

Anln Cas9-CKO Strategy

Designer:

Huan Fan

Design Date:

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Project Overview

Project Name

Anln

Project type

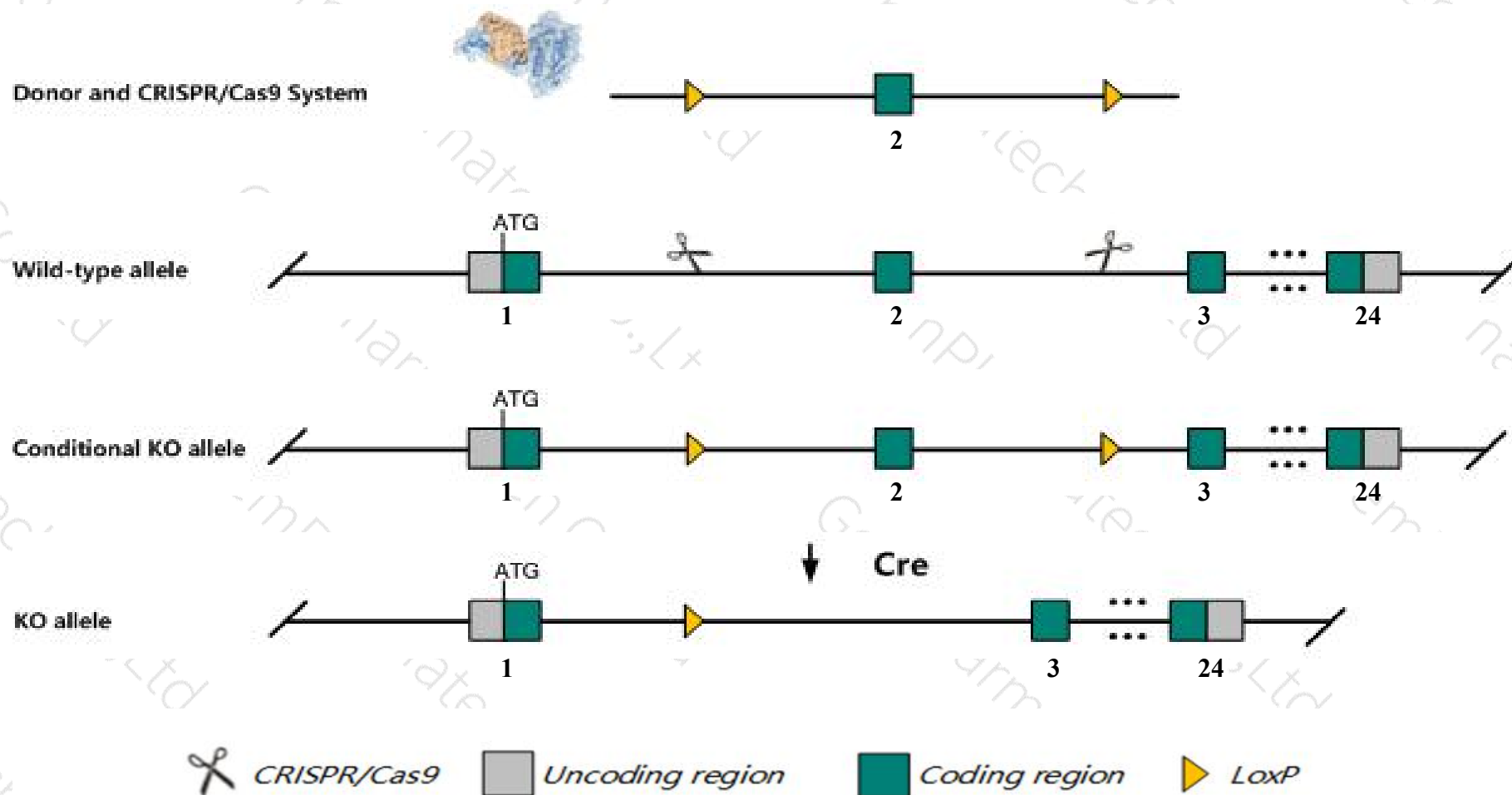
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



Technical routes

- The *Anln* gene has 6 transcripts. According to the structure of *Anln* gene, exon2 of *Anln-201* (ENSMUST00000040912.8) transcript is recommended as the knockout region. The region contains 157bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Anln* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Anln* gene is located on the Chr9. 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.
- Transcript *Anln-202,204* may not be affected.
- 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)

Anln anillin, actin binding protein [Mus musculus (house mouse)]

Gene ID: 68743, updated on 31-Jan-2019

Summary



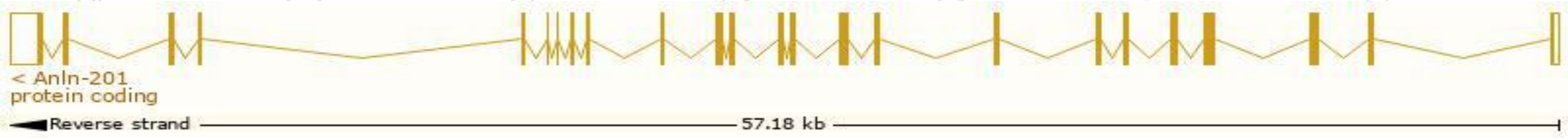
Official Symbol	Anln provided by MGI
Official Full Name	anillin, actin binding protein provided by MGI
Primary source	MGI:MGI:1920174
See related	Ensembl:ENSMUSG00000036777
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110037A17Rik, 2900037I21Rik, C78101, Scraps
Expression	Broad expression in liver E14 (RPKM 8.2), CNS E11.5 (RPKM 7.1) and 18 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

