

Ankrd31 Cas9-KO Strategy

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Project Overview

Project Name	<i>Ankrd31</i>
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Project type	Cas9-KO
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Strain background	C57BL/6JGpt
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Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ankrd31* gene. The schematic diagram is as follows:

- The *Ankrd31* gene has 3 transcripts. According to the structure of *Ankrd31* gene, exon3-exon4 of *Ankrd31*-203 (ENSMUST00000208758.1) transcript is recommended as the knockout region. The region contains 184bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ankrd31* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9, sgRNA 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 *Ankrd31* gene is located on the Chr13. 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.

Ankrd31 ankyrin repeat domain 31 [*Mus musculus* (house mouse)]

Gene ID: 625662, updated on 26-Jun-2020

Summary

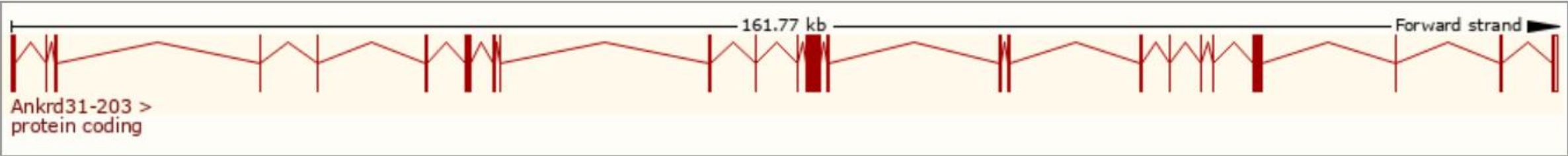
Official Symbol	Ankrd31 provided by MGI
Official Full Name	ankyrin repeat domain 31 provided by MGI
Primary source	MGI:MGI:5006716
See related	Ensembl:ENSMUSG00000109561
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Expression	Restricted expression toward testis adult (RPKM 2.4) See more
Orthologs	human all

Transcript information Ensembl

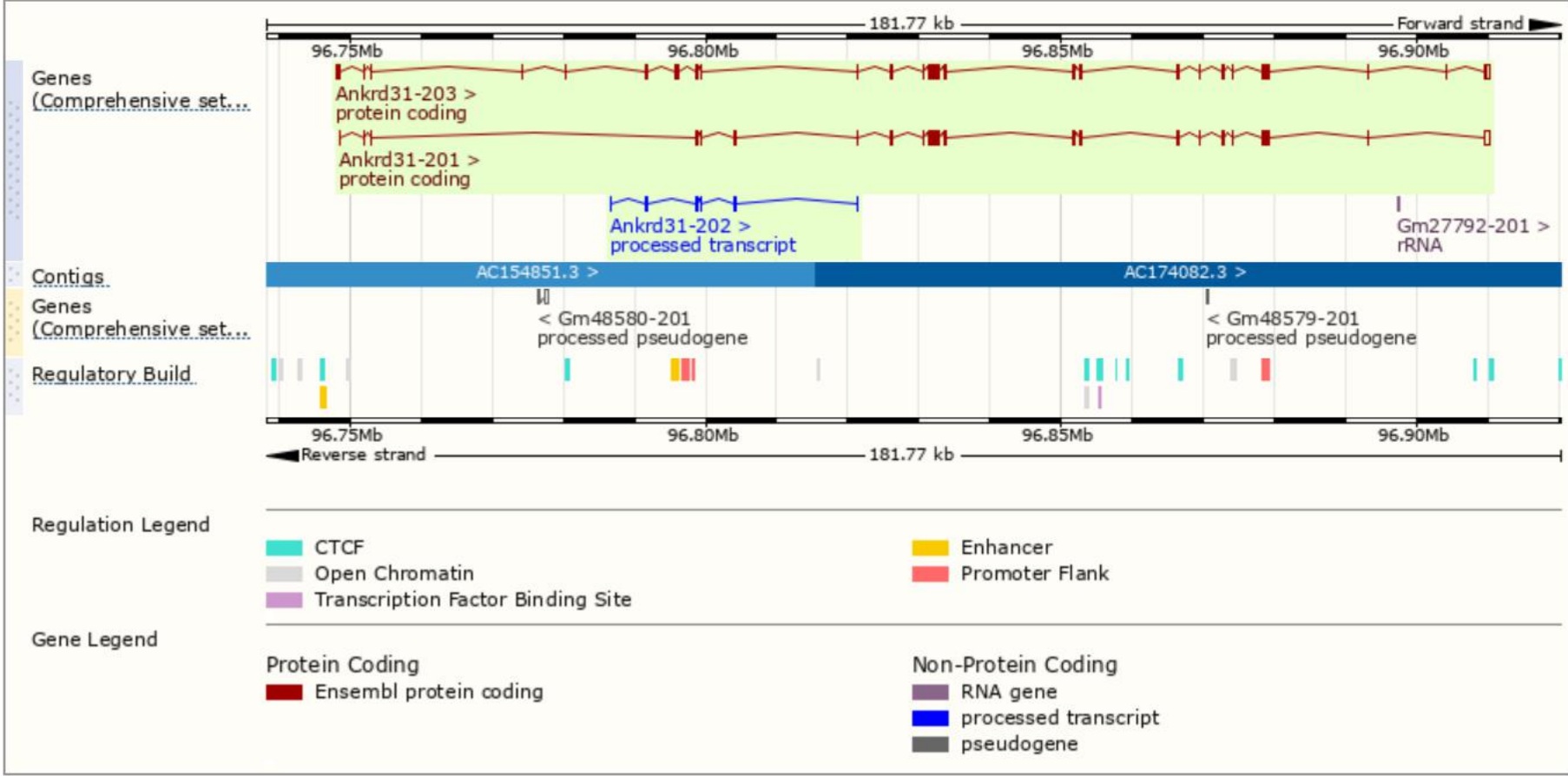
The gene has 3 transcripts, and all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ankrd31-203	ENSMUST00000208758.1	5859	1765aa	Protein coding	-	A0A4W7PWM5	TSL:5 GENCODE basic
Ankrd31-201	ENSMUST00000207464.1	5146	1545aa	Protein coding	-	A0A5H1ZRN8	TSL:5 GENCODE basic APPRIS P1
Ankrd31-202	ENSMUST00000208004.1	625	No protein	Processed transcript	-	-	TSL:3

