

Ano3 Cas9-KO Strategy

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Project Overview

Project Name

Ano3

Project type

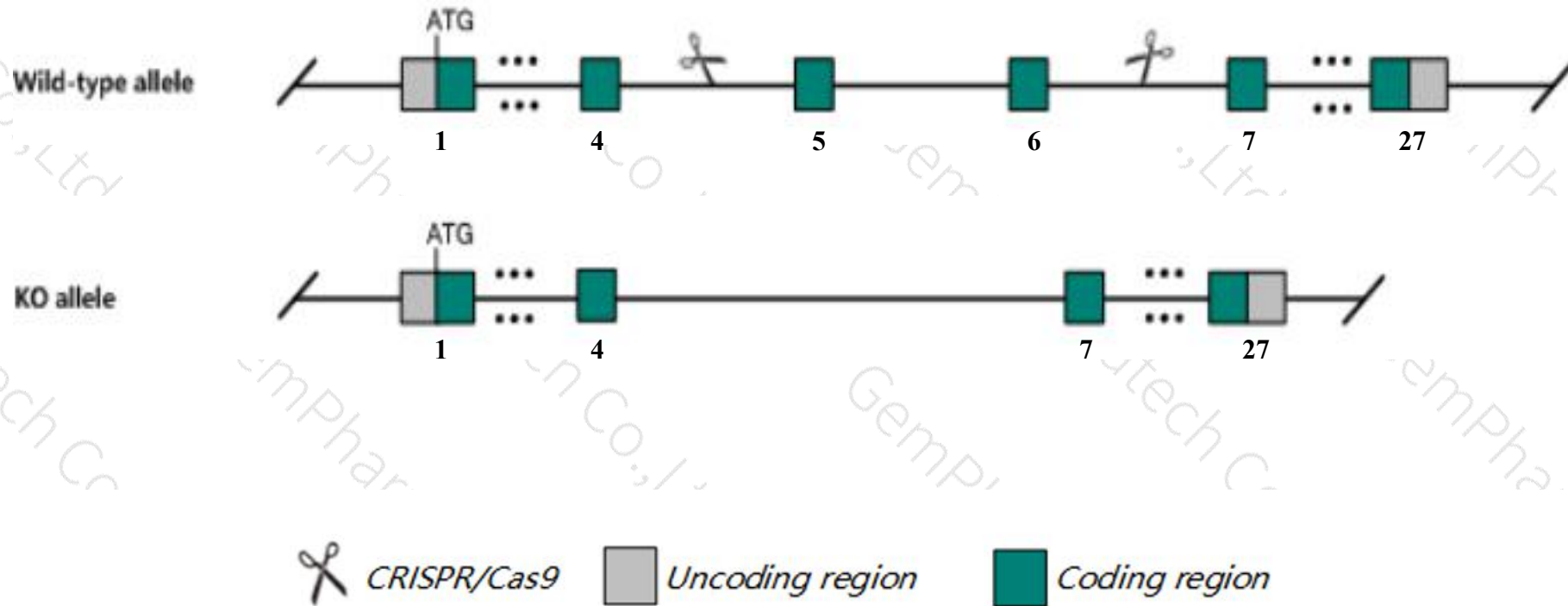
Cas9-KO

Strain background

C57BL/6JGpt

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 v

- *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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

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

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

Summary



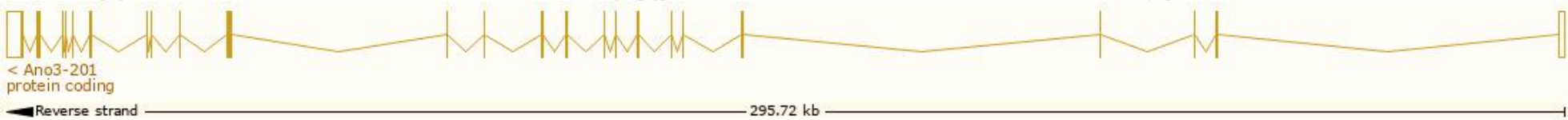
| | |
|--------------------|---|
| Official Symbol | Ano3 provided by MGI |
| Official Full Name | anoctamin 3 provided by MGI |
| Primary source | MGI:MGI:3613666 |
| See related | Ensembl:ENSMUSG00000074968 |
| Gene type | protein coding |
| RefSeq status | VALIDATED |
| Organism | Mus musculus |
| 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)

