

Il1r2 Cas9-KO Strategy

Designer:

Jing Jin

Reviewer:

Yang Zeng

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Project Overview

Project Name

Il1r2

Project type

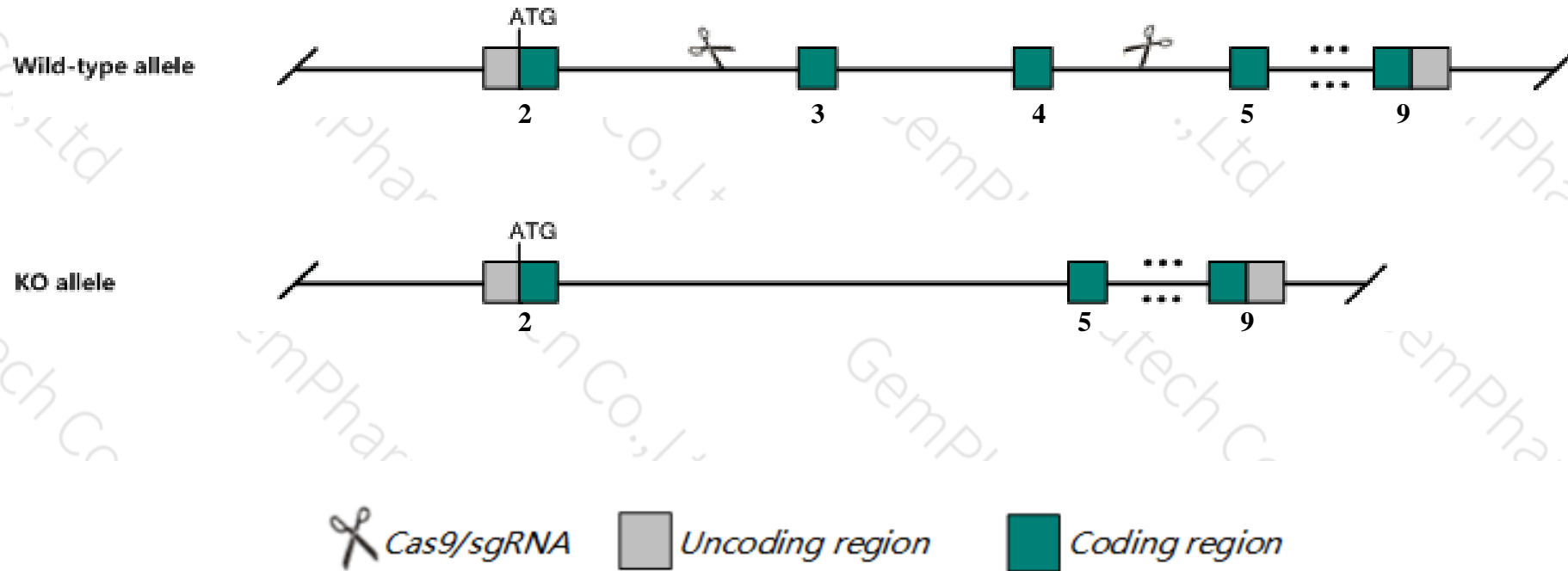
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Il1r2* gene. The schematic diagram is as follows:



- The *Il1r2* gene has 4 transcripts. According to the structure of *Il1r2* gene, exon3-exon4 of *Il1r2-201* (ENSMUST00000027243.12) transcript is recommended as the knockout region. The region contains 440bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Il1r2* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and 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.

- Transcript *Illr2*-203 may not be affected.
- The *Illr2* 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Il1r2 interleukin 1 receptor, type II [*Mus musculus* (house mouse)]

Gene ID: 16178, updated on 12-Aug-2019

Summary



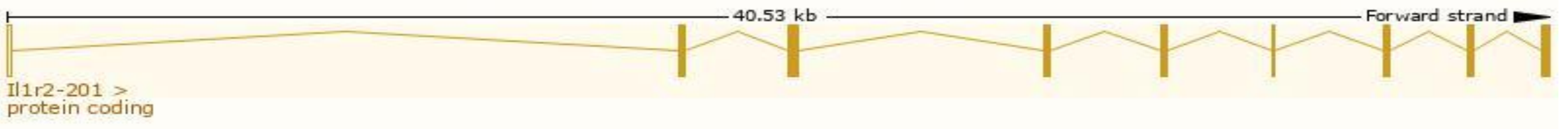
Official Symbol	Il1r2 provided by MGI
Official Full Name	interleukin 1 receptor, type II provided by MGI
Primary source	MGI:MGI:96546
See related	Ensembl:ENSMUSG00000026073
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	CD121b; Il1r-2
Expression	Biased expression in placenta adult (RPKM 4.5), mammary gland adult (RPKM 1.6) and 7 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

