

$Snx32$ Cas9-KO Strategy

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Project Overview

Project Name

$Snx32$

Project type

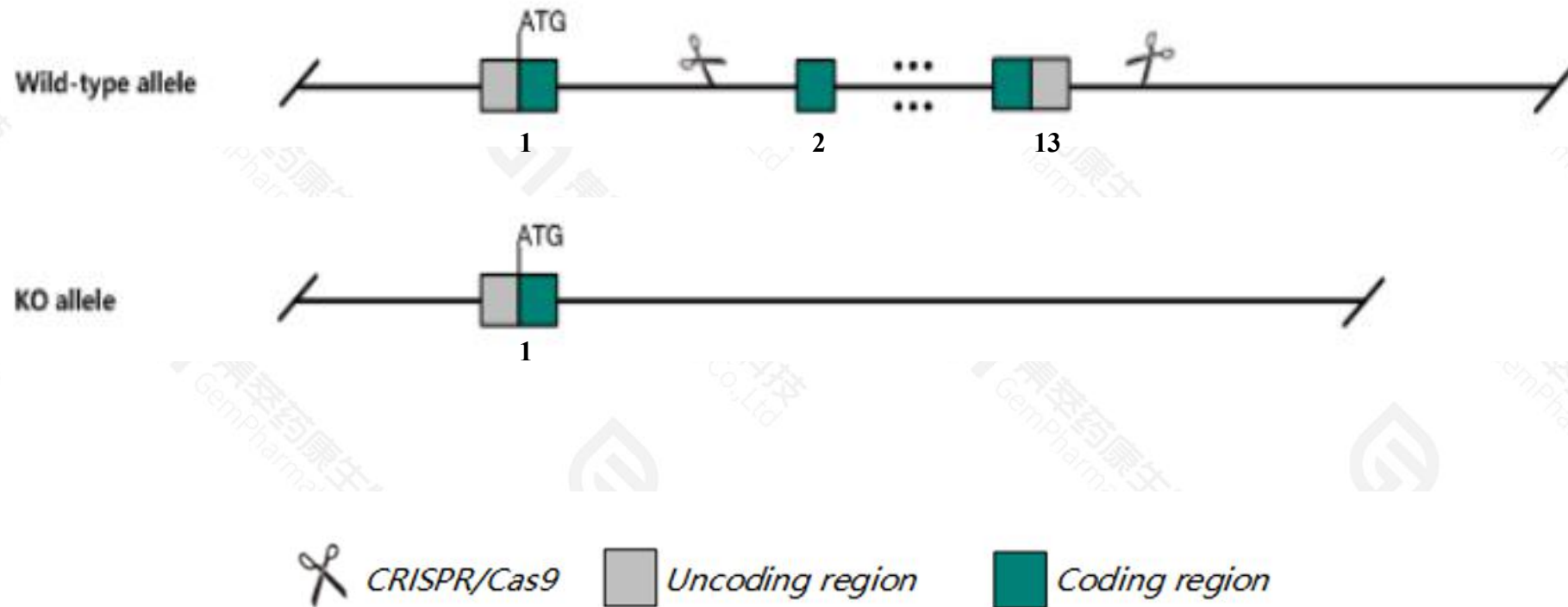
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Snx32* gene. The schematic diagram is as follows:



- The *Snx32* gene has 7 transcripts. According to the structure of *Snx32* gene, exon2-exon13 of *Snx32-201*(ENSMUST00000070172.6) transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Snx32* 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 floxed region is near to the C-terminal of Cfl1 gene ,this strategy may influence the regulatory function of the C-terminal of Cfl1 gene.
- The *Snx32* 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)

Snx32 sorting nexin 32 [Mus musculus (house mouse)]

Gene ID: 225861, updated on 17-Dec-2020

Summary



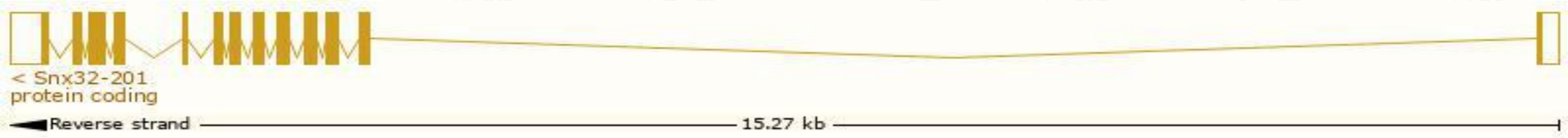
Official Symbol	Snx32 provided by MGI
Official Full Name	sorting nexin 32 provided by MGI
Primary source	MGI:MGI:2444704
See related	Ensembl:ENSMUSG00000056185
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	B930037P14Rik, Snx, Snx6b
Expression	Broad expression in cerebellum adult (RPKM 35.4), frontal lobe adult (RPKM 30.4) and 21 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