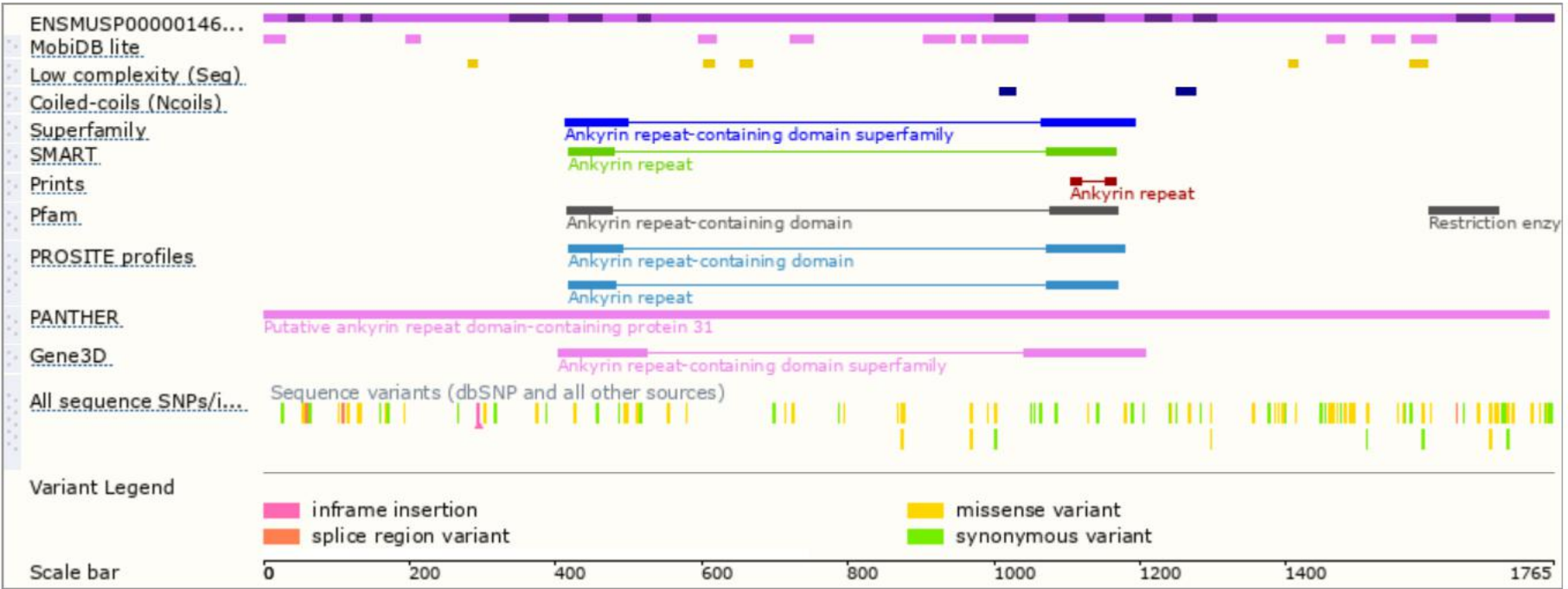
The strategy is based on the design of *Ankrd31*-203 transcript, The transcription is shown below



Genomic location distribution



Protein domain



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