

Il1f10 Cas9-CKO Strategy

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Project Overview

Project Name

Il1f10

Project type

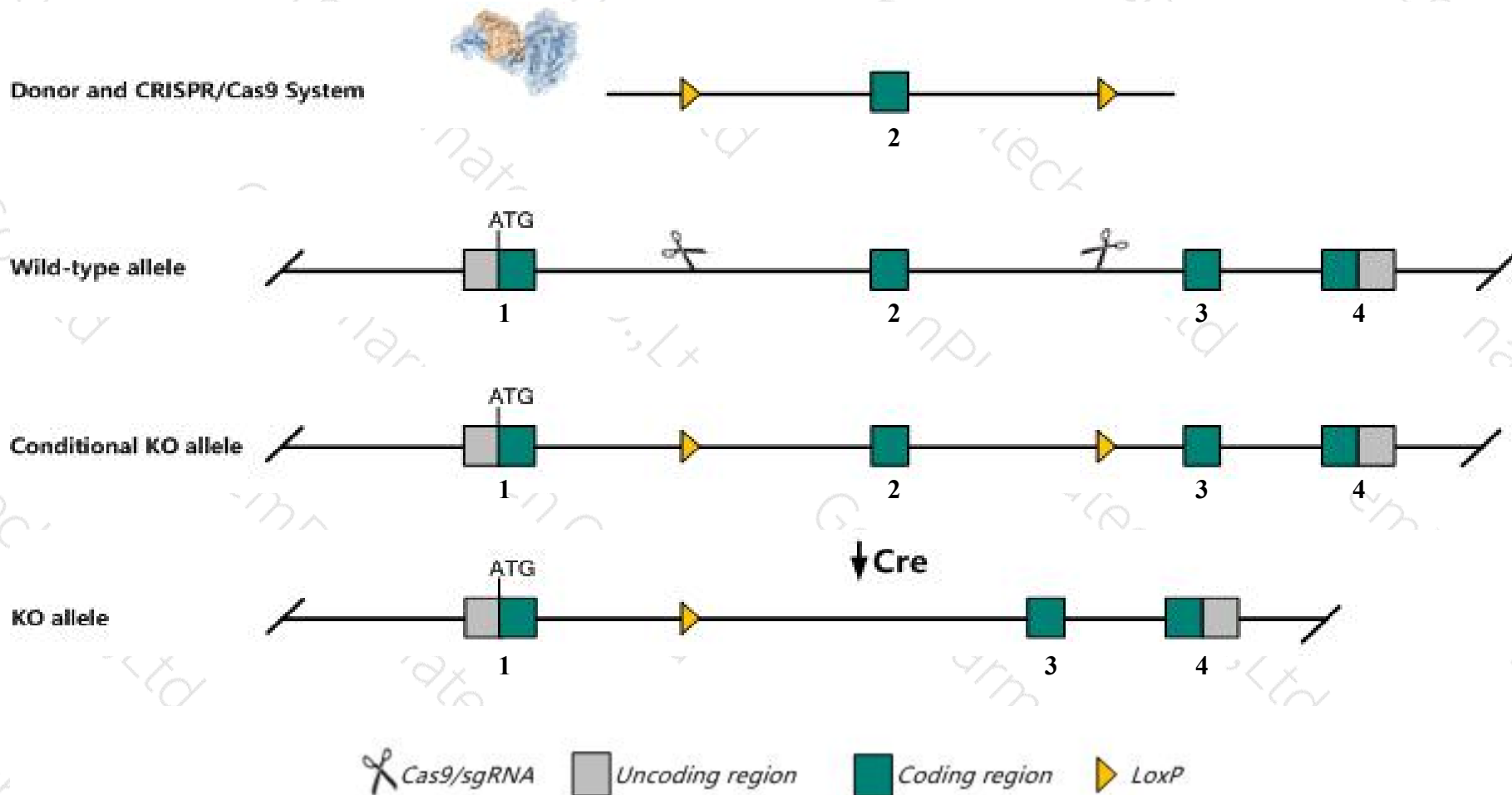
Cas9-CKO

Strain background

C57BL/6J

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Il1f10* gene. The schematic diagram is as follows:



