

***Ankrd13b* Cas9-KO Strategy**

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Project Overview

Project Name

Ankrd13b

Project type

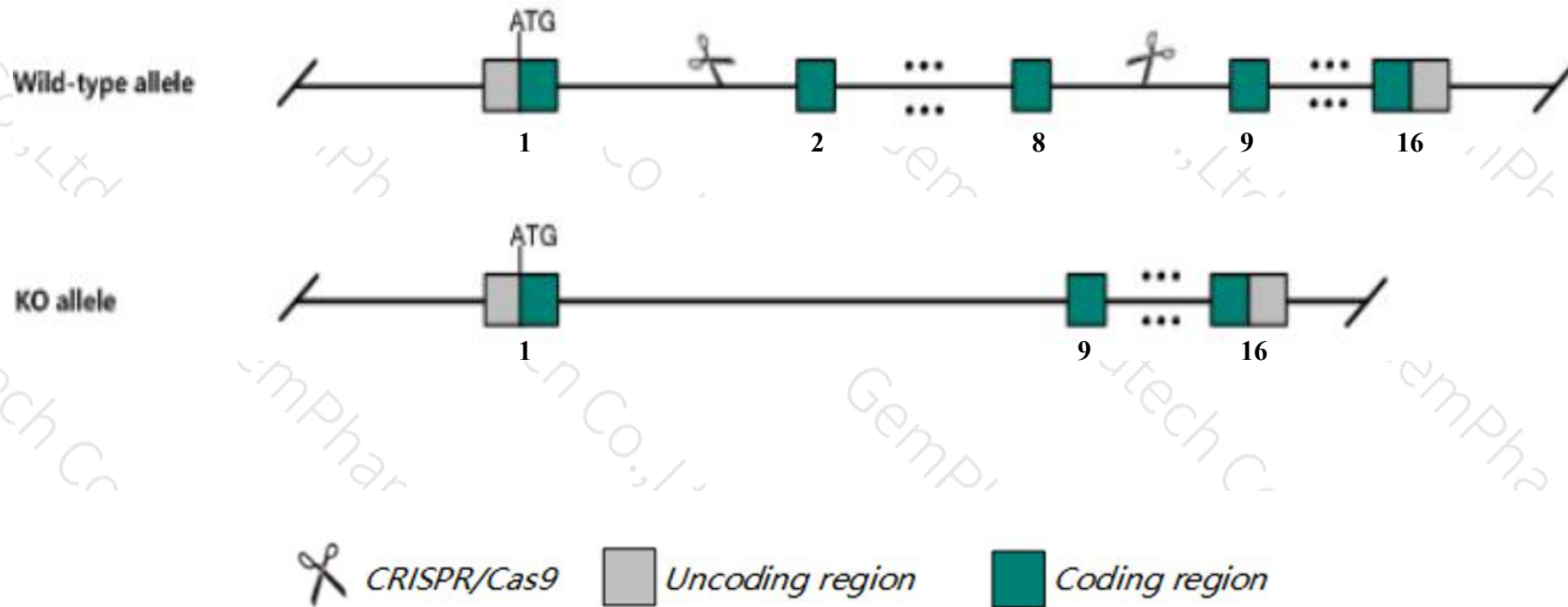
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ankrd13b* gene. The schematic diagram is as follows:



- The *Ankrd13b* gene has 6 transcripts. According to the structure of *Ankrd13b* gene, exon2-exon8 of *Ankrd13b*-202(ENSMUST00000092892.9) transcript is recommended as the knockout region. The region contains 790bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ankrd13b* 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 *Ankrd13b* gene is located on the Chr11. 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)

Ankrd13b ankyrin repeat domain 13b [*Mus musculus* (house mouse)]

Gene ID: 268445, updated on 10-Oct-2020

Summary



Official Symbol Ankrd13b provided by [MGI](#)

Official Full Name ankyrin repeat domain 13b provided by [MGI](#)

Primary source [MGI:MGI:2144501](#)

See related [Ensembl:ENSMUSG00000037907](#)

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 AW124583; B930093C12Rik

Expression Broad expression in whole brain E14.5 (RPKM 67.5), CNS E14 (RPKM 58.9) and 20 other tissues [See more](#)

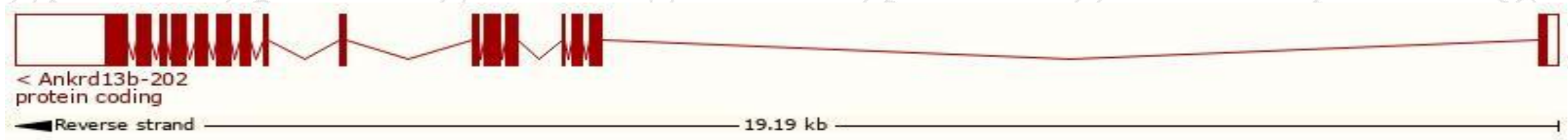
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