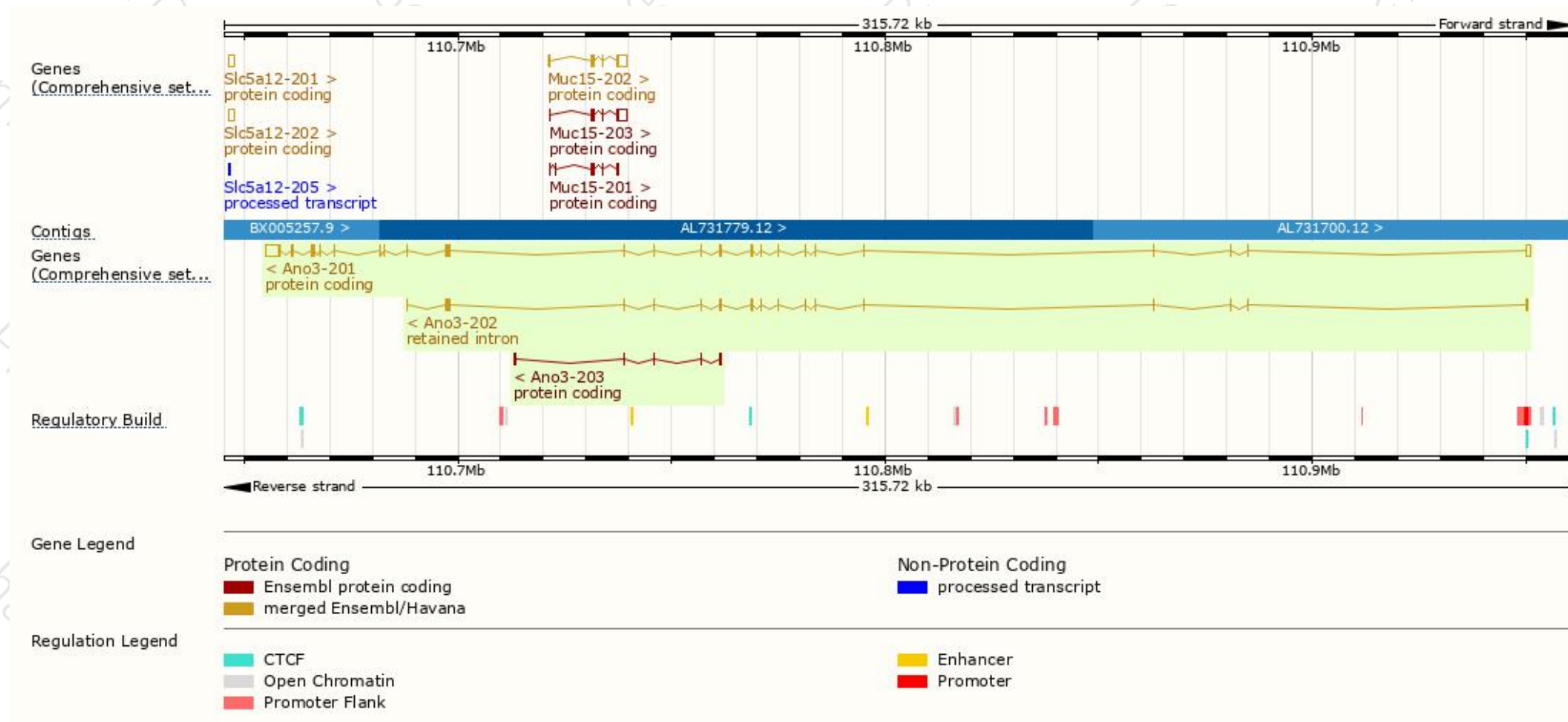
The gene has 3 transcripts,all transcripts are shown below:

| 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 |

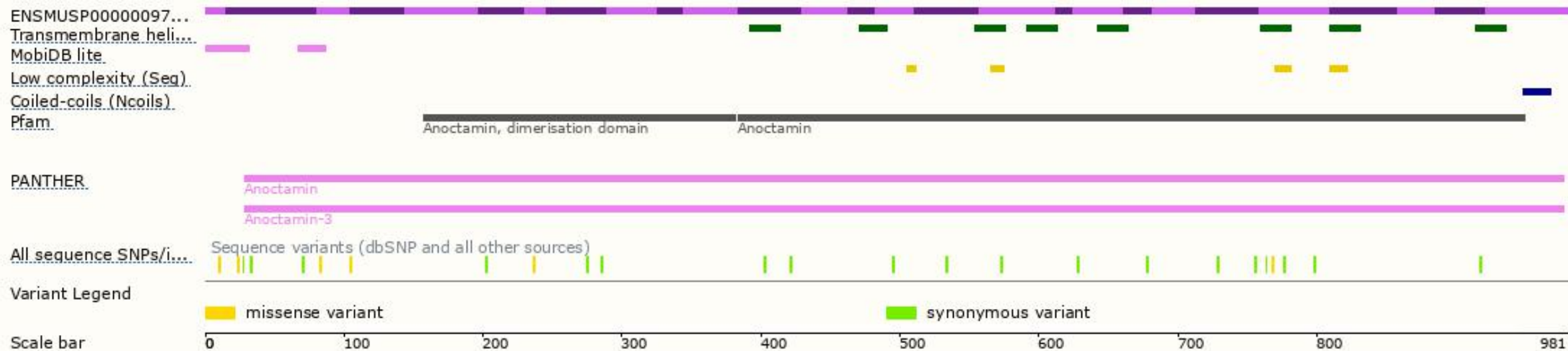
The strategy is based on the design of *Ano3-201* transcript, the transcription is shown below



Genomic location distribution



Protein domain



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

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