Anxa9 Cas9-KO Strategy

Designer: Huimin Su

Reviewer: Ruiuri Zhang

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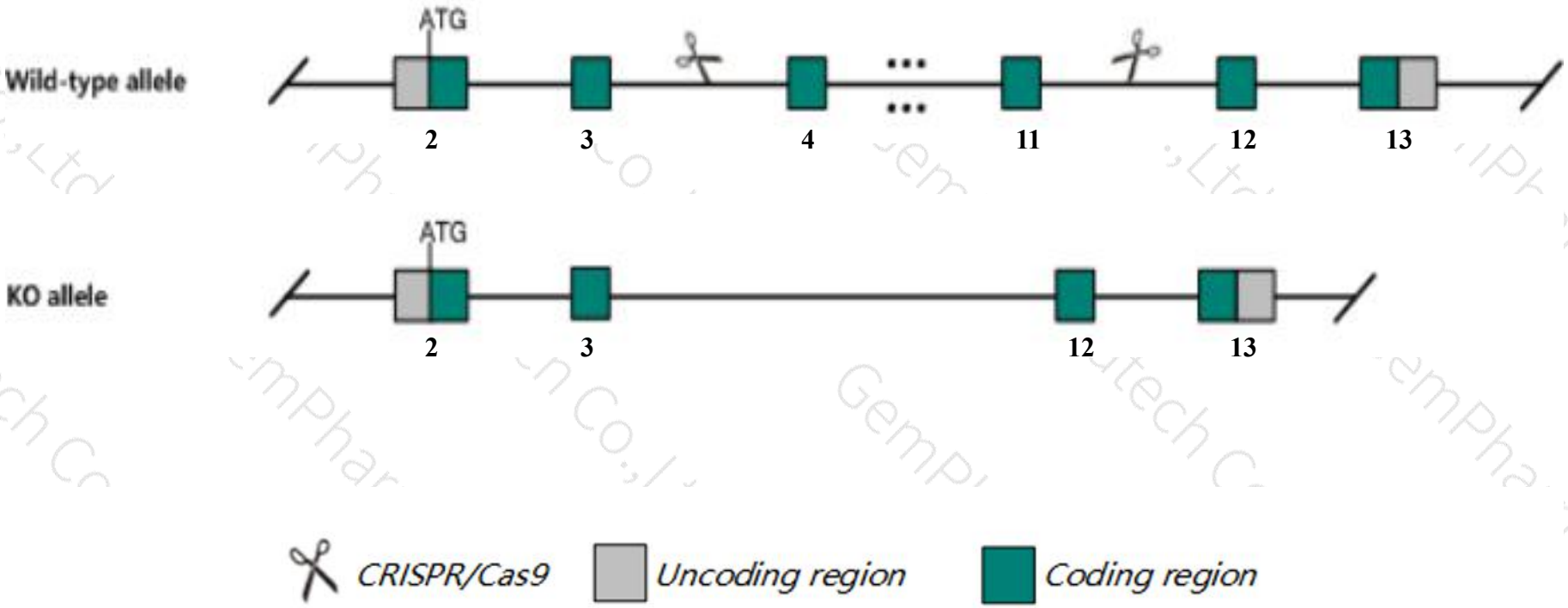
Project Overview

Project Name	***Anxa9***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Anxa9* gene. The schematic diagram is as follows:



Technical routes

➢ The *Anxa9* gene has 4 transcripts. According to the structure of *Anxa9* gene, exon4-exon11 of *Anxa9-202* (ENSMUST00000107183.7) transcript is recommended as the knockout region.The region contains 680bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Anxa9* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

- *Anxa9-203* transcript is incomplete, so the effect on it is unknown.
- The *Anxa9* gene is located on the Chr3. 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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Anxa9 annexin A9 [*Mus musculus* (house mouse)]

