

Ano8 Cas9-KO Strategy

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Design Date: 2021-05-17

Project Overview

Project Name

Ano8

Project type

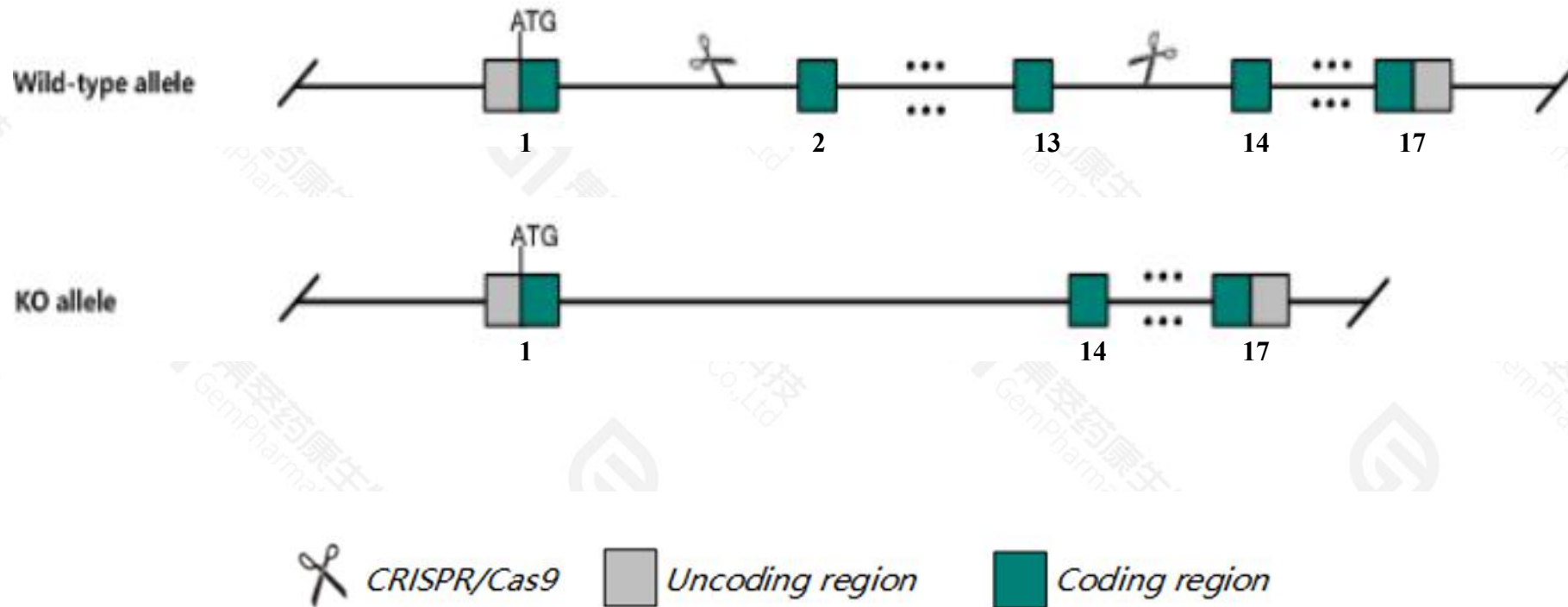
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ano8* gene. The schematic diagram is as follows:



- The *Ano8* gene has 4 transcripts. According to the structure of *Ano8* gene, exon2-exon13 of *Ano8-201*(ENSMUST00000093450.6) transcript is recommended as the knockout region. The region contains 2105bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ano8* gene. The brief process is as follows: CRISPR/Cas9 system 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 knockout region is near to the N-terminal of *Gtpbp3* gene, this strategy may influence the regulatory function of the N-terminal of *Gtpbp3* gene.
- The *Ano8* 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 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)

Ano8 anoctamin 8 [Mus musculus (house mouse)]

Gene ID: 382014, updated on 17-Dec-2020

Summary



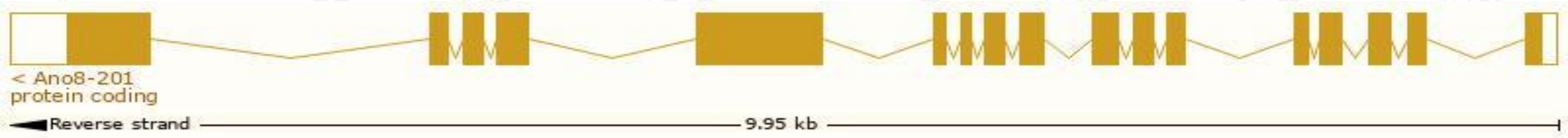
Official Symbol	Ano8 provided by MGI
Official Full Name	anoctamin 8 provided by MGI
Primary source	MGI:MGI:2687327
See related	Ensembl:ENSMUSG00000034863
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	BC053460, Tmem16h
Expression	Ubiquitous expression in whole brain E14.5 (RPKM 36.0), CNS E14 (RPKM 35.1) and 22 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