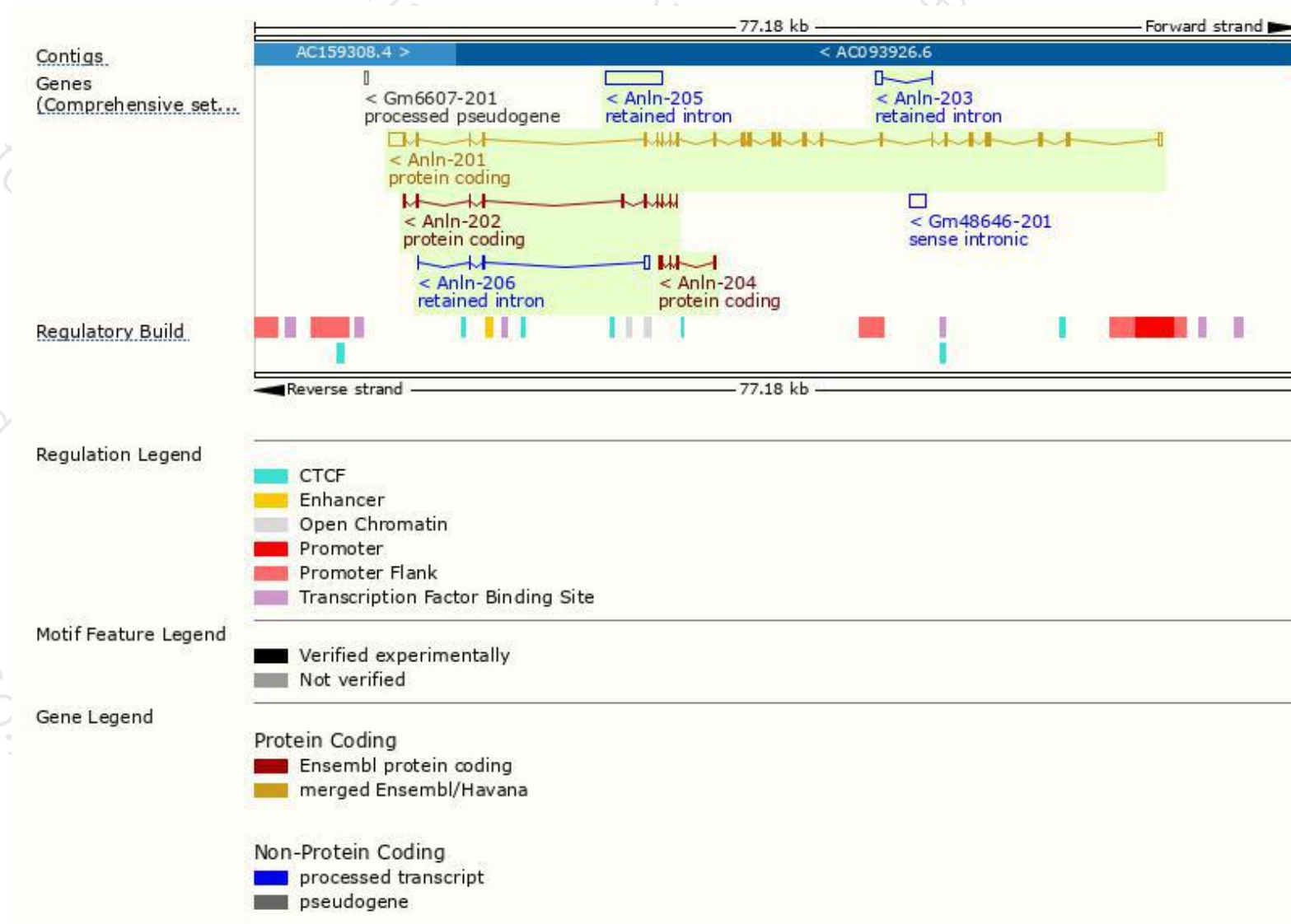
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Anln-201	ENSMUST00000040912.8	4605	1121aa	Protein coding	CCDS22927	Q8K298	TSL:1 GENCODE basic APPRIS P1
Anln-202	ENSMUST00000215006.1	718	239aa	Protein coding	-	A0A1L1SS34	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:5
Anln-204	ENSMUST00000216793.1	443	122aa	Protein coding	-	A0A1L1SS35	CDS 5' incomplete TSL:2
Anln-205	ENSMUST00000216897.1	4206	No protein	Retained intron	-	-	TSL:NA
Anln-203	ENSMUST00000215486.1	622	No protein	Retained intron	-	-	TSL:2
Anln-206	ENSMUST00000217010.1	554	No protein	Retained intron	-	-	TSL:2

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



Genomic location distribution



Protein domain

ENSMUSP00000045...

MobiDB lite

Low complexity (Seq)

Conserved Domains

Coiled-coils (Ncoils)

hmmpanther

PTHR21538

PTHR21538:SF23

Superfamily domains

SSF50729

SMART domains

Pleckstrin homolo

Pfam domain

Anillin, N-terminal domain

Anillin homology domain

Pleckstrin homolo

PROSITE profiles

Pleckstrin homolo

Gene3D

PH-like domain su

All sequence SNPs/i....

Sequence variants (dbSNP and all other sources)

Variant Legend

missense variant
synonymous variant

Scale bar

0 100 200 300 400 500 600 700 800 900 1000 1121

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

Tel: 400-9660890