Technical routes

- The *Il1f10* gene has 1 transcript. According to the structure of *Il1f10* gene, exon2 of *Il1f10-201* (ENSMUST00000058056.1) transcript is recommended as the knockout region. The region contains 86bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Il1f10* gene. The brief process is as follows: sgRNA was transcribed in vitro, donor vector was constructed. Cas9, sgRNA and Donor were microinjected into the fertilized eggs of C57BL/6J 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/6J mice.
- The flox mice was 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 *Il1f10* gene is located on the Chr2. 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)

Il1f10 interleukin 1 family, member 10 [Mus musculus (house mouse)]

Gene ID: 215274, updated on 31-Jan-2019

Summary



Official Symbol	Il1f10 provided by MGI
Official Full Name	interleukin 1 family, member 10 provided by MGI
Primary source	MGI:MGI:2652548
See related	Ensembl:ENSMUSG00000046845
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Expression	Low expression observed in reference dataset See more
Orthologs	human all

Transcript information (Ensembl)

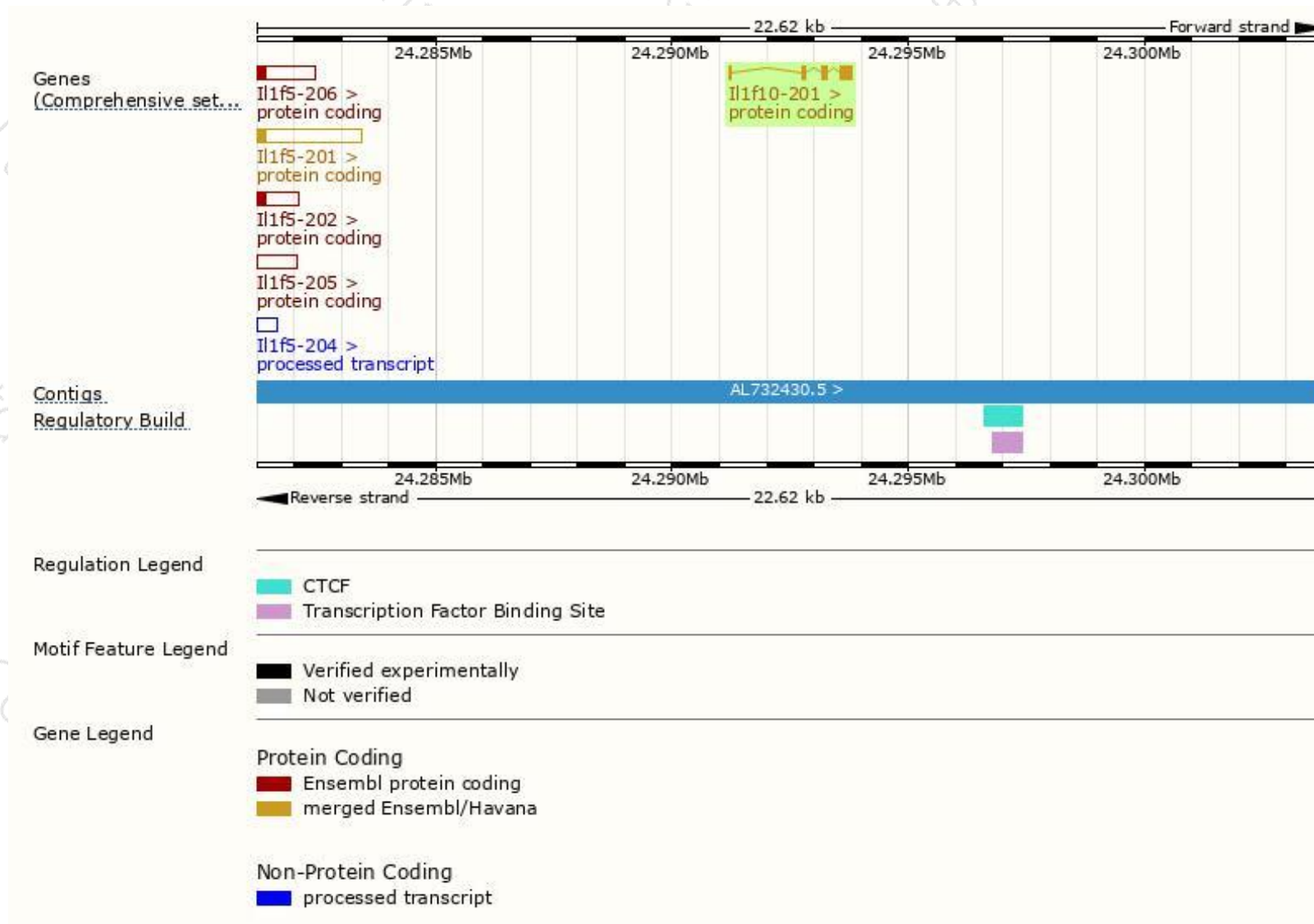
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Il1f10-201	ENSMUST00000058056.1	538	152aa	Protein coding	CCDS15735	Q3KNF2 Q8R459	TSL:1 GENCODE basic APPRIS P1

