

***Ankrd13d* Cas9-KO Strategy**

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Project Overview

Project Name

Ankrd13d

Project type

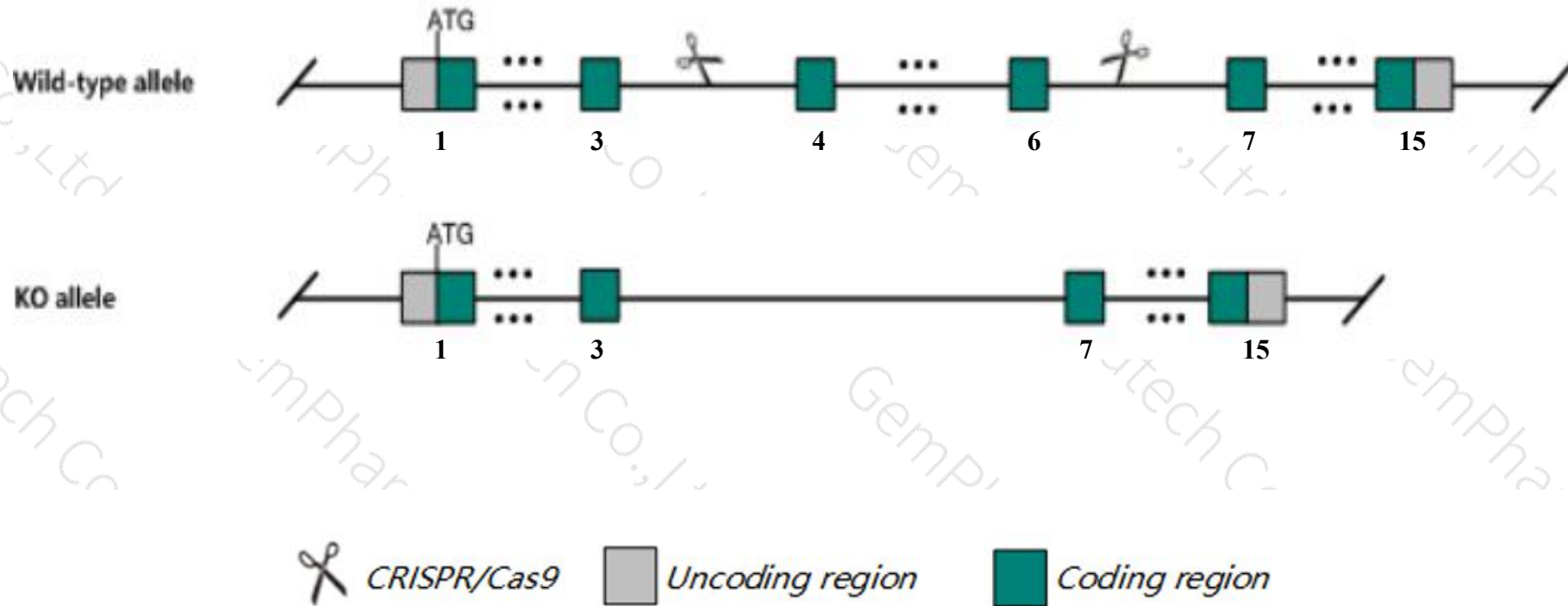
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ankrd13d* gene. The schematic diagram is as follows:



- The *Ankrd13d* gene has 6 transcripts. According to the structure of *Ankrd13d* gene, exon4-exon6 of *Ankrd13d-201*(ENSMUST00000056888.12) transcript is recommended as the knockout region. The region contains 380bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ankrd13d* 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 N-terminal of *Ankrd13d* gene will remain several amino acids, it may remain the partial function of *Ankrd13d* gene.
- The *Ankrd13d* gene is located on the Chr19. 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)

Ankrd13d ankyrin repeat domain 13 family, member D [*Mus musculus* (house mouse)]