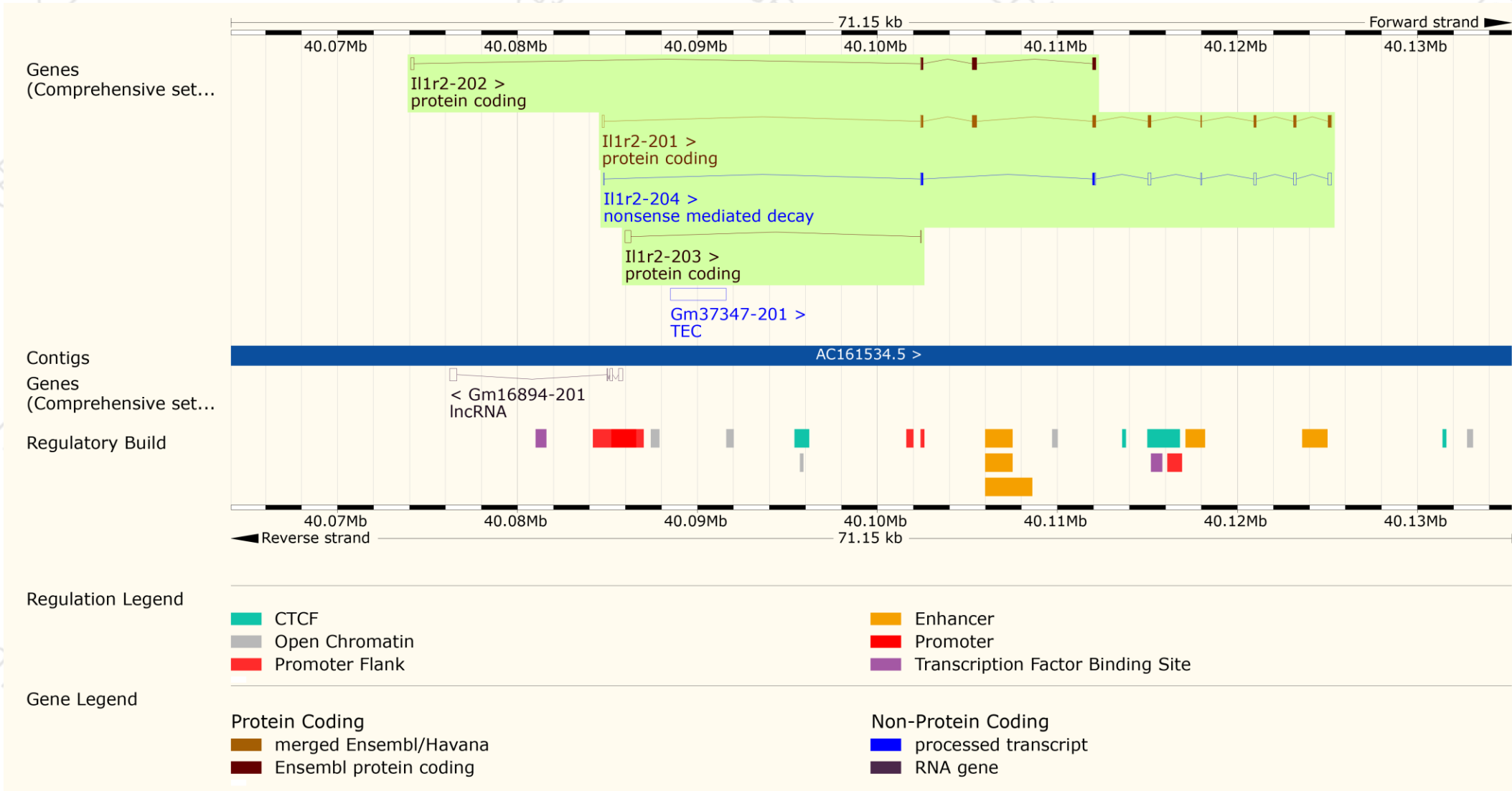
The gene has 4 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Il1r2-201	ENSMUST00000027243.12	1419	410aa	Protein coding	CCDS14909	P27931 Q4FK69	TSL:1 GENCODE basic APPRIS P1
Il1r2-202	ENSMUST00000191671.5	760	183aa	Protein coding	-	A0A0A6YX83	CDS 3' incomplete TSL:3
Il1r2-203	ENSMUST00000194913.1	366	2aa	Protein coding	-	-	CDS 3' incomplete TSL:3
Il1r2-204	ENSMUST00000195770.1	1054	75aa	Nonsense mediated decay	-	A0A0A6YX23	TSL:1

The strategy is based on the design of *Il1r2-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain