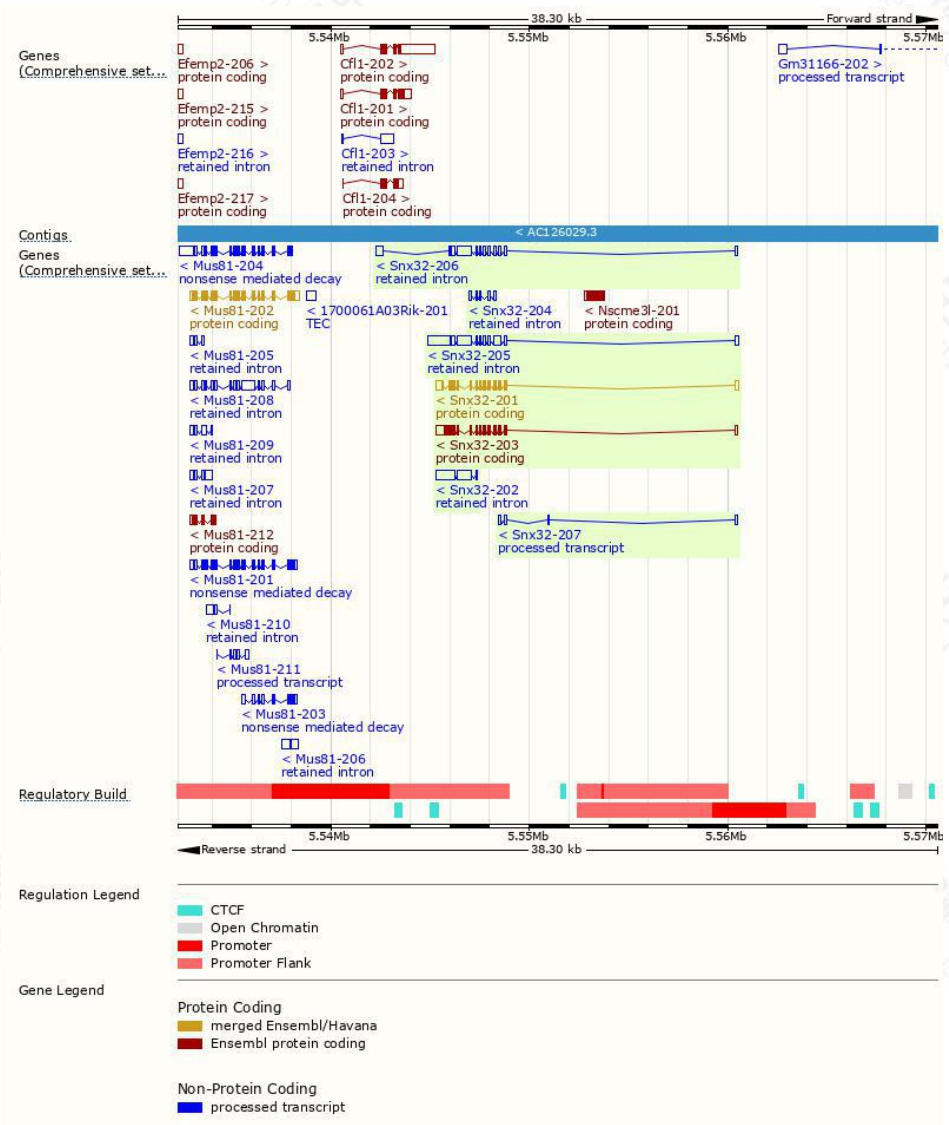
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Snx32-201	ENSMUST00000070172.6	1703	404aa	Protein coding	CCDS29468		TSL:1 , GENCODE basic , APPRIS P2 ,
Snx32-203	ENSMUST00000237111.2	1872	451aa	Protein coding	-		GENCODE basic , APPRIS ALT2 ,
Snx32-207	ENSMUST00000238132.2	365	No protein	Processed transcript	-		
Snx32-205	ENSMUST00000237924.2	3023	No protein	Retained intron	-		
Snx32-206	ENSMUST00000237945.2	2229	No protein	Retained intron	-		
Snx32-202	ENSMUST00000236120.2	1724	No protein	Retained intron	-		
Snx32-204	ENSMUST00000237249.2	518	No protein	Retained intron	-		

