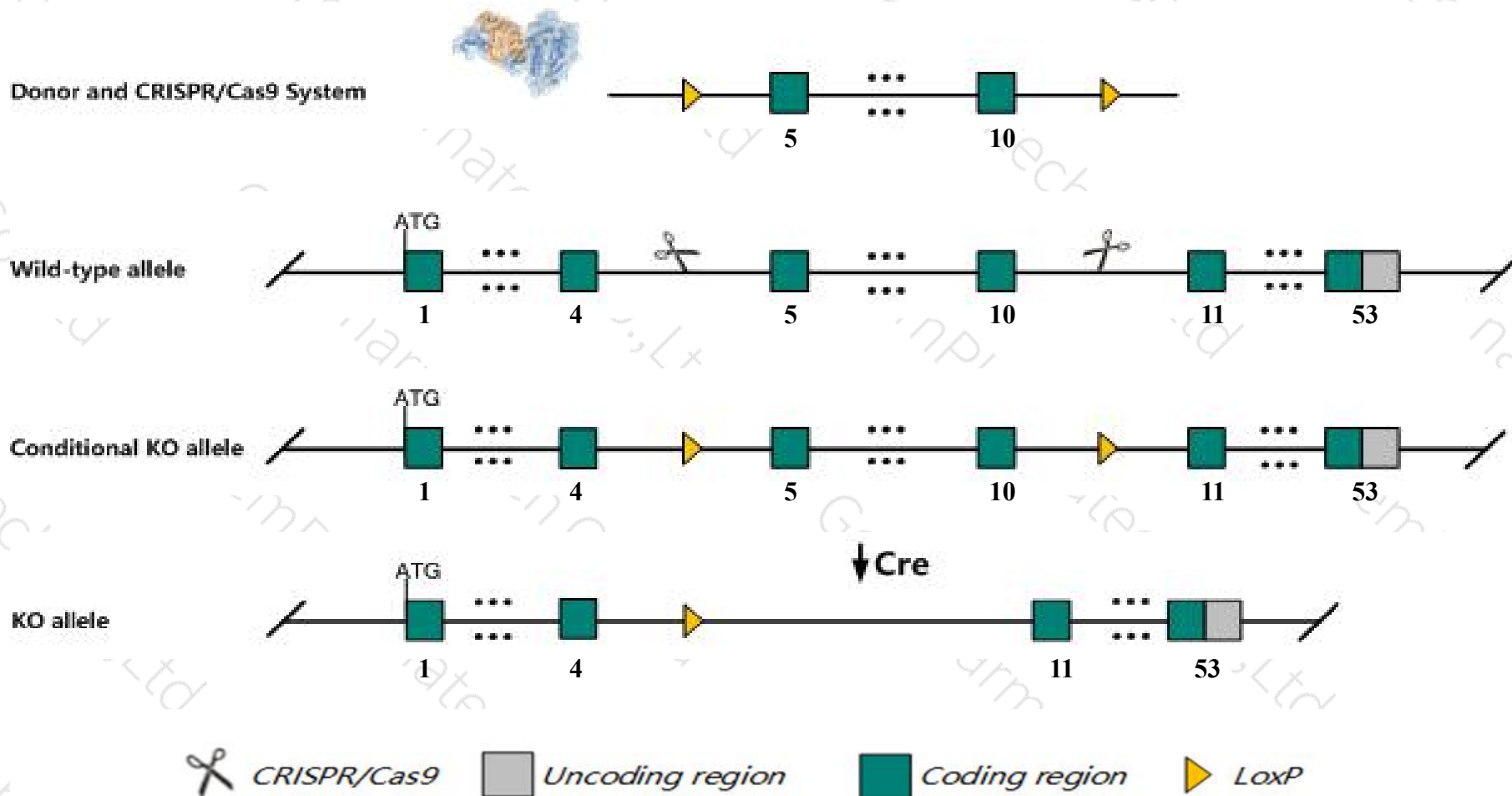
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fer1l5* gene. The schematic diagram is as follows:



- The *Fer1l5* gene has 3 transcripts. According to the structure of *Fer1l5* gene, exon5-exon10 of *Fer1l5*-202 (ENSMUST00000179162.6) transcript is recommended as the knockout region. The region contains 439bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fer1l5* 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.

Notice

- The *Fer1l5* gene is located on the Chr1. 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)

Fer1l5 fer-1-like 5 (C. elegans) [*Mus musculus* (house mouse)]

Gene ID: 100534273, updated on 12-Nov-2019

Summary

Official Symbol Fer1l5 provided by [MGI](#)

Official Full Name fer-1-like 5 (C. elegans) provided by [MGI](#)

Primary source [MGI:MGI:3616091](#)

See related [Ensembl:ENSMUSG00000037432](#)

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 4930533C12Rik

Expression Biased expression in testis adult (RPKM 20.5) and thymus adult (RPKM 1.0) [See more](#)

