

Ifna5 Cas9-CKO Strategy

Designer: Yanhua Shen

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Project Overview



Project Name

Ifna5

Project type

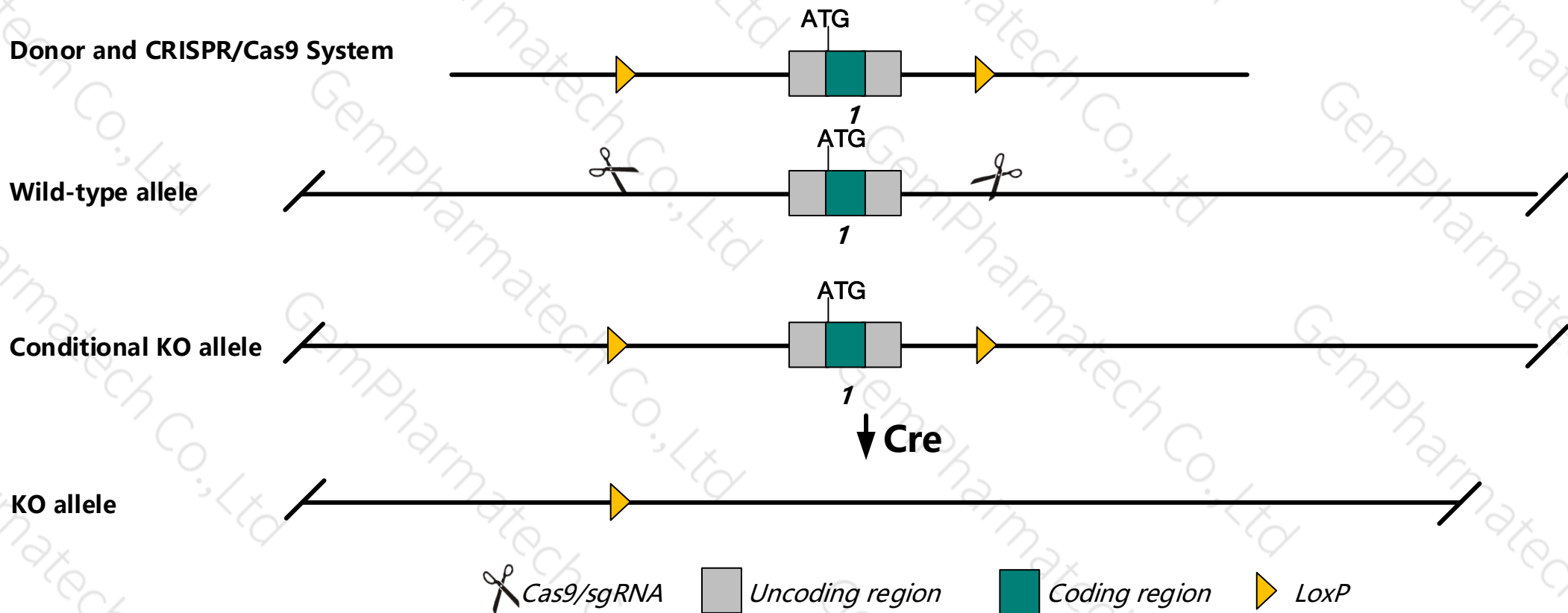
Cas9-CKO

Strain background

C57BL/6J

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ifna5* gene. The schematic diagram is as follows:



- The *Ifna5* gene has 1 transcript. According to the structure of *Ifna5* gene, exon1 of *Ifna5-201* (ENSMUST00000102804.1) transcript is recommended as the knockout region. The region contains all of coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ifna5* 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.

- The *Ifna5* gene is located on the Chr4. 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)

Ifna5 interferon alpha 5 [*Mus musculus* (house mouse)]

Gene ID: 15968, updated on 31-Jan-2019

Summary

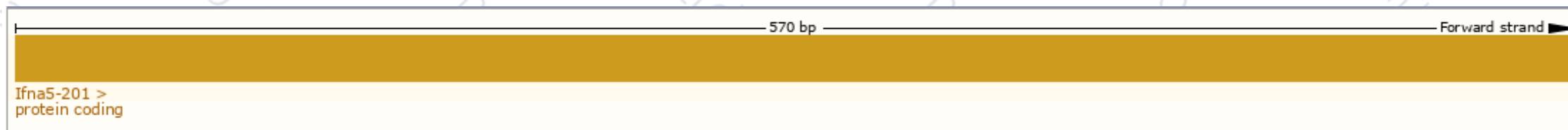
Official Symbol	Ifna5 provided by MGI
Official Full Name	interferon alpha 5 provided by MGI
Primary source	MGI:MGI:107663
See related	Ensembl:ENSMUSG00000096682
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Ifa5

Transcript information (Ensembl)

