

Sept11 Cas9-CKO Strategy

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Project Overview

Project Name

Sept11

Project type

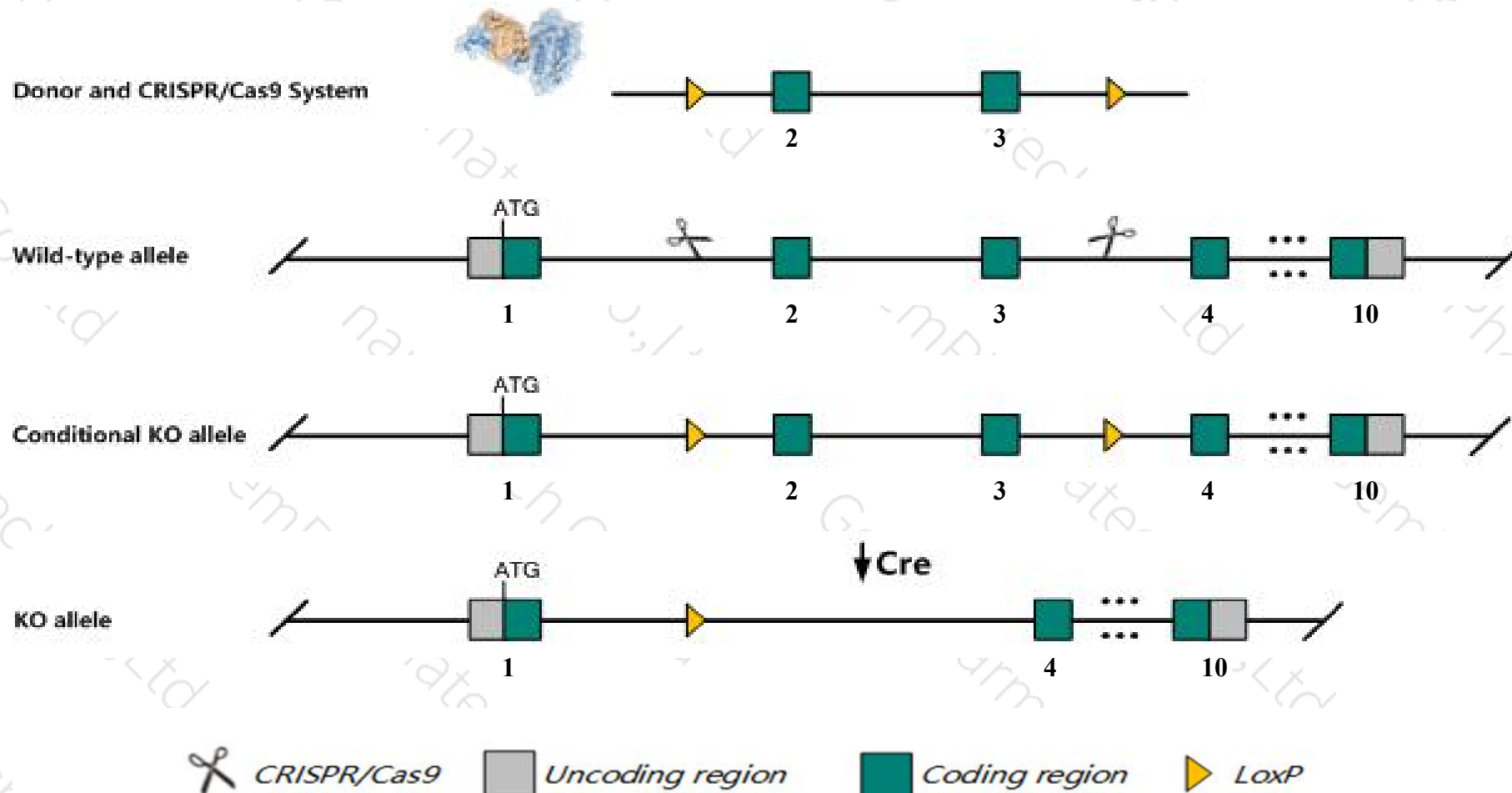
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Sept11* gene. The schematic diagram is as follows:



- The *Sept11* gene has 9 transcripts. According to the structure of *Sept11* gene, exon2-exon3 of *Sept11-201* (ENSMUST00000074733.10) transcript is recommended as the knockout region. The region contains 311bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Sept11* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Sept11* gene is located on the Chr5. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Sept11 septin 11 [Mus musculus (house mouse)]

