Ano9 Cas9-KO Strategy

Designer: Huimin Su

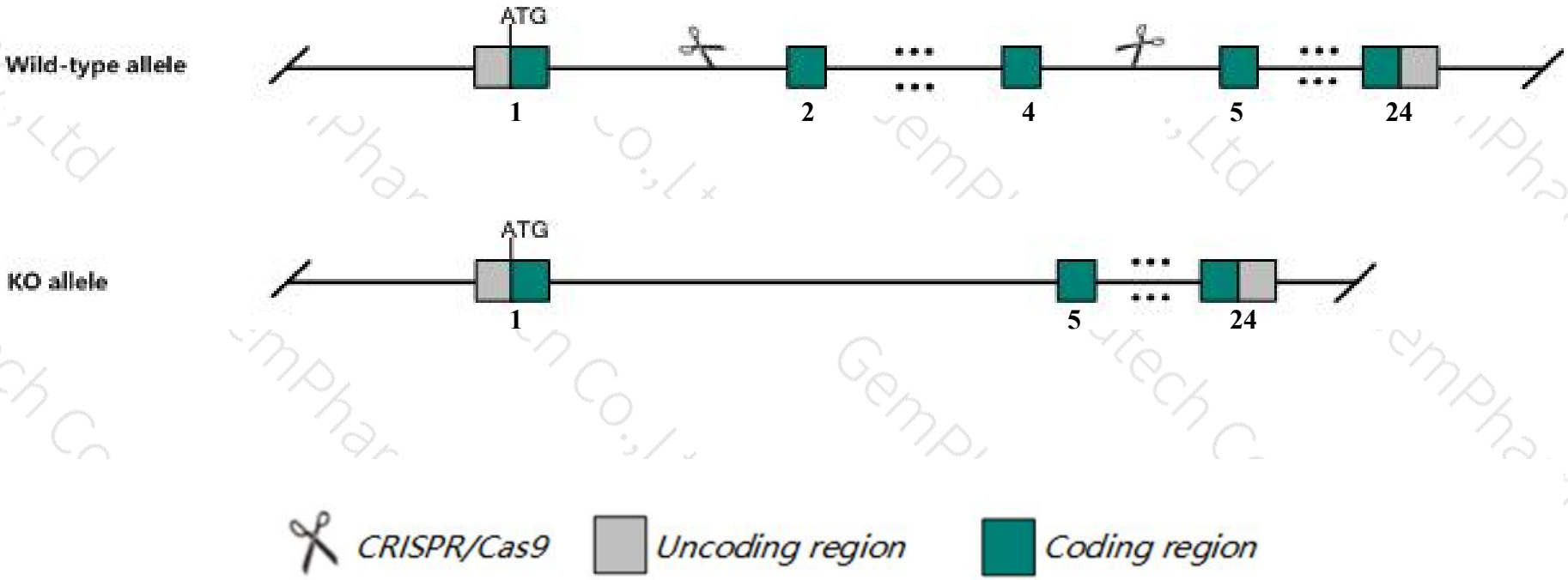
Date: 2018/10/16

Project Overview

Project Name	***Ano9***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ano9* gene. The schematic diagram is as follows:



Technical routes

➢ The *Ano9* gene has 6 transcripts. According to the structure of *Ano9* gene, exon2-exon4 of *Ano9-201* (ENSMUST00000067836.8) transcript is recommended as the knockout region.The region contains 338bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Ano9* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

➢ The *Ano9* gene is located on the Chr7. 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）

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Ano9 anoctamin 9 [Mus musculus (house mouse)]