Gene ID: 71790, updated on 10-Apr-2020

Summary

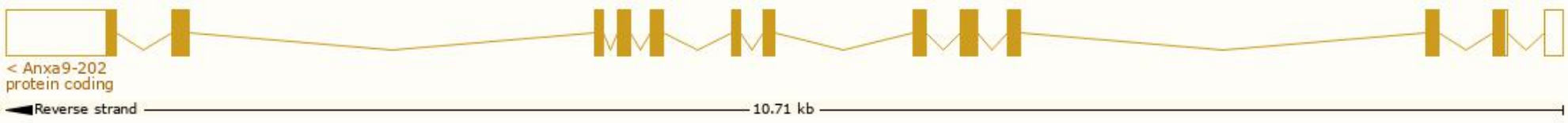
Official Symbol	Anxa9 provided by MGI
Official Full Name	annexin A9 provided by MGI
Primary source	MGI:MGI:1923711
See related	Ensembl:ENSMUSG00000015702
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110003P15Rik; 2310069F17Rik
Expression	Broad expression in genital fat pad adult (RPKM 7.5), stomach adult (RPKM 4.5) and 26 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

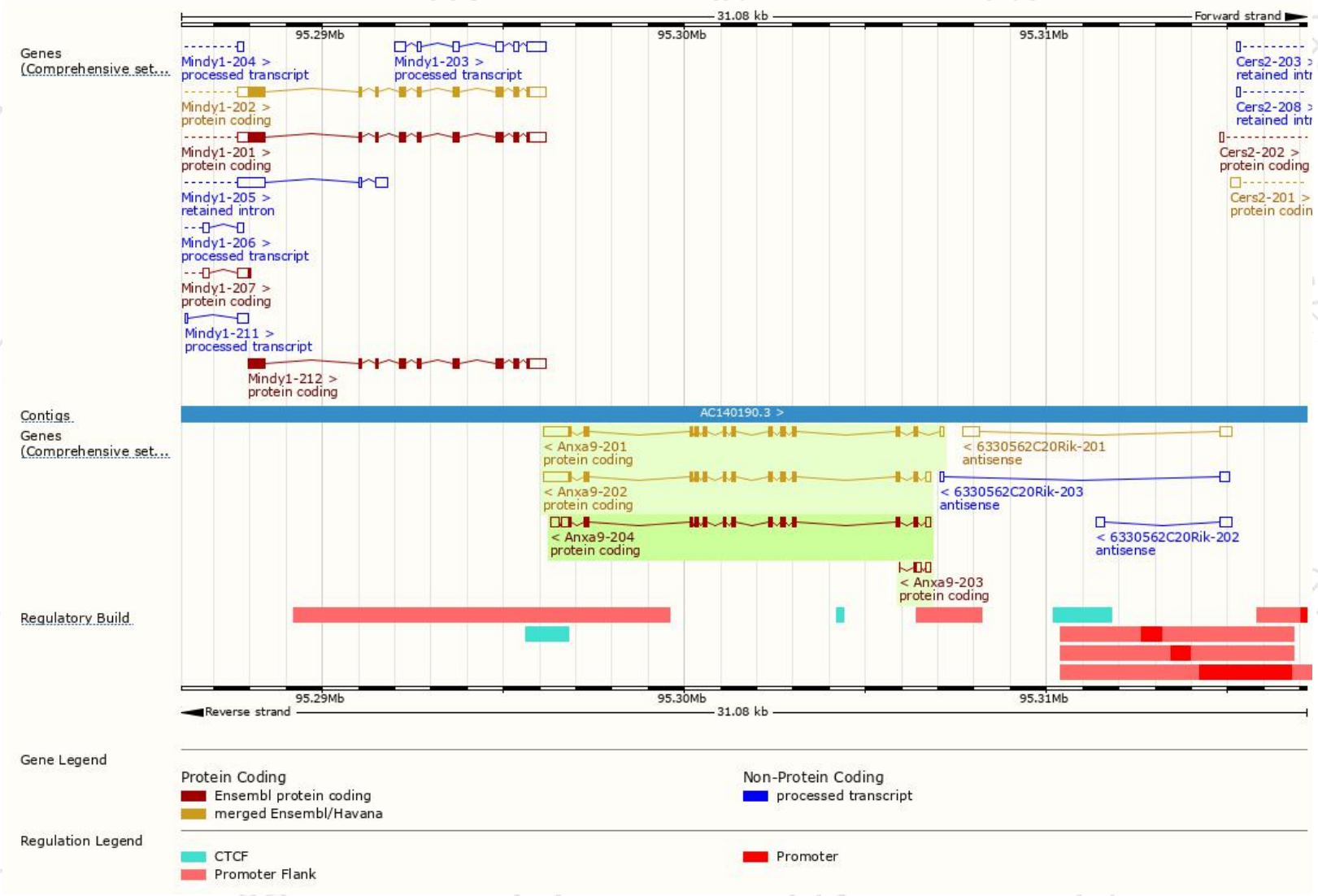
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Anxa9-202	ENSMUST00000107183.7	1872	345aa	Protein coding	CCDS50989	Q9JHQ0	TSL:1 GENCODE basic APPRIS P1
Anxa9-201	ENSMUST00000015846.8	1851	345aa	Protein coding	CCDS50989	Q9JHQ0	TSL:1 GENCODE basic APPRIS P1
Anxa9-204	ENSMUST00000164406.7	1611	345aa	Protein coding	CCDS50989	Q9JHQ0	TSL:1 GENCODE basic APPRIS P1
Anxa9-203	ENSMUST00000123365.1	339	33aa	Protein coding	-	D3Z1V0	CDS 3' incomplete TSL:3

