

Anxa3 Cas9-KO Strategy

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Project Overview

Project Name

Anxa3

Project type

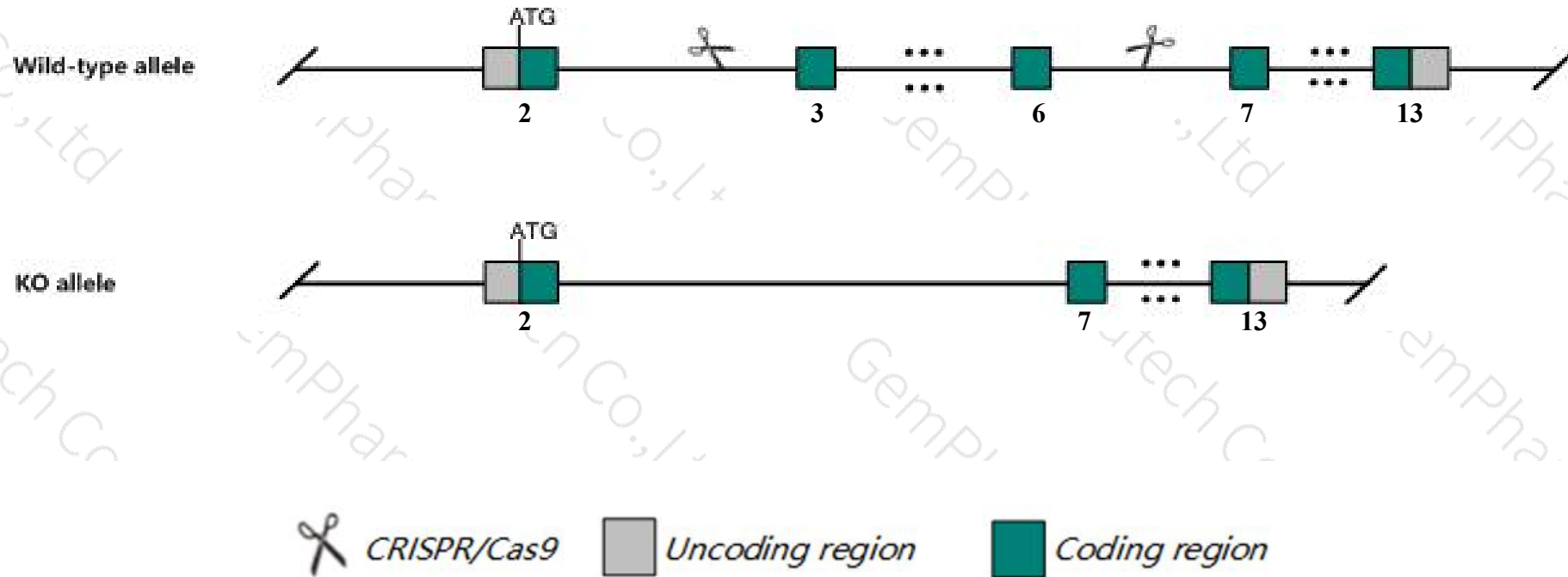
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Anxa3* gene. The schematic diagram is as follows:



- The *Anxa3* gene has 9 transcripts. According to the structure of *Anxa3* gene, exon3-exon6 of *Anxa3-201* (ENSMUST00000031447.11) transcript is recommended as the knockout region. The region contains 388bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Anxa3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Anxa3* gene is located on the Chr5. 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.
- Transcripts 202 maybe unaffected.
- 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)

Anxa3 annexin A3 [Mus musculus (house mouse)]

Gene ID: 11745, updated on 31-Jan-2019

Summary



Official Symbol	Anxa3 provided by MGI
Official Full Name	annexin A3 provided by MGI
Primary source	MGI:MGI:1201378
See related	Ensembl:ENSMUSG00000029484
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	Anx3
Expression	Broad expression in bladder adult (RPKM 32.8), placenta adult (RPKM 31.7) and 23 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