Gene ID: 71345, updated on 31-Jan-2019

Summary

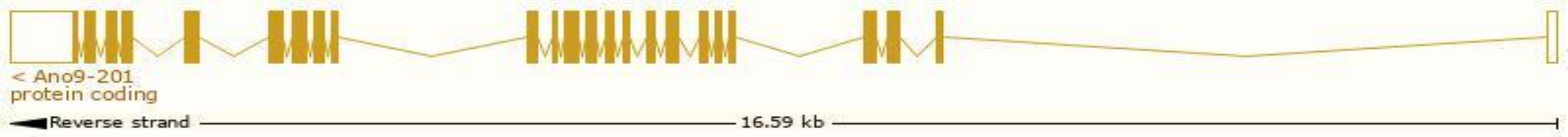
Official Symbol	Ano9 provided by MGI
Official Full Name	anoctamin 9 provided by MGI
Primary source	MGI:MGI:1918595
See related	Ensembl:ENSMUSG00000054662
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	5430425C04Rik, Tmem16j, Tp53i5, Trp53i5
Expression	Biased expression in large intestine adult (RPKM 44.3), duodenum adult (RPKM 20.0) and 6 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

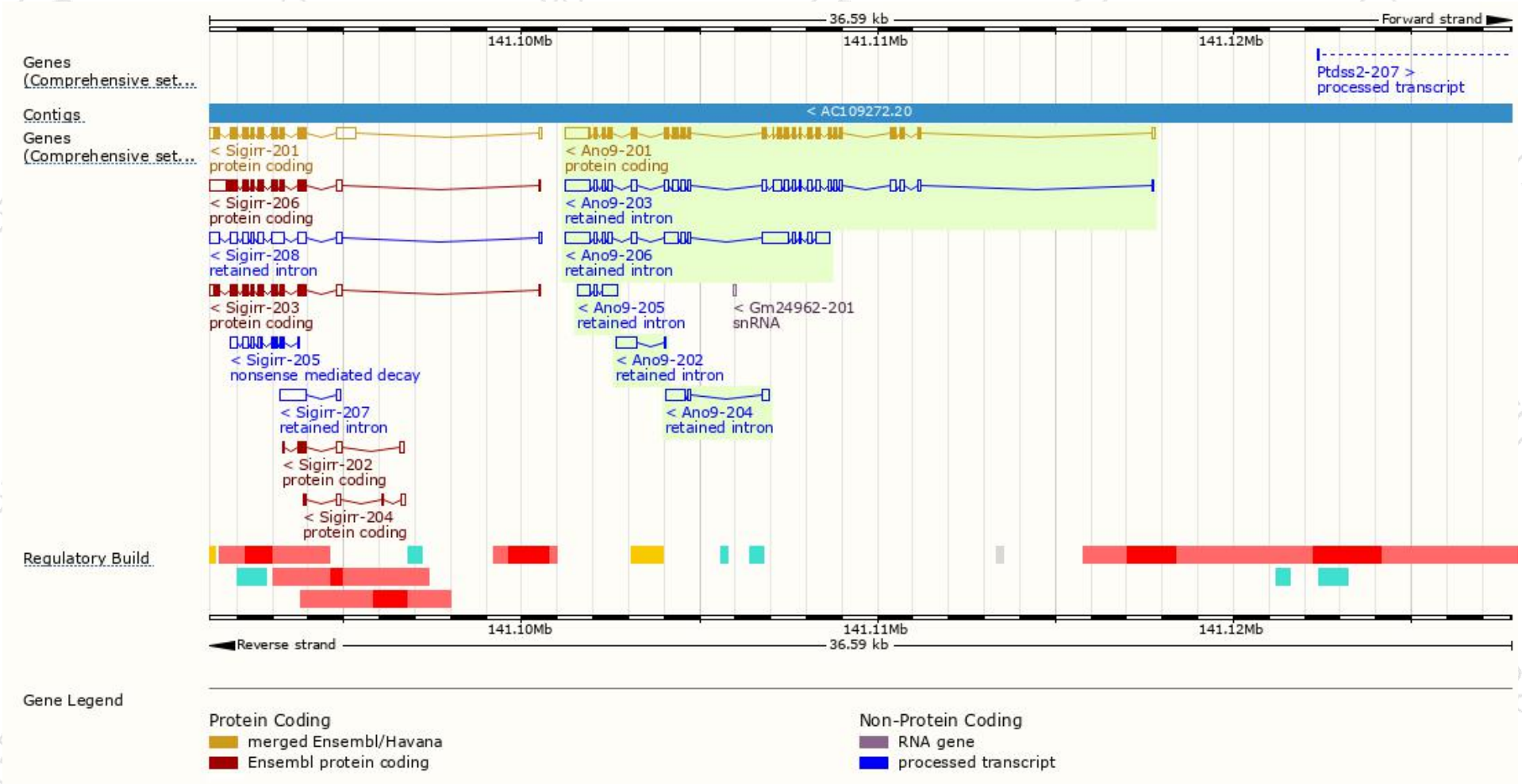
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ano9-201	ENSMUST00000067836.8	3019	747aa	Protein coding	CCDS52438	P86044	TSL:5 GENCODE basic APPRIS P1
Ano9-206	ENSMUST00000211515.1	3112	No protein	Retained intron	-	-	TSL:2
Ano9-203	ENSMUST00000210496.1	3088	No protein	Retained intron	-	-	TSL:2
Ano9-205	ENSMUST00000210927.1	873	No protein	Retained intron	-	-	TSL:3
Ano9-204	ENSMUST00000210763.1	774	No protein	Retained intron	-	-	TSL:3
Ano9-202	ENSMUST00000210085.1	663	No protein	Retained intron	-	-	TSL:2

