

C1qtnf6 Cas9-CKO Strategy

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Project Overview

Project Name

C1qtnf6

Project type

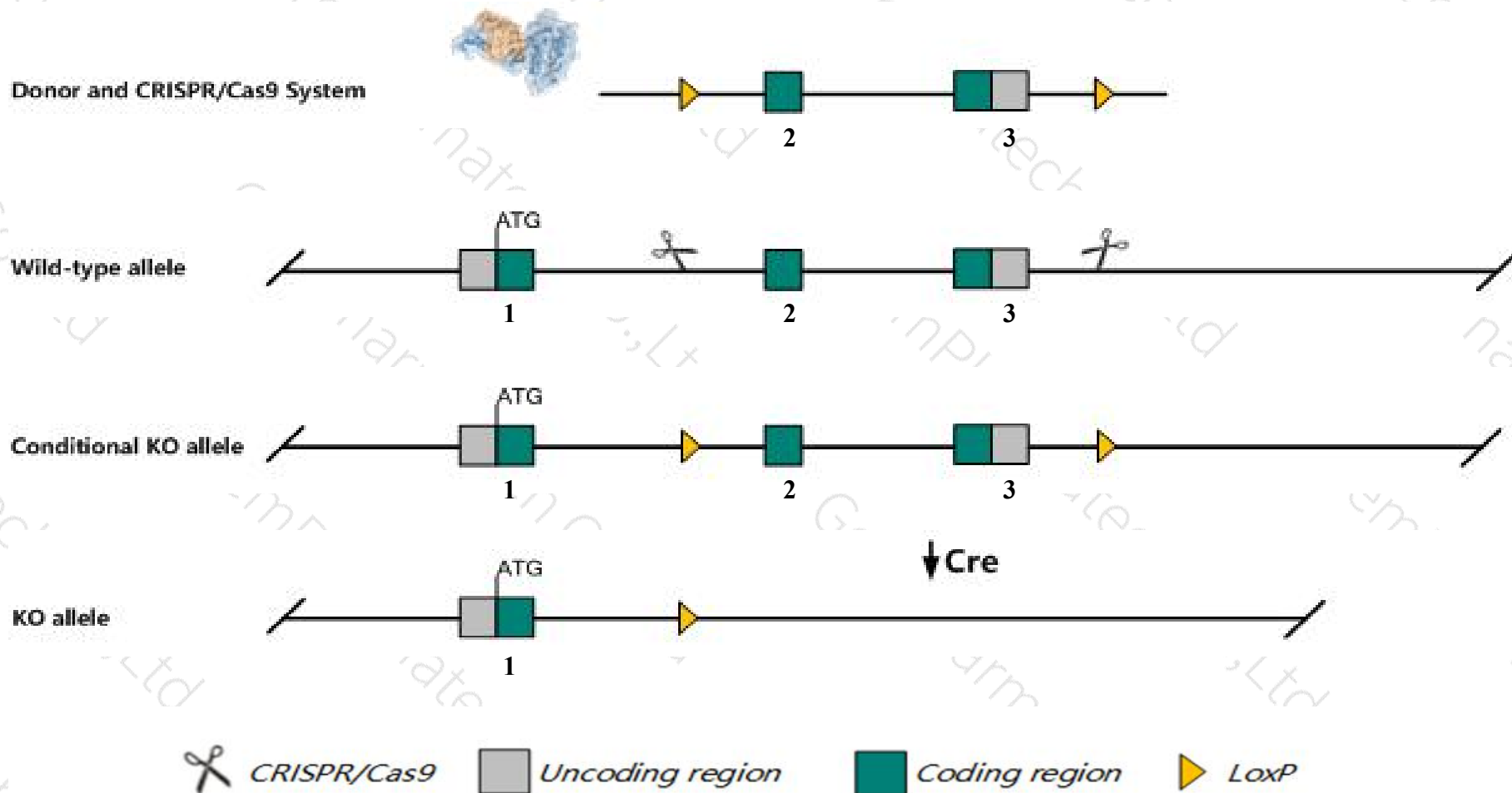
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Clqtnf6* gene. The schematic diagram is as follows:



- The *Clqtnf6* gene has 5 transcripts. According to the structure of *Clqtnf6* gene, exon2-exon3 of *Clqtnf6-201* (ENSMUST00000023075.8) transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Clqtnf6* 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 *Clqtnf6* gene is located on the Chr15. 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)

C1qtnf6 C1q and tumor necrosis factor related protein 6 [Mus musculus (house mouse)]