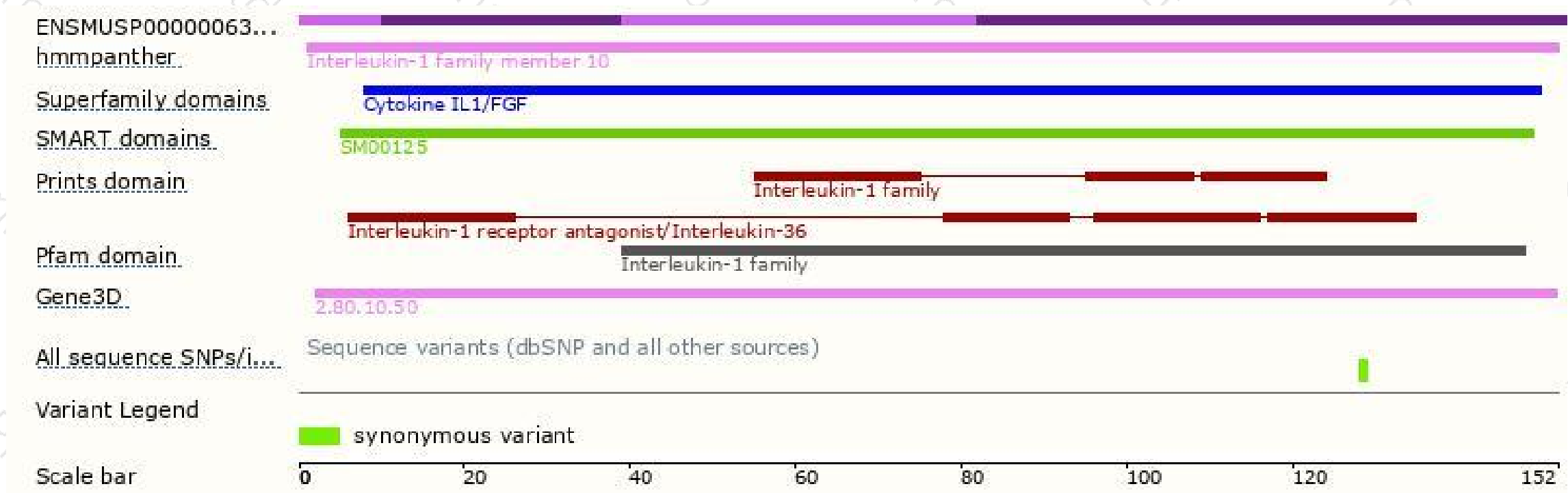
The strategy is based on the design of *Il1f10-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

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