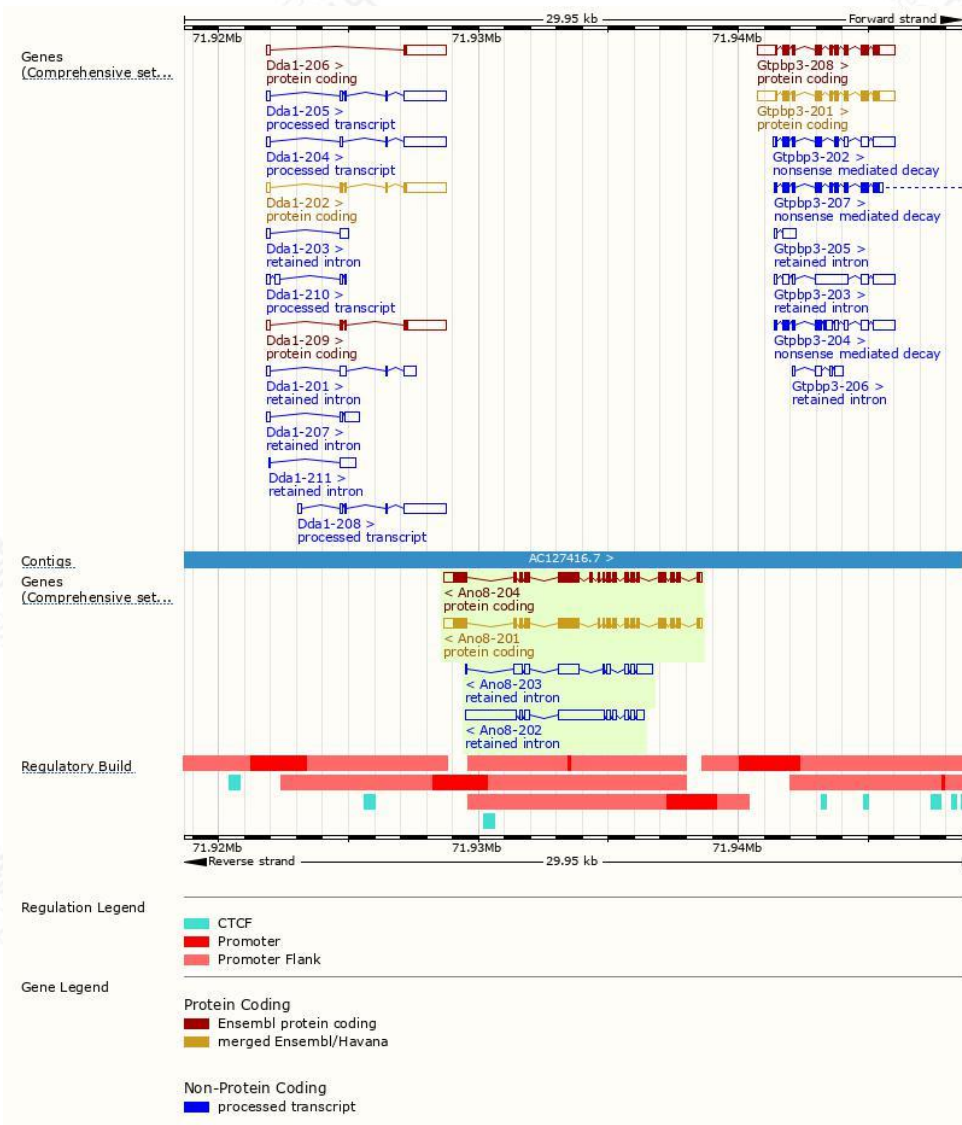
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ano8-201	ENSMUST00000093450.6	3653	1060aa	Protein coding	CCDS52585		TSL:1 , GENCODE basic , APPRIS P2 ,
Ano8-204	ENSMUST00000213382.2	3785	1104aa	Protein coding	-		TSL:5 , GENCODE basic , APPRIS ALT2 ,
Ano8-202	ENSMUST00000212768.2	4927	No protein	Retained intron	-		TSL:5 ,
Ano8-203	ENSMUST00000213016.2	2491	No protein	Retained intron	-		TSL:5 ,