Gene ID: 68423, updated on 25-Sep-2020

Summary



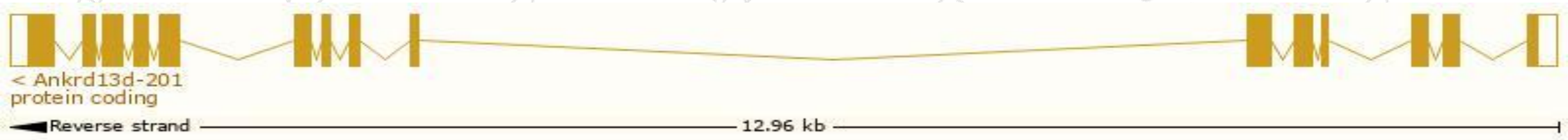
Official Symbol	Ankrd13d provided by MGI
Official Full Name	ankyrin repeat domain 13 family, member D provided by MGI
Primary source	MGI:MGI:1915673
See related	Ensembl:ENSMUSG000000005986
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI430801; 0710001P18Rik
Expression	Broad expression in CNS E18 (RPKM 27.3), cortex adult (RPKM 20.7) and 18 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

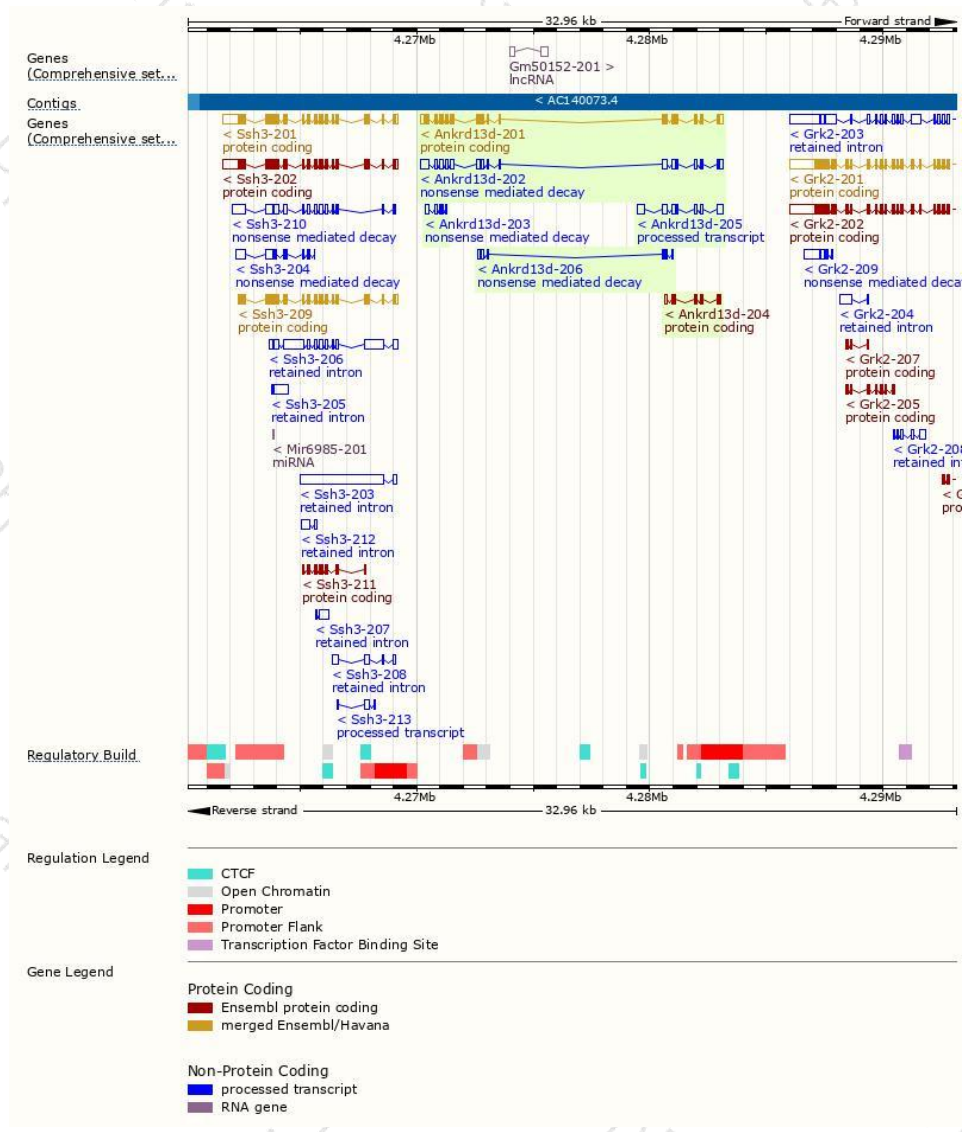
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ankrd13d-201	ENSMUST00000056888.12	2139	605aa	Protein coding	CCDS50351	Q6PD24	TSL:1 GENCODE basic APPRIS P1
Ankrd13d-204	ENSMUST00000167215.1	639	150aa	Protein coding	-	E9Q6X4	TSL:3 GENCODE basic
Ankrd13d-202	ENSMUST00000163858.7	2131	83aa	Nonsense mediated decay	-	E9Q821	TSL:1
Ankrd13d-206	ENSMUST00000170283.1	487	98aa	Nonsense mediated decay	-	F6YTJ4	CDS 5' incomplete TSL:3
Ankrd13d-203	ENSMUST00000166031.1	480	79aa	Nonsense mediated decay	-	F6QRW3	CDS 5' incomplete TSL:3
Ankrd13d-205	ENSMUST00000169653.1	1217	No protein	Processed transcript	-	-	TSL:1