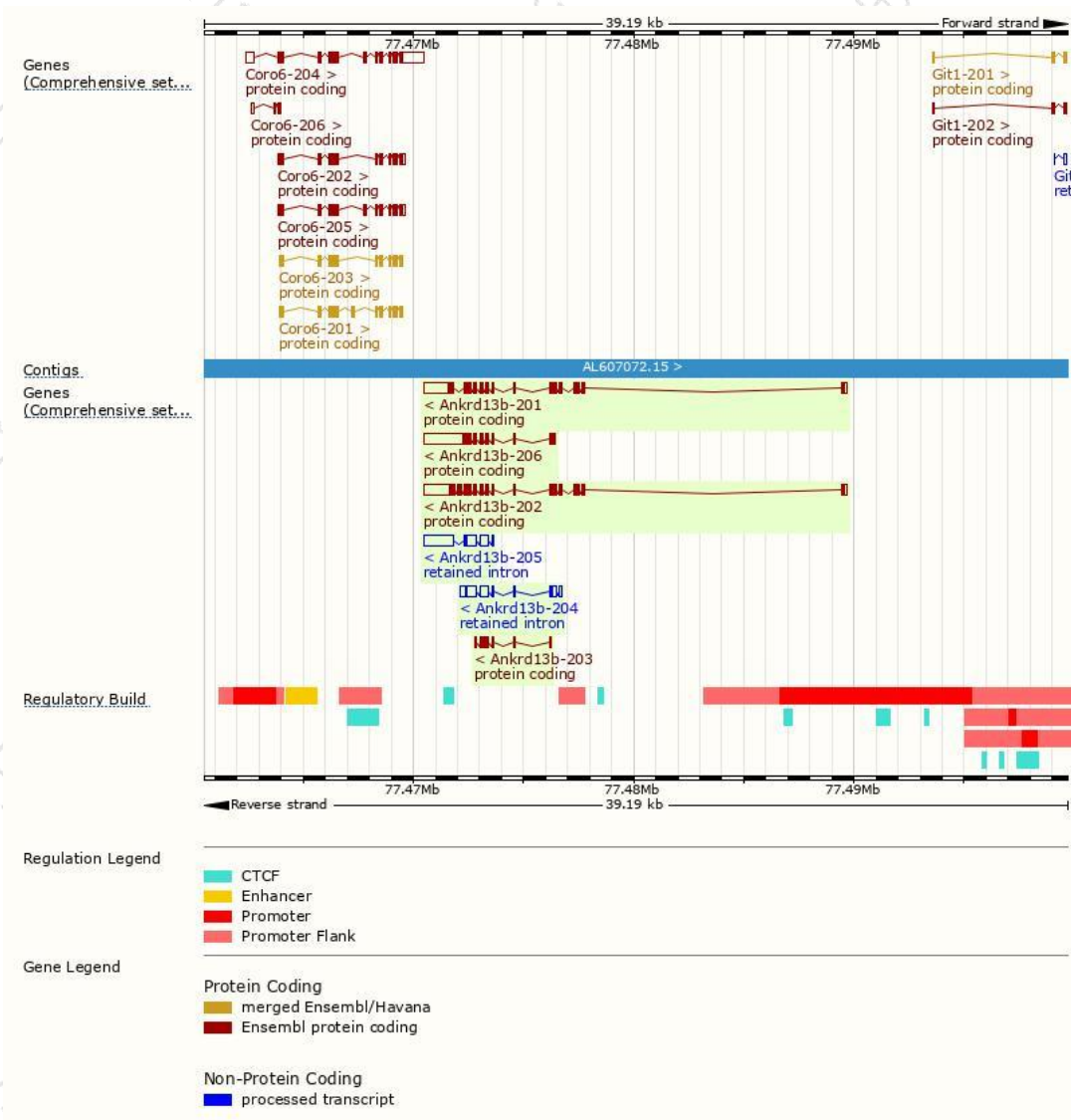
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ankrd13b-202	ENSMUST00000092892.9	3336	696aa	Protein coding	CCDS36233	Q5F259	TSL:5 GENCODE basic APPRIS P2
Ankrd13b-201	ENSMUST00000037593.13	3105	626aa	Protein coding	-	Q5F259	TSL:1 GENCODE basic APPRIS ALT2
Ankrd13b-206	ENSMUST00000145934.7	2824	345aa	Protein coding	-	Q5F260	CDS 5' incomplete TSL:2
Ankrd13b-203	ENSMUST00000127291.1	639	213aa	Protein coding	-	F6XU77	CDS 5' and 3' incomplete TSL:5
Ankrd13b-205	ENSMUST00000143872.7	2290	No protein	Retained intron	-	-	TSL:2
Ankrd13b-204	ENSMUST00000135227.1	1662	No protein	Retained intron	-	-	TSL:5