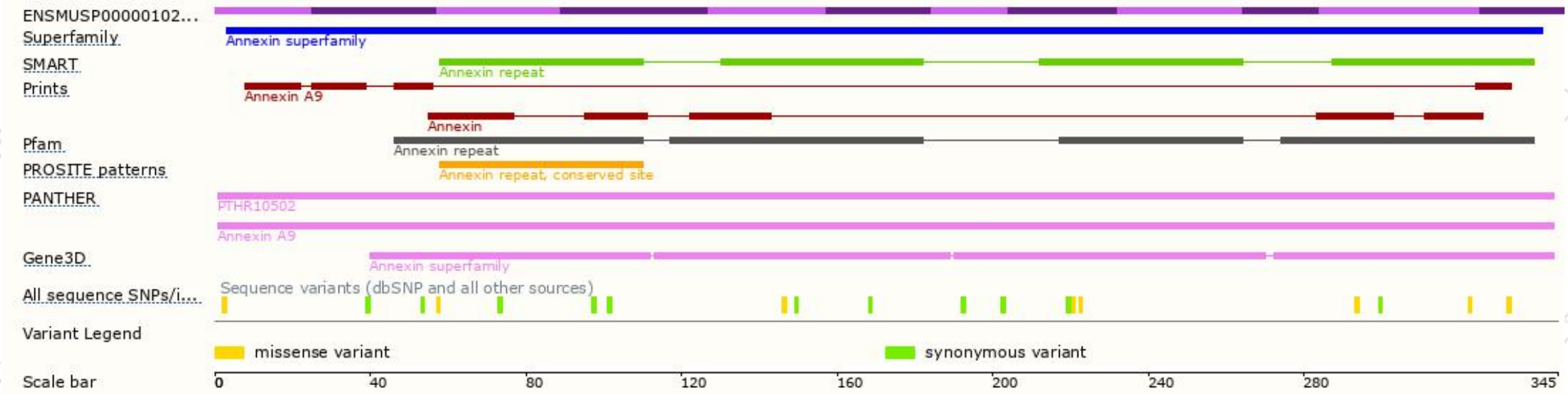
The strategy is based on the design of *Anxa9-202* transcript, the transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

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