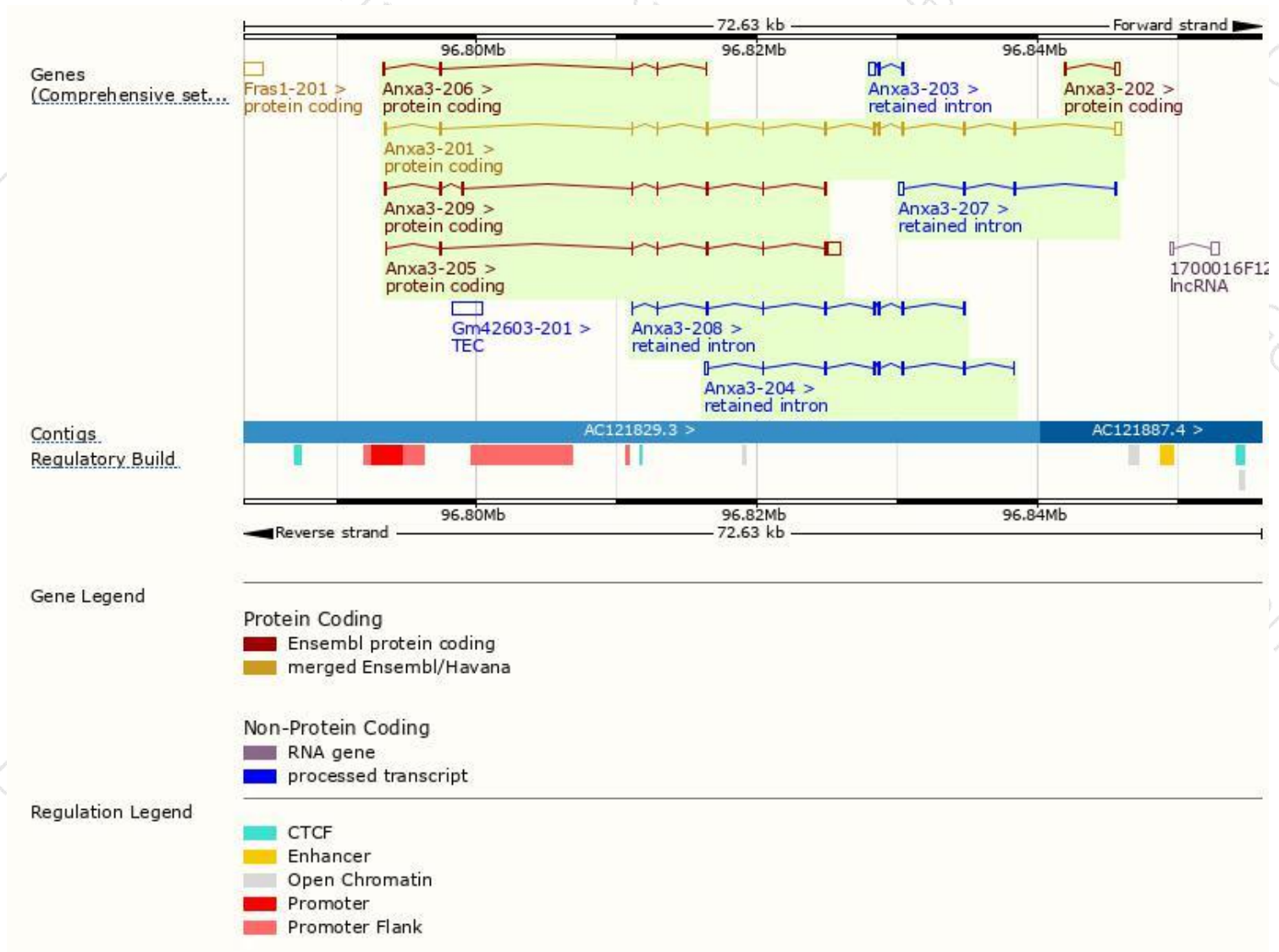
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Anxa3-201	ENSMUST00000031447.11	1595	323aa	Protein coding	CCDS51568	Q35639	TSL:1 GENCODE basic APPRIS P1
Anxa3-205	ENSMUST00000198631.1	1523	180aa	Protein coding	-	Q3TET3	TSL:1 GENCODE basic
Anxa3-209	ENSMUST00000200379.4	757	78aa	Protein coding	-	A0A0G2JDV9	CDS 3' incomplete TSL:5
Anxa3-202	ENSMUST00000196126.1	453	32aa	Protein coding	-	A0A0G2JFB3	TSL:2 GENCODE basic
Anxa3-206	ENSMUST00000199330.4	376	84aa	Protein coding	-	A0A0G2JGL7	CDS 3' incomplete TSL:3
Anxa3-208	ENSMUST00000199656.4	831	No protein	Retained intron	-	-	TSL:1
Anxa3-207	ENSMUST00000199390.2	770	No protein	Retained intron	-	-	TSL:2
Anxa3-204	ENSMUST00000197339.4	692	No protein	Retained intron	-	-	TSL:3
Anxa3-203	ENSMUST00000197196.1	665	No protein	Retained intron	-	-	TSL:5