Gene ID: 72709, updated on 31-Jan-2019

Summary



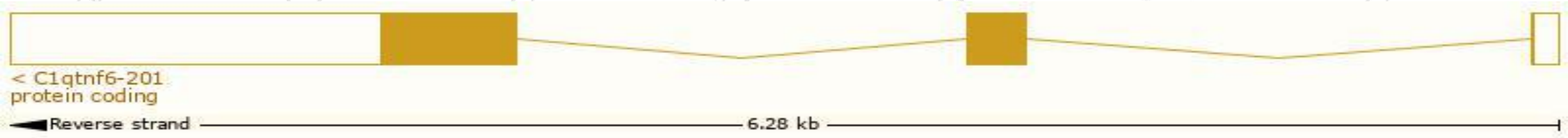
Official Symbol	C1qtnf6 provided by MGI
Official Full Name	C1q and tumor necrosis factor related protein 6 provided by MGI
Primary source	MGI:MGI:1919959
See related	Ensembl:ENSMUSG00000022440
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2810036M19Rik, Adiq, CTRP6
Expression	Broad expression in ovary adult (RPKM 62.8), limb E14.5 (RPKM 28.7) and 21 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

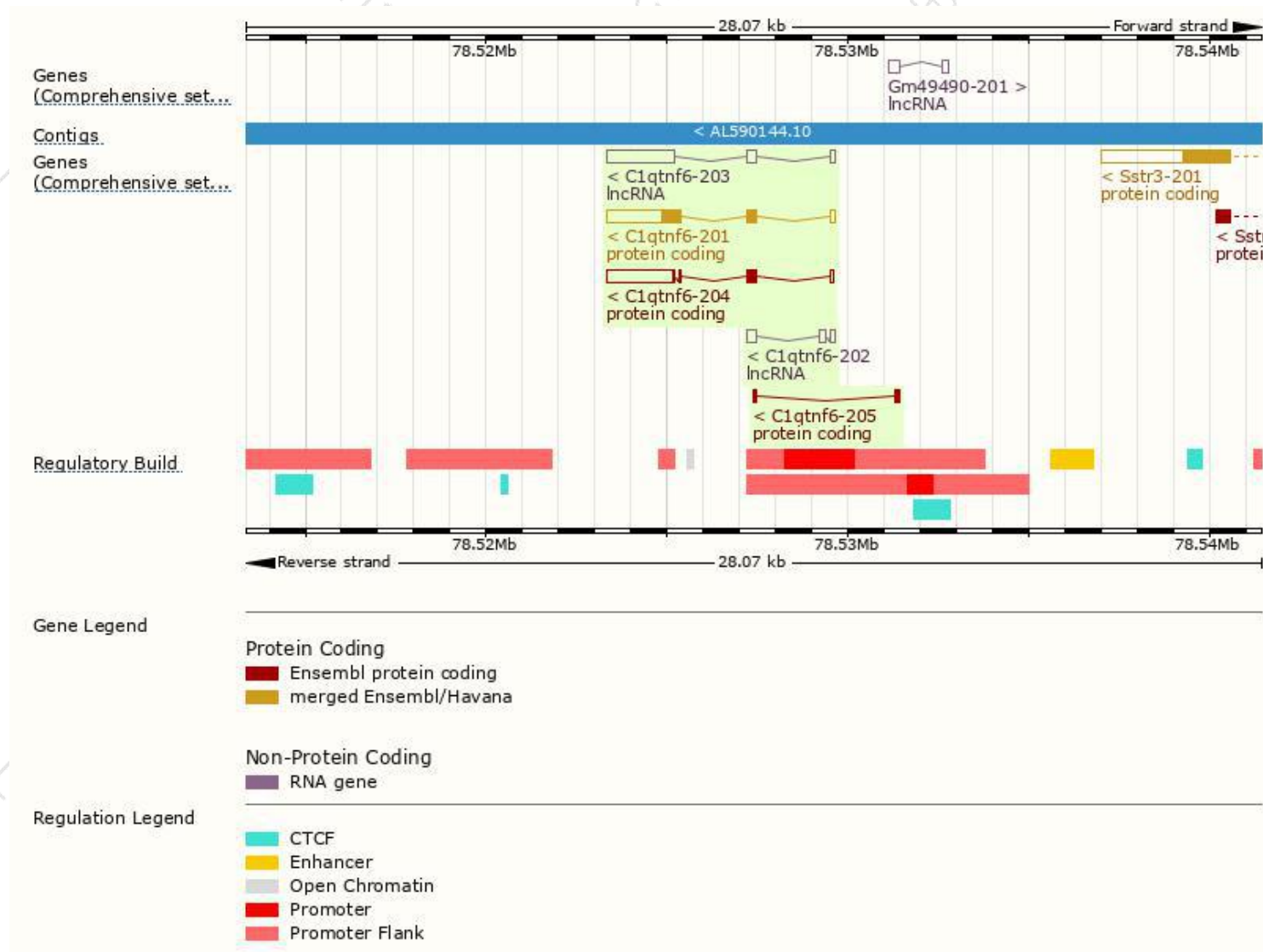
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
C1qtnf6-201	ENSMUST00000023075.8	2402	264aa	Protein coding	CCDS37134	A0A3B0IP29 Q6IR41	TSL:1 GENCODE basic APPRIS P1
C1qtnf6-204	ENSMUST00000229185.1	2201	100aa	Protein coding	-	A0A2R8W6P9	GENCODE basic
C1qtnf6-205	ENSMUST00000230943.1	199	55aa	Protein coding	-	A0A2R8VHK7	CDS 3' incomplete
C1qtnf6-203	ENSMUST00000147093.1	2191	No protein	lncRNA	-	-	TSL:1
C1qtnf6-202	ENSMUST00000137827.2	525	No protein	lncRNA	-	-	TSL:1