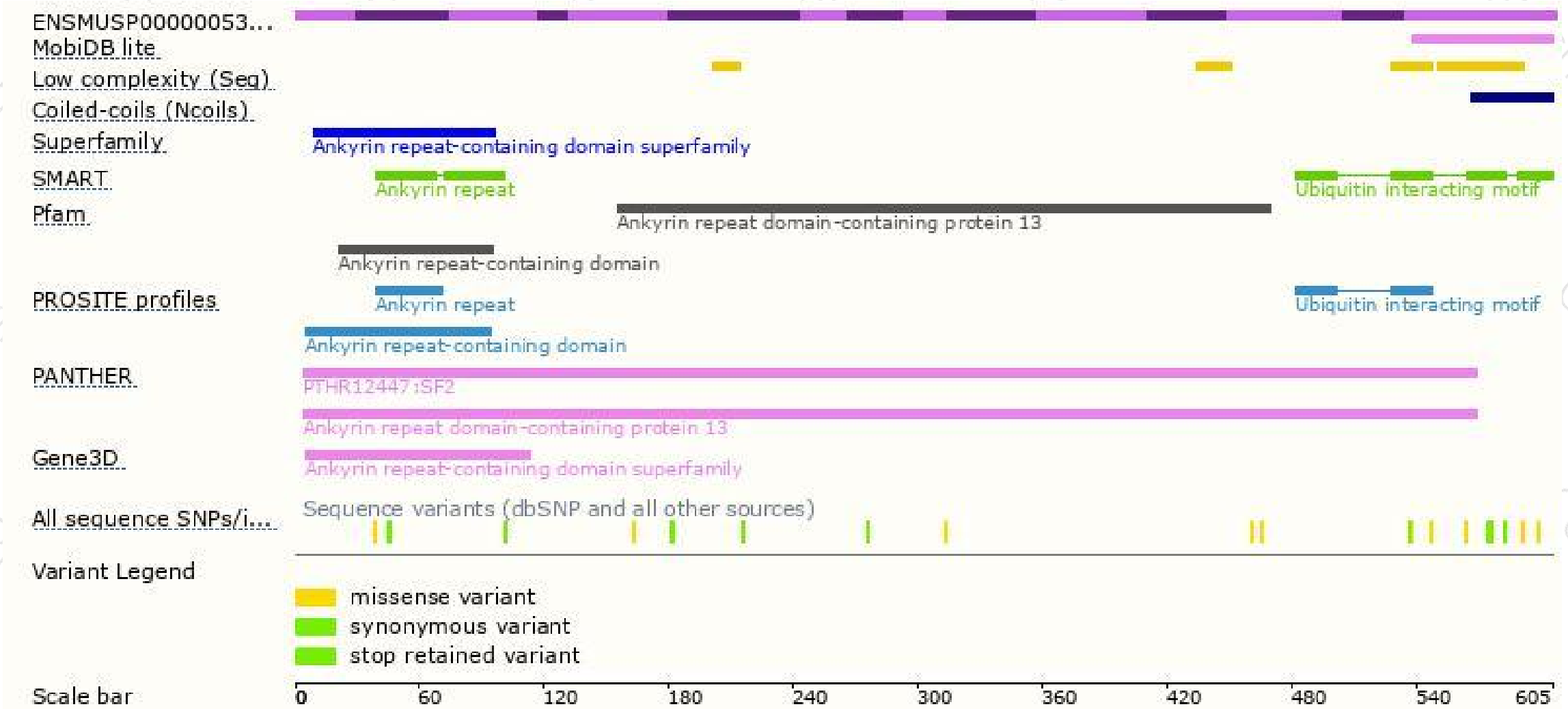
The strategy is based on the design of *Ankrd13d-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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