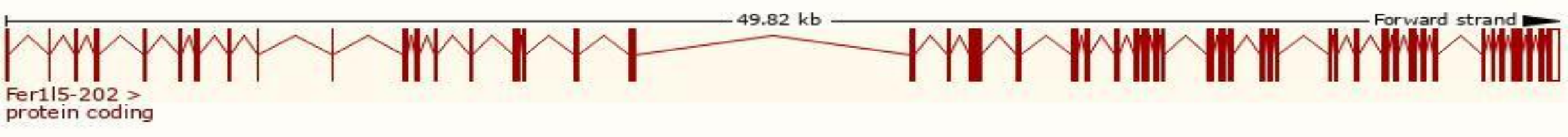
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

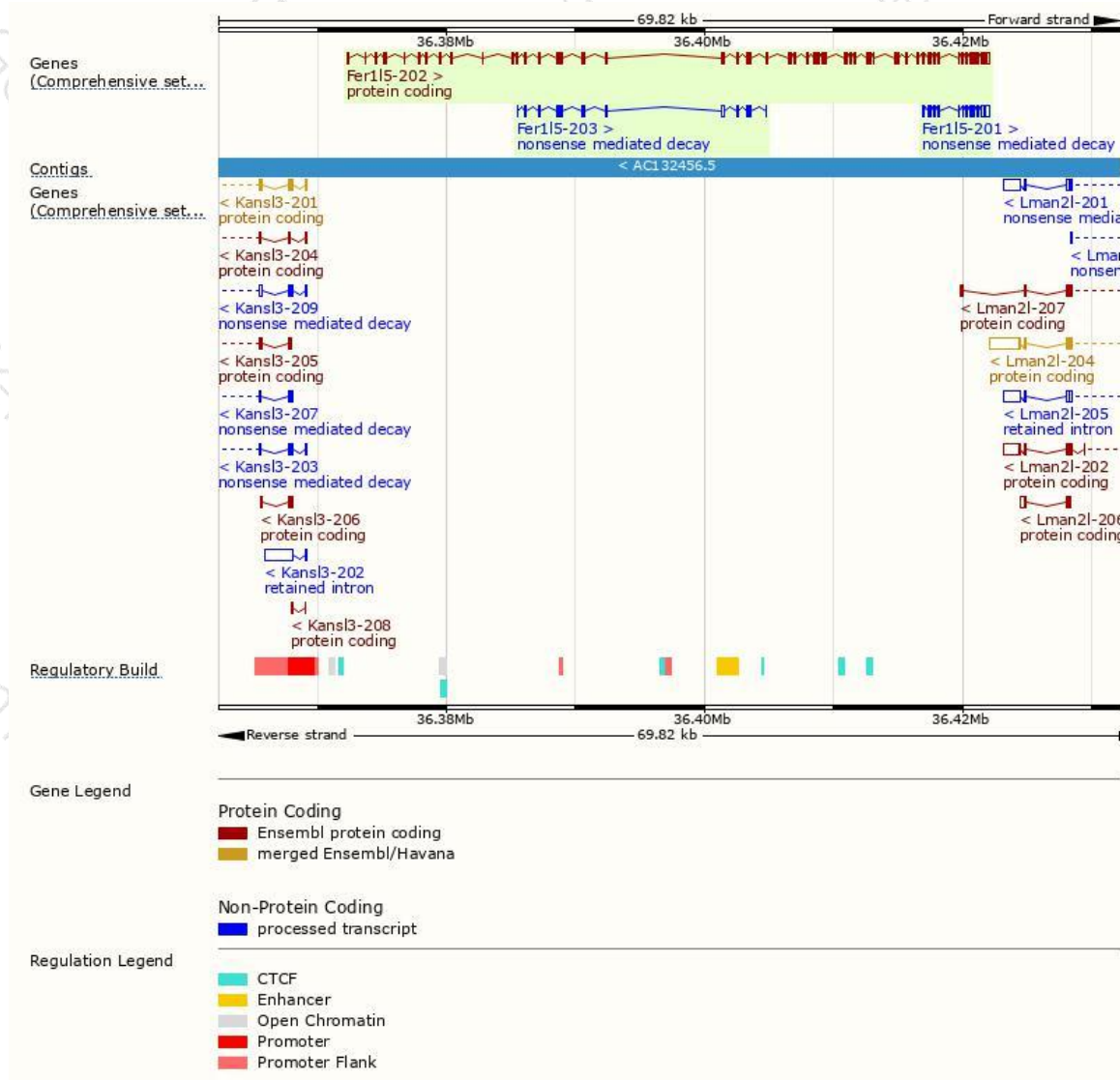
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fer1l5-202	ENSMUST00000179162.6	6315	2038aa	Protein coding	CCDS78562	P0DM40	TSL:1 GENCODE basic APPRIS P1
Fer1l5-201	ENSMUST00000140452.3	1723	209aa	Nonsense mediated decay	-	A0A0J9YV09	CDS 5' incomplete TSL:1
Fer1l5-203	ENSMUST00000202030.1	1420	261aa	Nonsense mediated decay	-	A0A0J9YTZ2	CDS 5' incomplete TSL:1

The strategy is based on the design of *Fer1l5-202* 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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