

Dcaf15 Cas9-CKO Strategy

Designer:

Project Overview

Project Name

Dcaf15

Project type

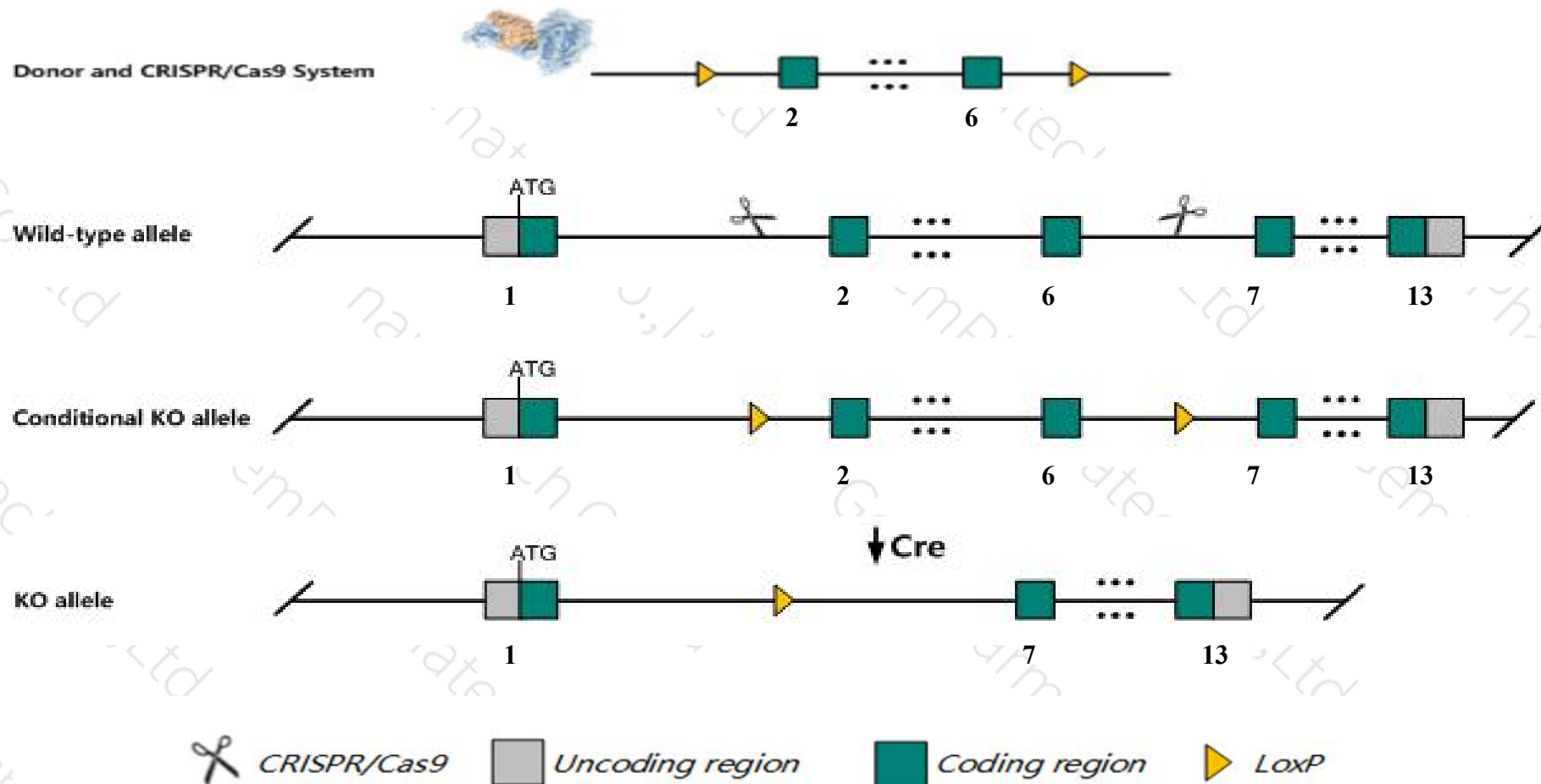
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dcaf15* gene. The schematic diagram is as follows:



- The *Dcaf15* gene has 3 transcripts. According to the structure of *Dcaf15* gene, exon2-exon6 of *Dcaf15-201* (ENSMUST00000041367.8) transcript is recommended as the knockout region. The region contains 652bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dcaf15* gene. The brief process is as follows: gRNA was transcribed in vitro, donor was constructed. Cas9, gRNA 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 *Dcaf15* gene is located on the Chr8. 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 gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information (NCBI)

Dcaf15 DDB1 and CUL4 associated factor 15 [Mus musculus (house mouse)]