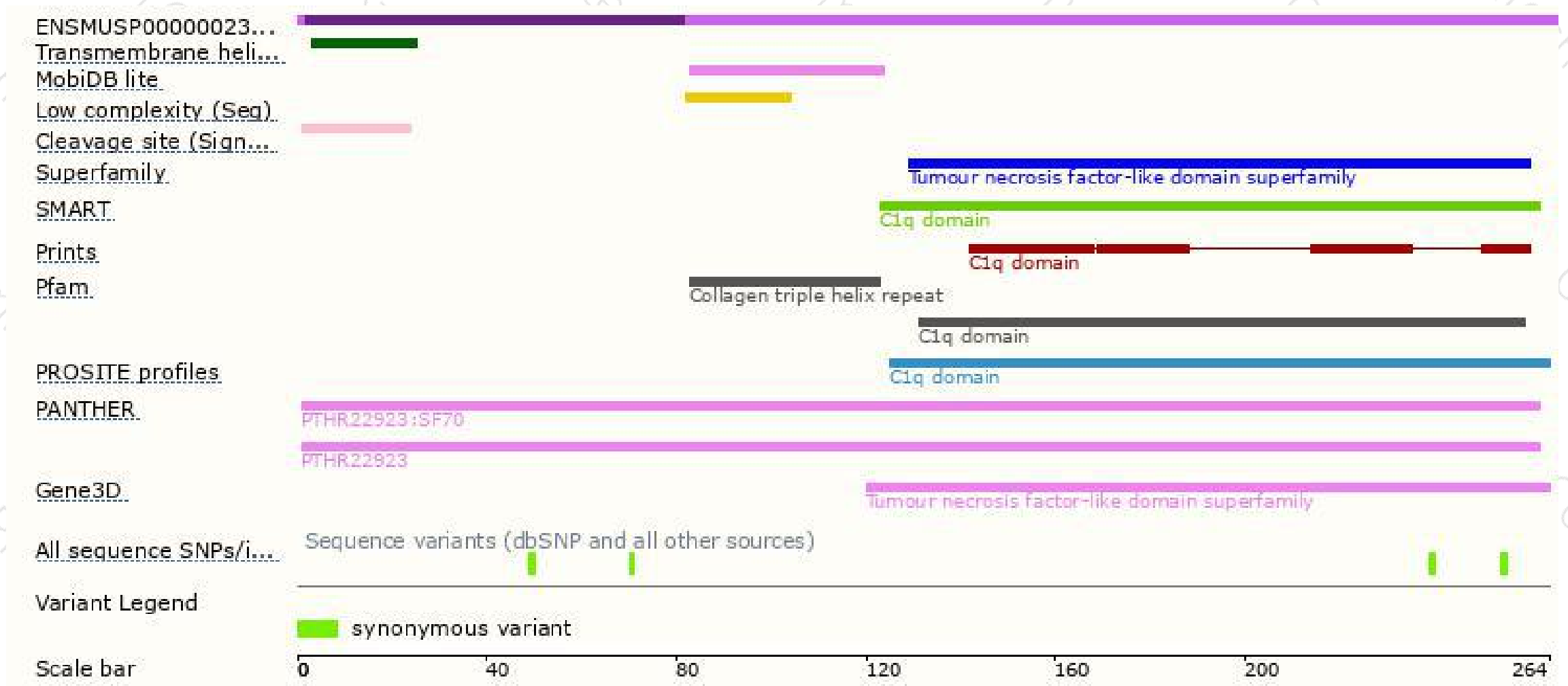
The strategy is based on the design of *C1qtnf6-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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