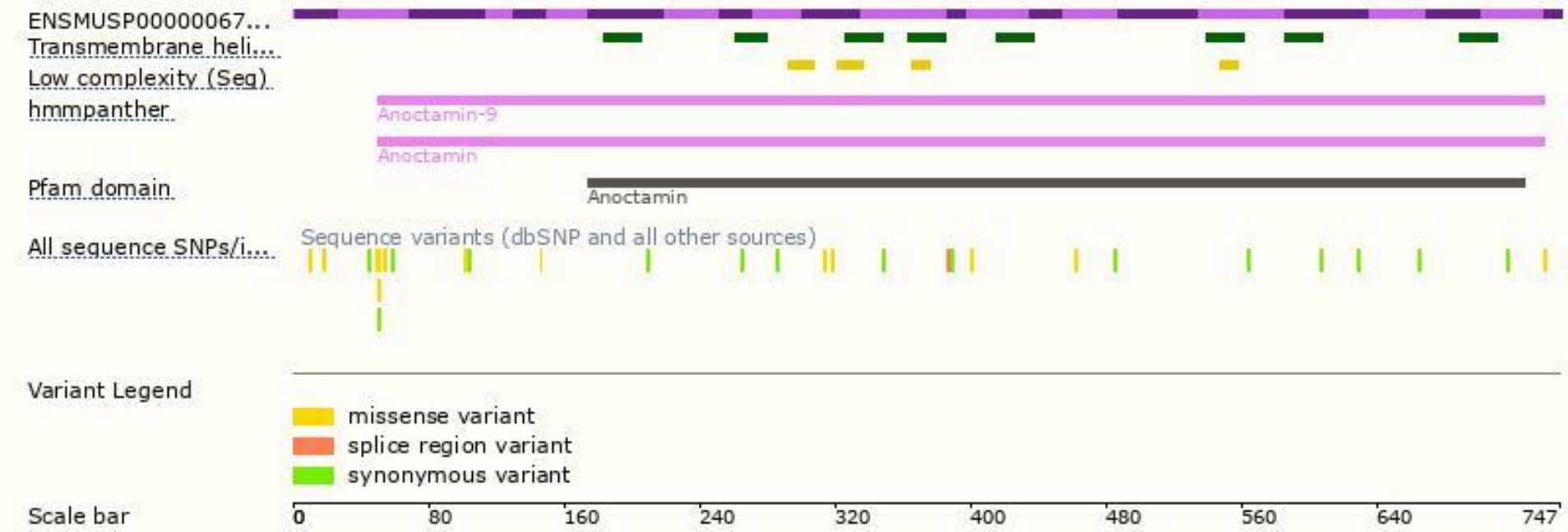
The strategy is based on the design of *Ano9-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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