

Ano3 Cas9-CKO Strategy

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Project Overview

Project Name

Ano3

Project type

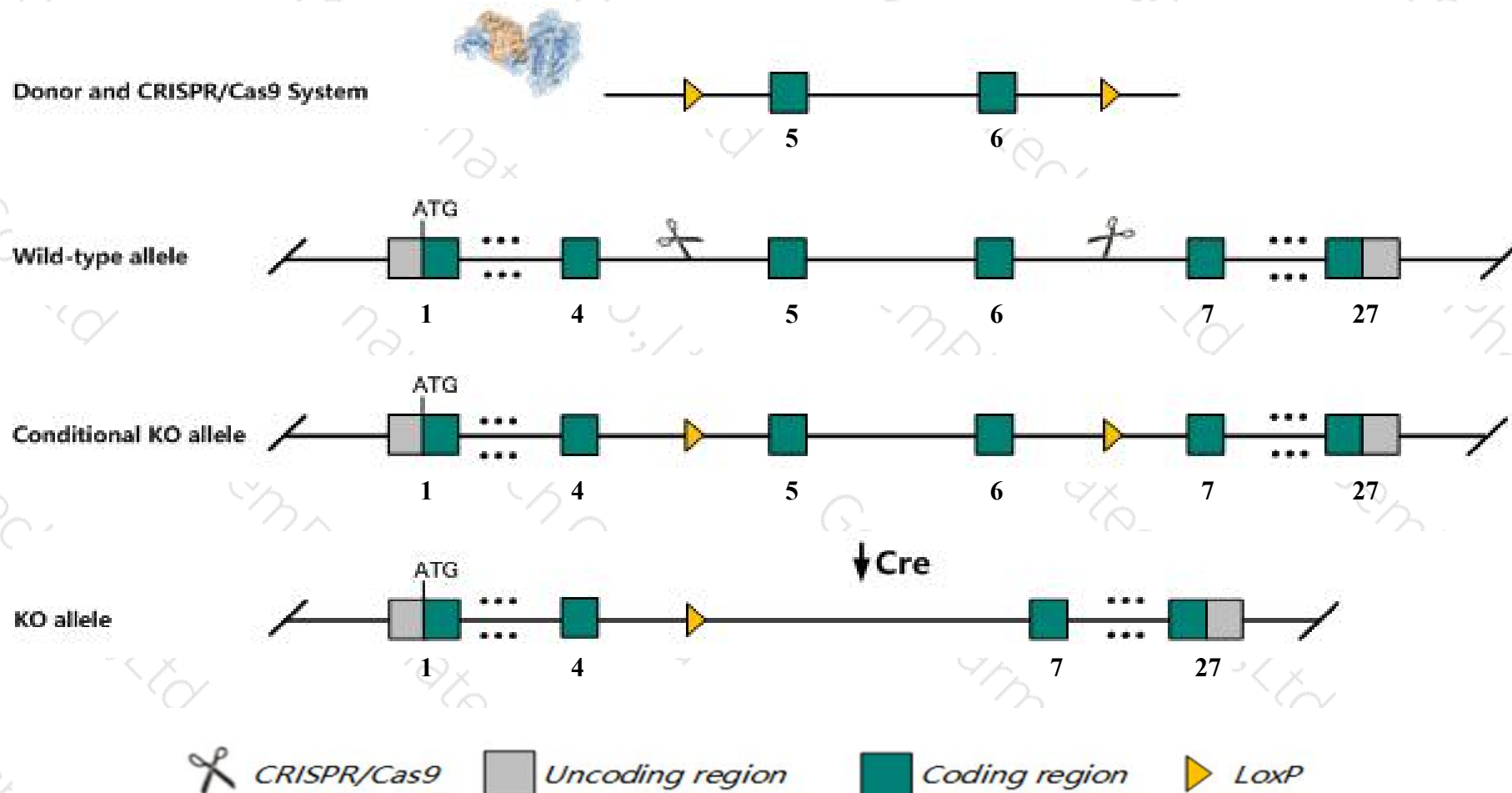
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ano3* gene. The schematic diagram is as follows:



- The *Ano3* gene has 3 transcripts. According to the structure of *Ano3* gene, exon5-exon6 of *Ano3-201* (ENSMUST00000099623.9) transcript is recommended as the knockout region. The region contains 260bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ano3* 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

- *Ano3-203* transcript is incomplete, so the effect on it is unknown.
- The *Ano3* gene is located on the Chr2. 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)

Ano3 anoctamin 3 [*Mus musculus* (house mouse)]

Gene ID: 228432, updated on 3-May-2020

Summary



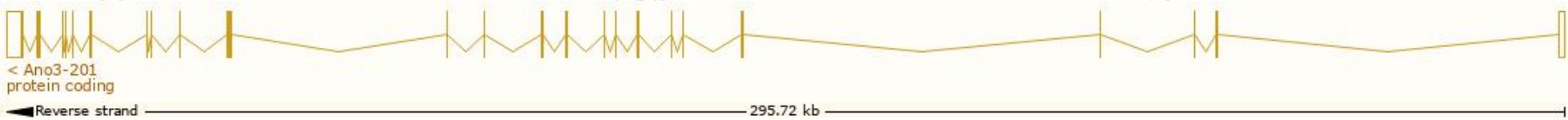
Official Symbol	Ano3 provided by MGI
Official Full Name	anoctamin 3 provided by MGI
Primary source	MGI:MGI:3613666
See related	Ensembl:ENSMUSG00000074968
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Tmem16c; AI838058; B230324K02Rik
Expression	Biased expression in frontal lobe adult (RPKM 9.5), cortex adult (RPKM 9.0) and 2 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

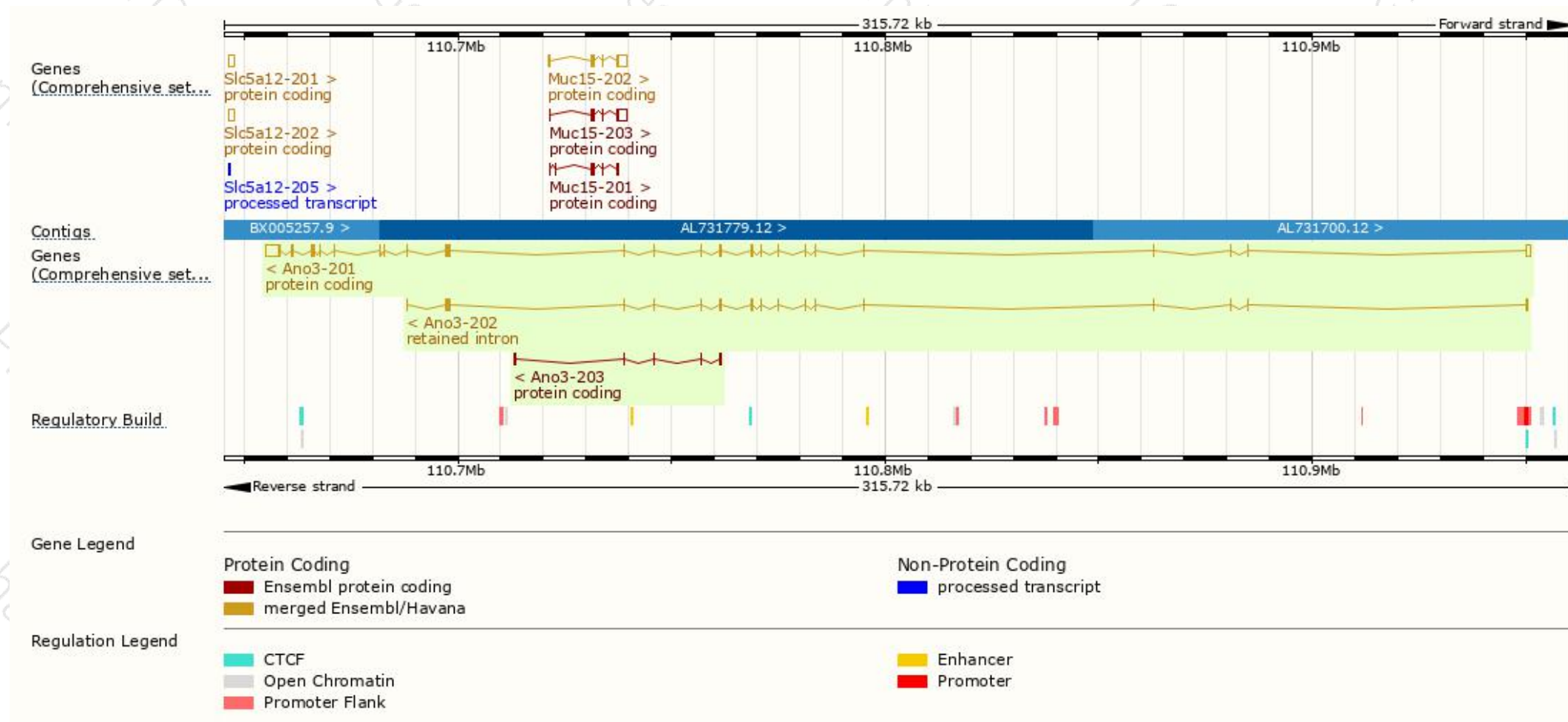
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ano3-201	ENSMUST00000099623.9	6705	981aa	Protein coding	CCDS50658	A2AHL1	TSL:5 Gencode basic APPRIS P1
Ano3-203	ENSMUST00000140777.1	638	181aa	Protein coding	-	A2AHK9	CDS 5' incomplete TSL:3
Ano3-202	ENSMUST00000111019.1	2432	No protein	Retained intron	-	-	TSL:2