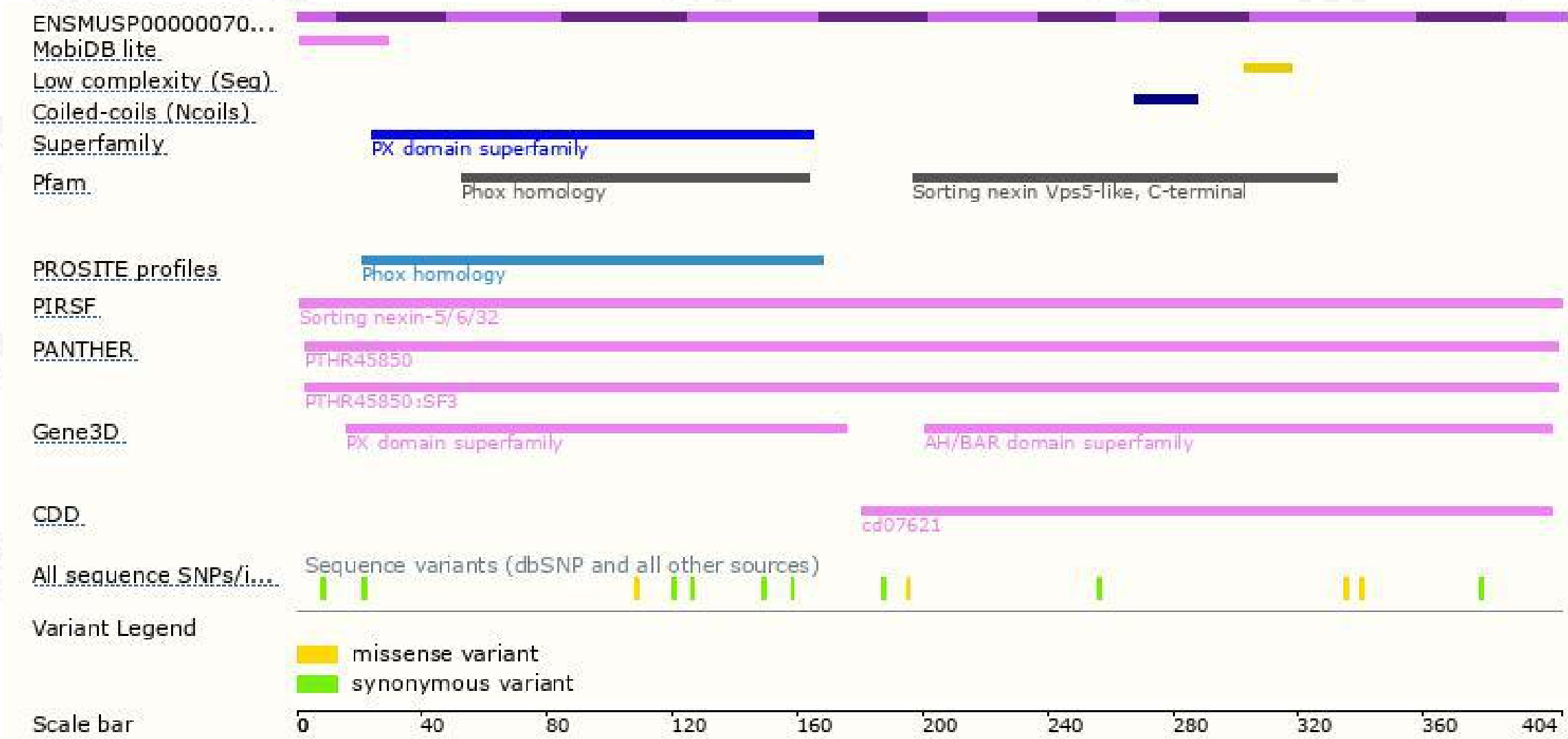
The strategy is based on the design of *Snx32-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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