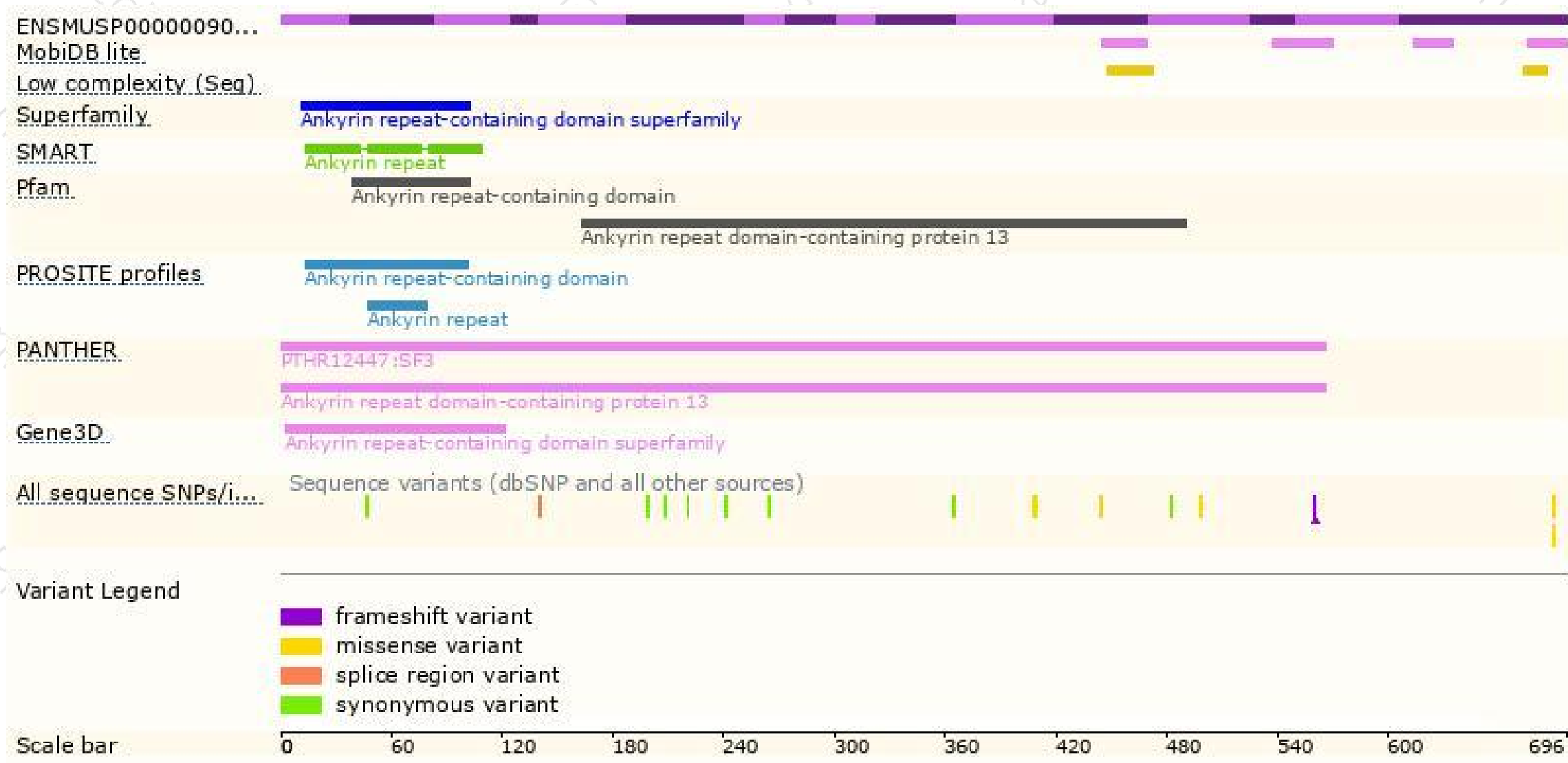
The strategy is based on the design of *Ankrd13b-202* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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