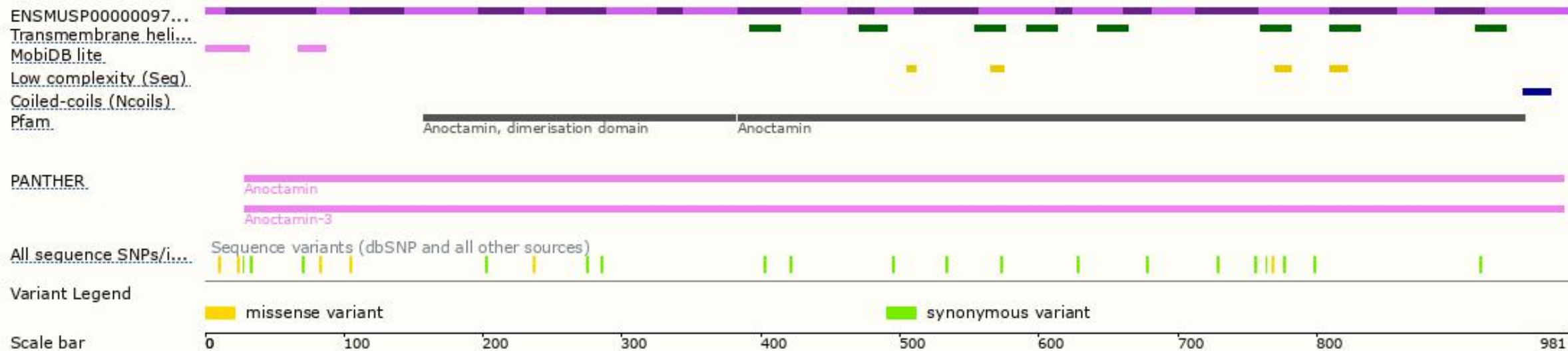
The strategy is based on the design of *Ano3-201* transcript, the transcription is shown below



Genomic location distribution



Protein domain



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

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