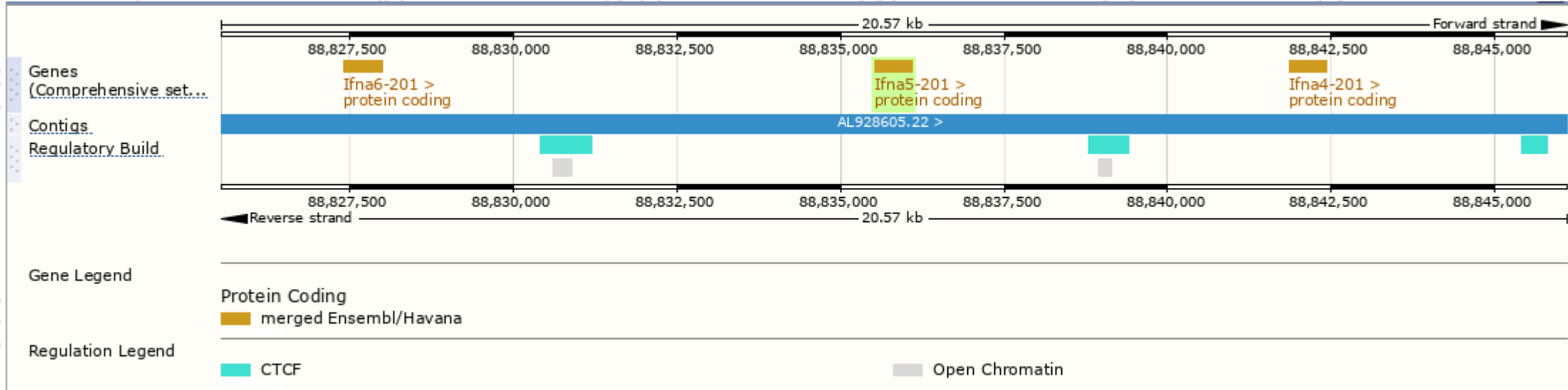
The gene has 1 transcript, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ifna5-201	ENSMUST00000102804.1	570	189aa	Protein coding	CCDS18345	Q810G2	TSL:NA GENCODE basic APPRIS P1

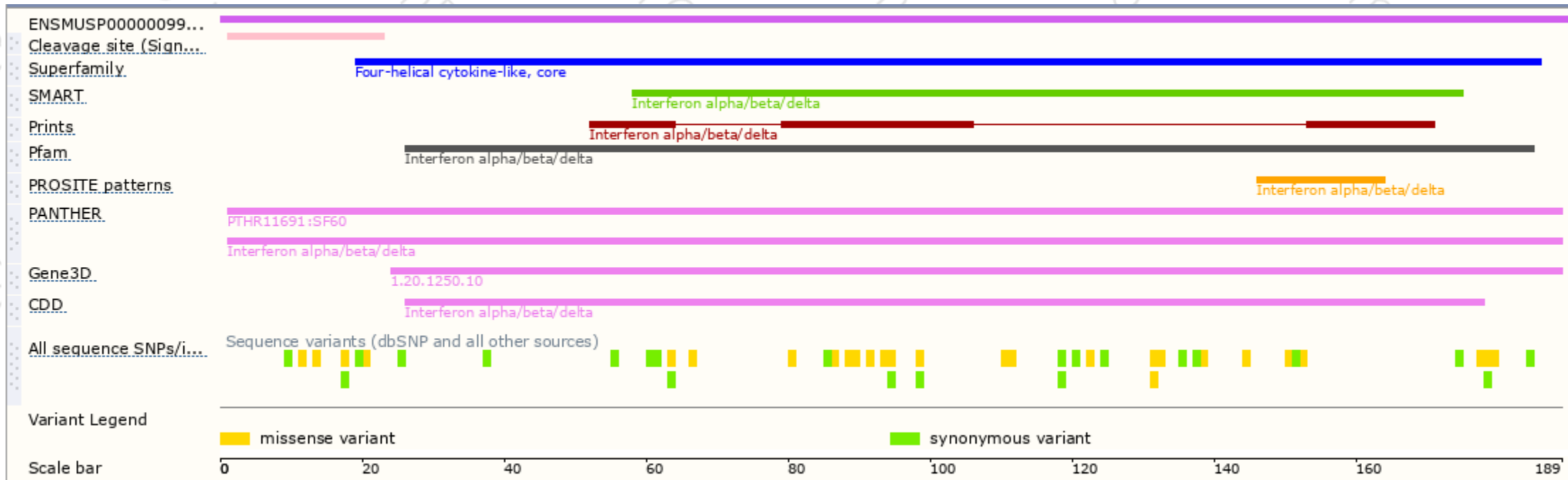
The strategy is based on the design of *Ifna5-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 025-5864 1534

