

Snx4 Cas9-KO Strategy

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Project Overview

Project Name

Snx4

Project type

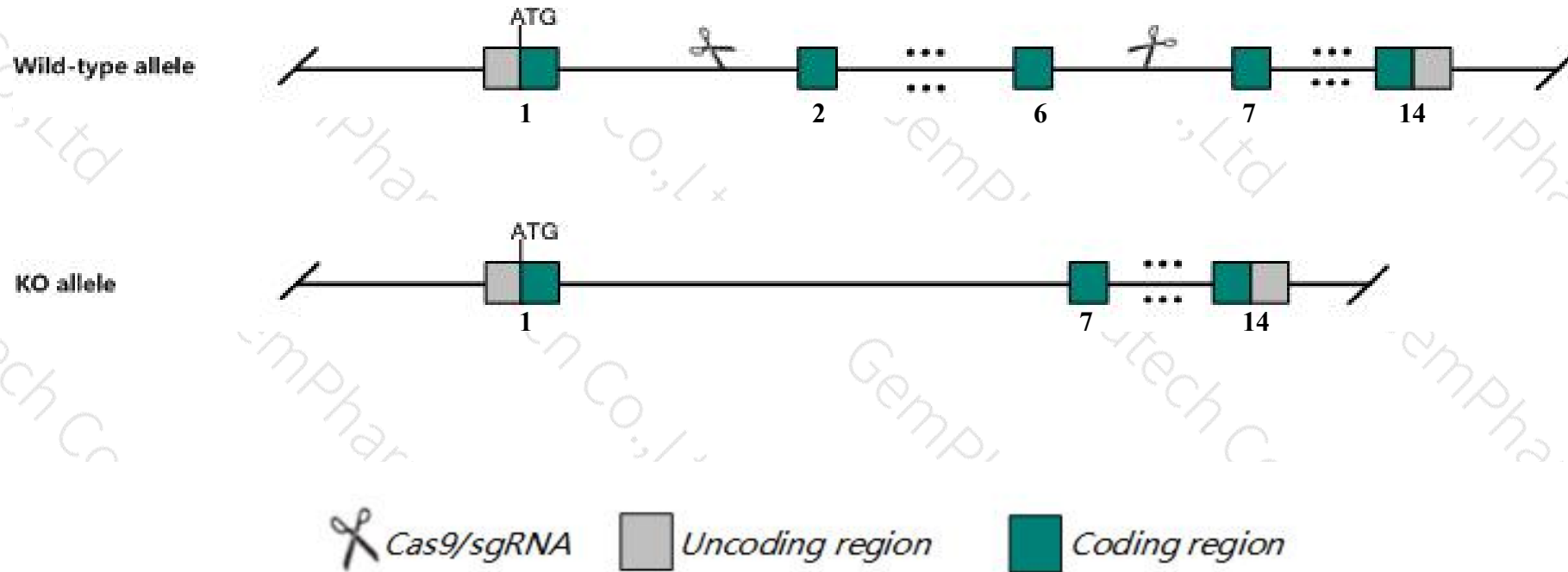
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Snx4* gene. The schematic diagram is as follows:



- The *Snx4* gene has 4 transcripts. According to the structure of *Snx4* gene, exon2-exon6 of *Snx4-201* (ENSMUST00000023502.5) transcript is recommended as the knockout region. The region contains 512bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Snx4* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and 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 *Snx4* gene is located on the Chr16. 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)

Snx4 sorting nexin 4 [*Mus musculus* (house mouse)]

Gene ID: 69150, updated on 31-Jan-2019

Summary

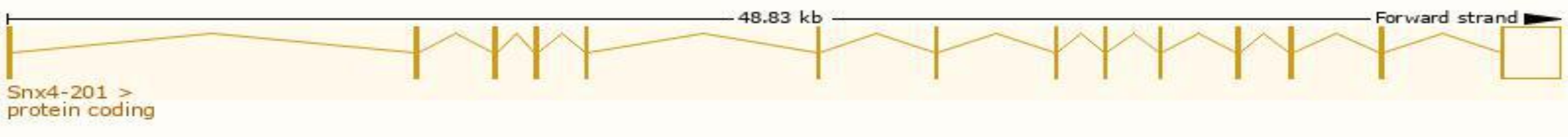
Official Symbol	Snx4 provided by MGI
Official Full Name	sorting nexin 4 provided by MGI
Primary source	MGI:MGI:1916400
See related	Ensembl:ENSMUSG00000022808
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI037066; 1810036H14Rik
Expression	Ubiquitous expression in placenta adult (RPKM 23.3), limb E14.5 (RPKM 14.6) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