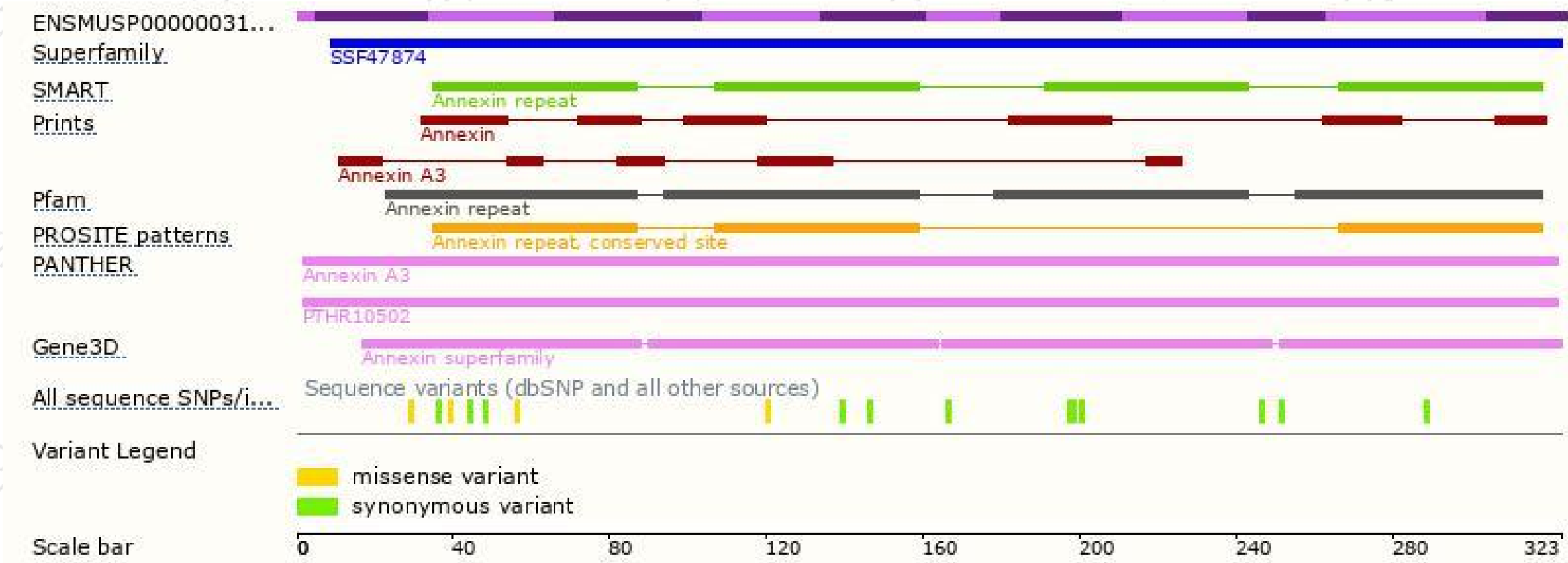
The strategy is based on the design of *Anxa3-201* transcript,The transcription is shown below



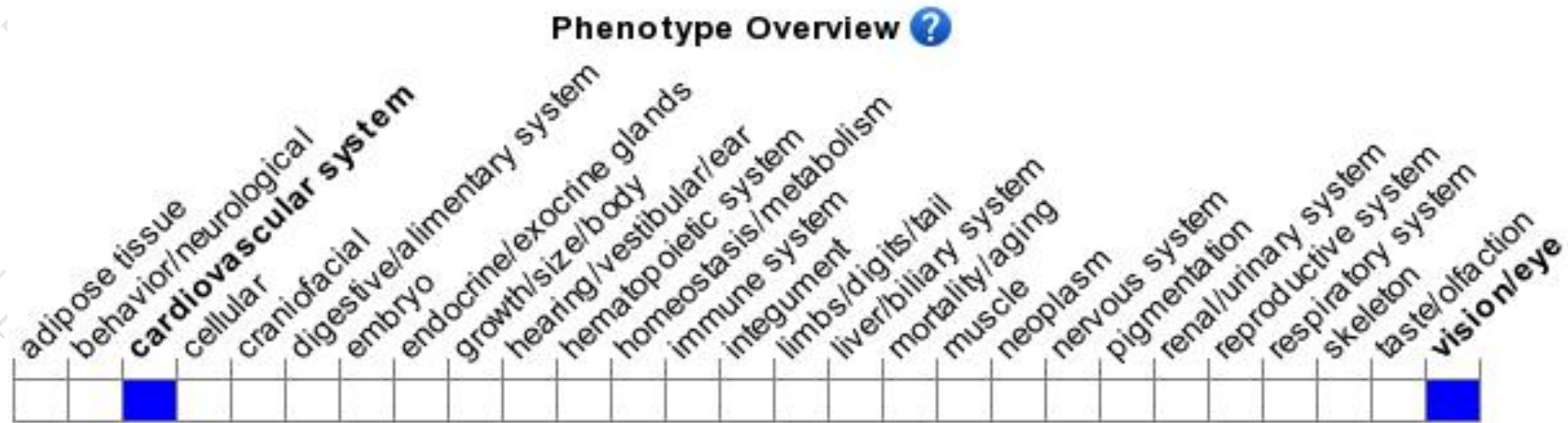
Genomic location distribution



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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