Gene ID: 212123, updated on 31-Jan-2019

Summary



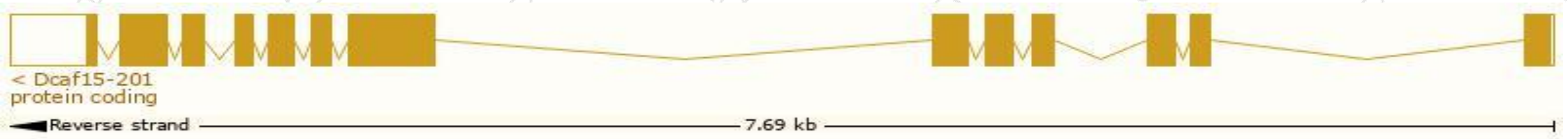
Official Symbol	Dcaf15 provided by MGI
Official Full Name	DDB1 and CUL4 associated factor 15 provided by MGI
Primary source	MGI:MGI:2684420
See related	Ensembl:ENSMUSG000000037103
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	6720484B16
Expression	Ubiquitous expression in testis adult (RPKM 77.9), thymus adult (RPKM 65.5) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

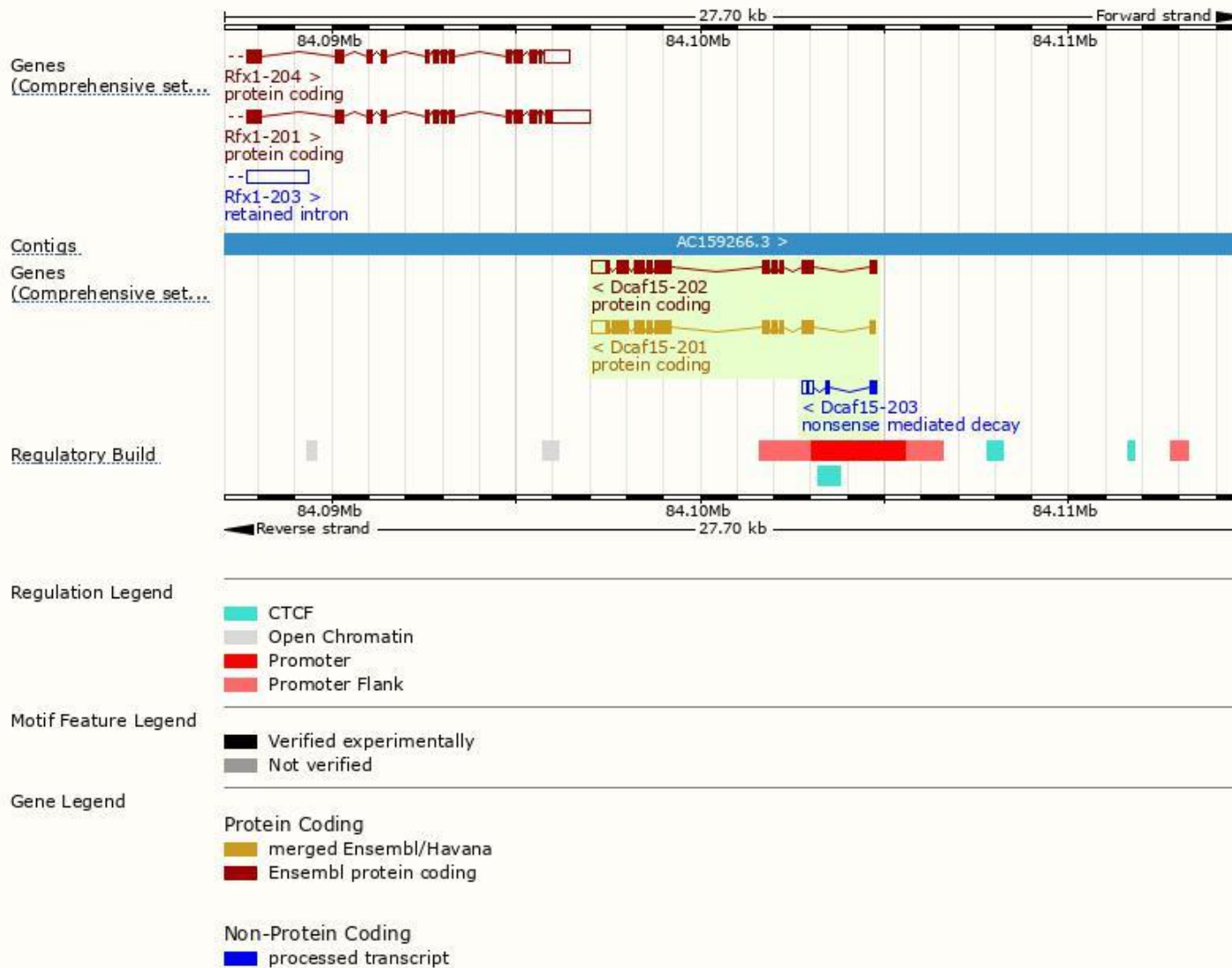
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dcaf15-201	ENSMUST00000041367.8	2312	638aa	Protein coding	CCDS40406	Q6PFH3	TSL:1 GENCODE basic
Dcaf15-202	ENSMUST00000210279.1	2199	600aa	Protein coding	-	Q6PFH3	TSL:1 GENCODE basic APPRIS P1
Dcaf15-203	ENSMUST00000210625.1	432	51aa	Nonsense mediated decay	-	A0A1B0GRT7	TSL:2

The strategy is based on the design of *Dcaf15-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