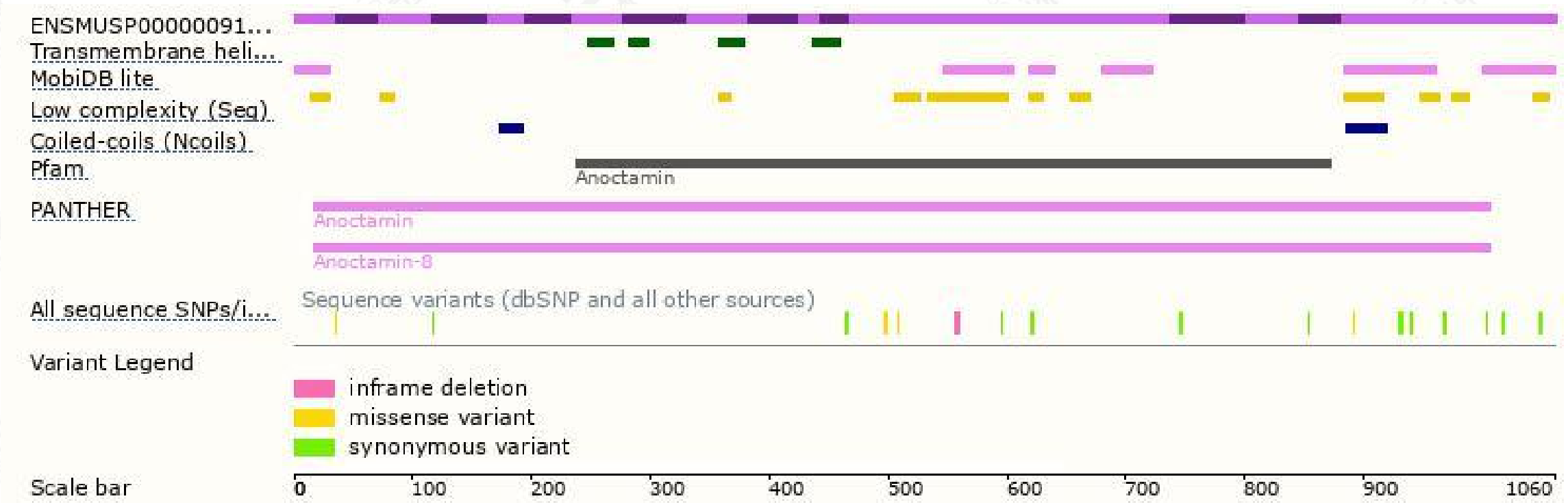
The strategy is based on the design of *Ano8-201* transcript,the transcription is shown below:



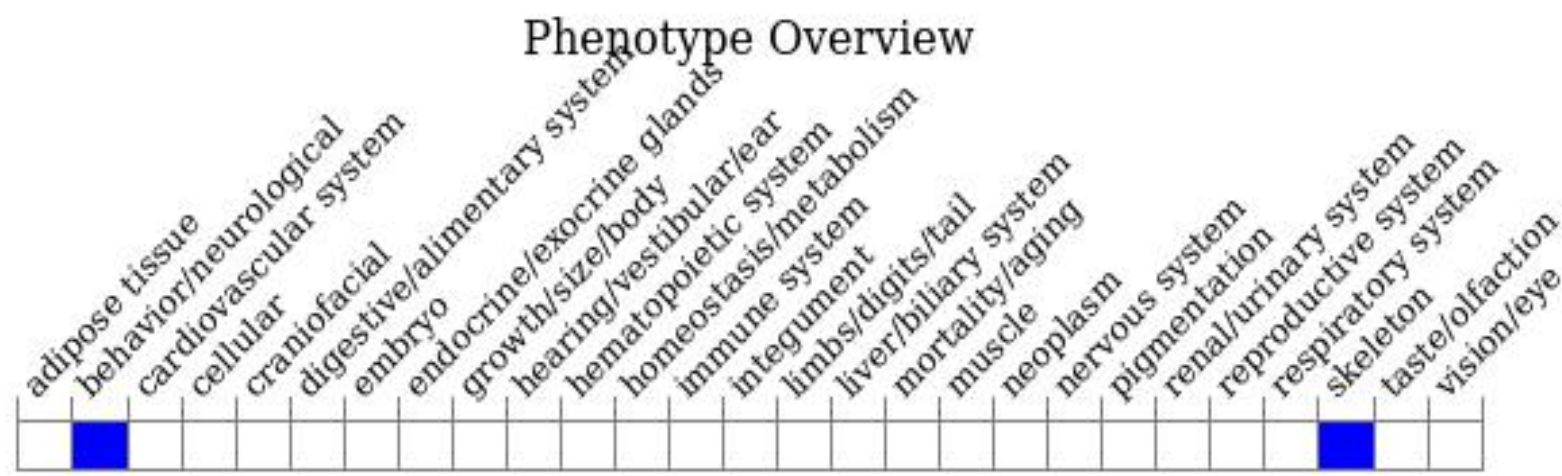
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue.Data quoted from MGI database(<http://www.informatics.jax.org/>).

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