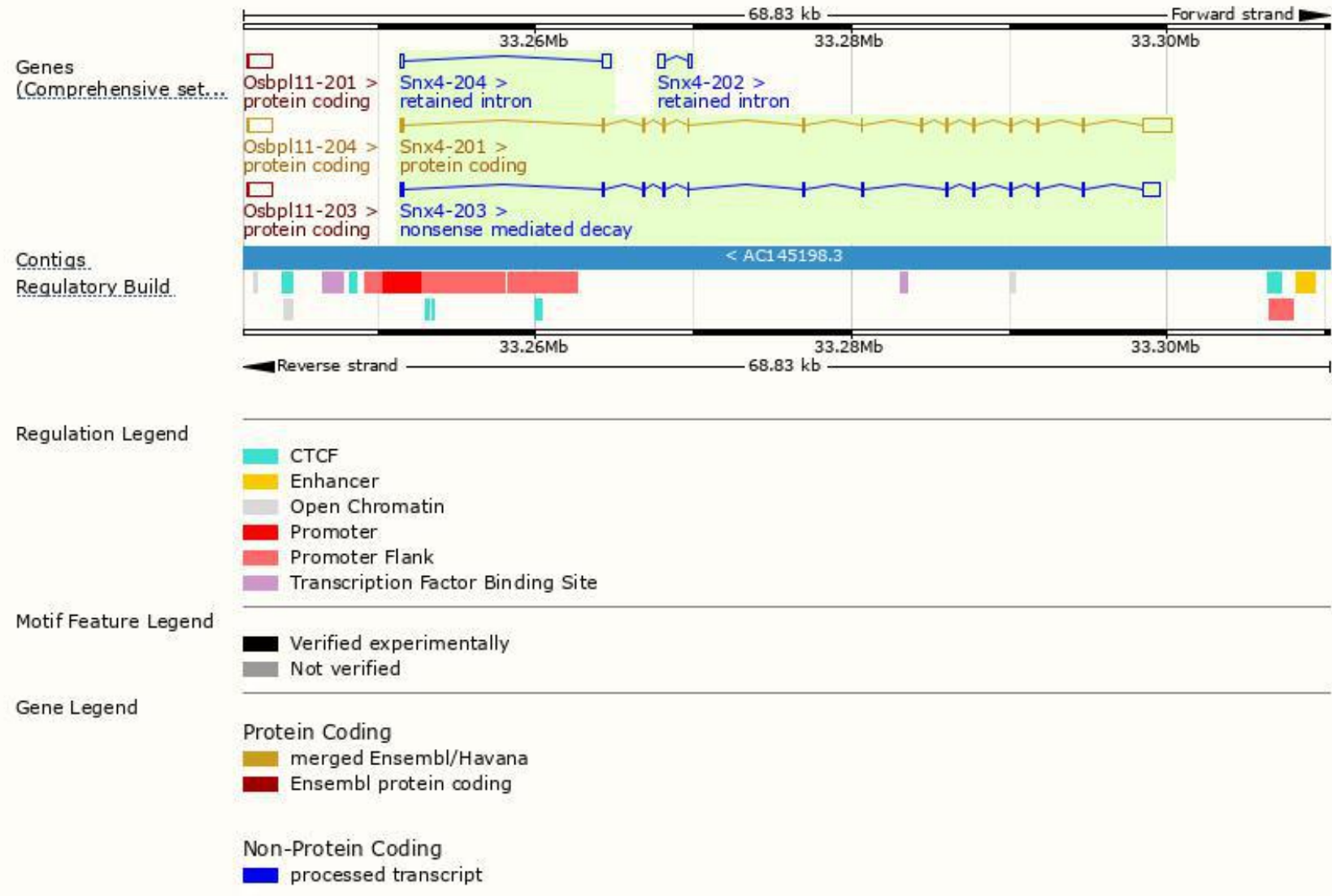
The gene has 4 transcripts,all transcripts are shown below:

Show/hide columns (1 hidden)							Filter	
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags	
Snx4-204	ENSMUST00000232228.1	643	No protein	Retained intron	-	-	-	
Snx4-203	ENSMUST00000231389.1	2457	248aa	Nonsense mediated decay	-	A0A338P7D2	-	
Snx4-202	ENSMUST00000231242.1	600	No protein	Retained intron	-	-	-	
Snx4-201	ENSMUST0000023502.5	3161	450aa	Protein coding	CCDS28129	Q91YJ2	TSL:1	GENCODE basic APPRIS P1

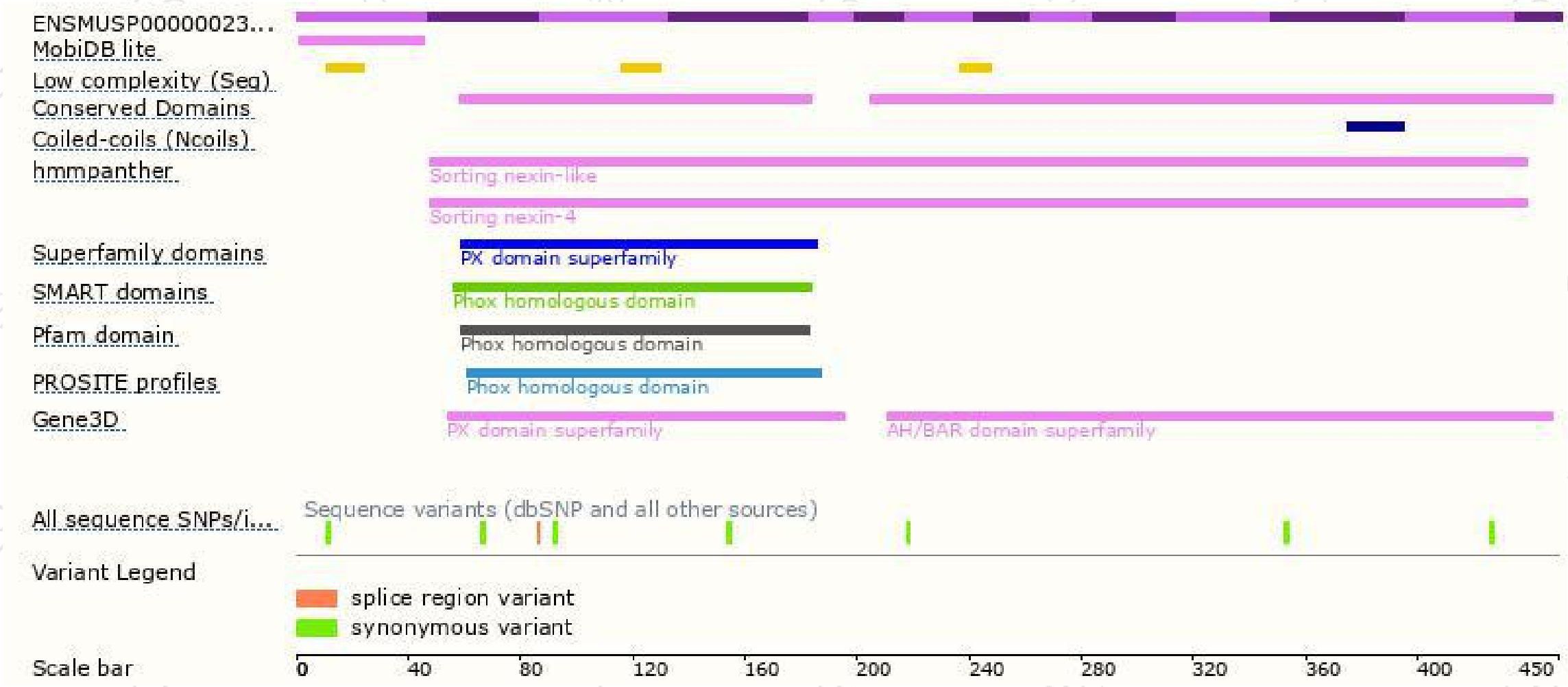
The strategy is based on the design of *Snx4-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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