Gene ID: 52398, updated on 7-Apr-2019

Summary



Official Symbol	Sept11 provided by MGI
Official Full Name	septin 11 provided by MGI
Primary source	MGI:MGI:1277214
See related	Ensembl:ENSMUSG00000058013
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	6230410I01Rik, AW548875, D5Ert606e, Septin11
Expression	Ubiquitous expression in CNS E11.5 (RPKM 26.3), limb E14.5 (RPKM 19.8) and 26 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

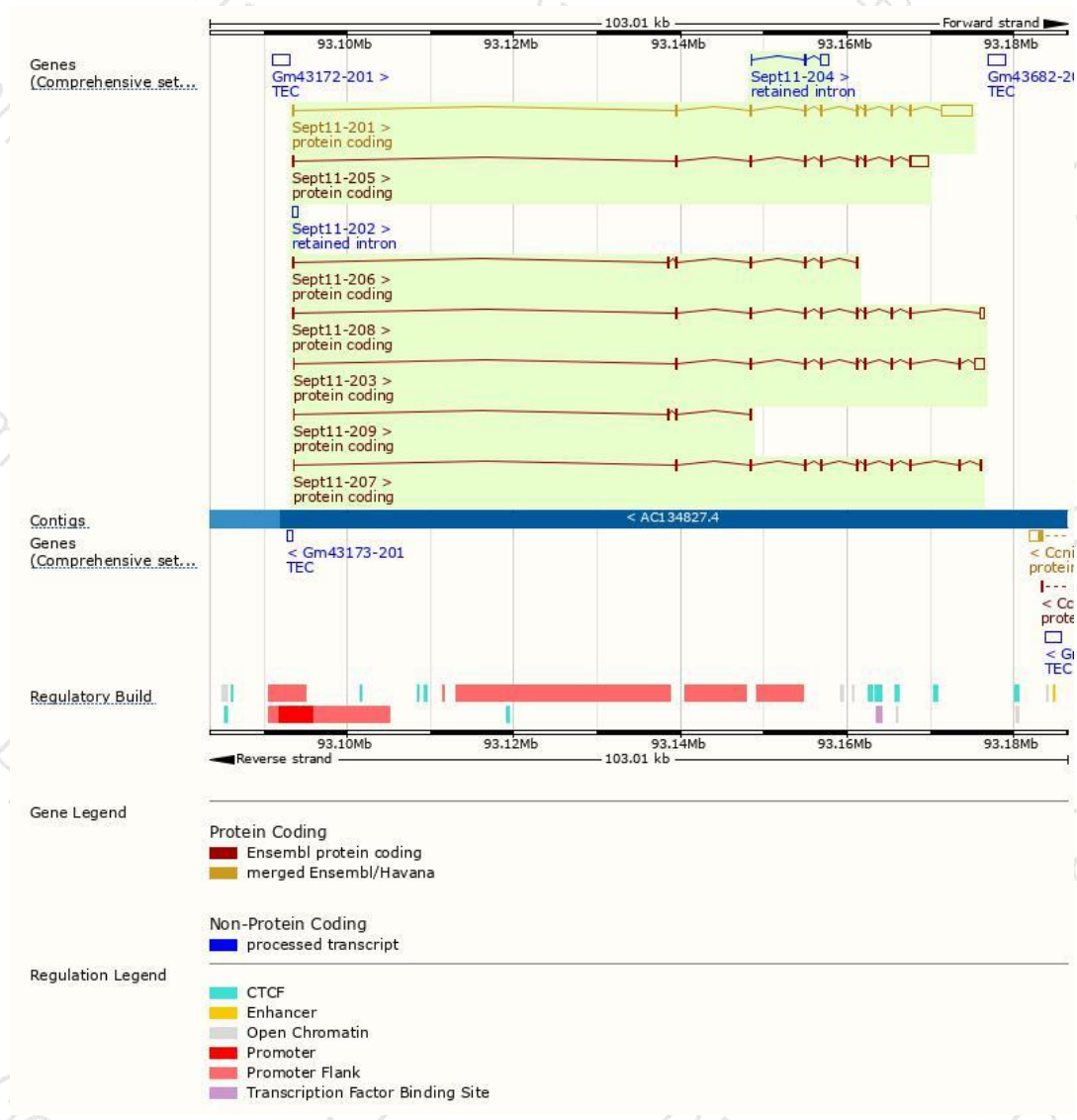
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Sept11-201	ENSMUST00000074733.10	5028	429aa	Protein coding	CCDS51549	Q8C1B7	TSL:1 GENCODE basic APPRIS P3
Sept11-203	ENSMUST00000201421.3	2428	431aa	Protein coding	CCDS80331	Q8C1B7	TSL:1 GENCODE basic
Sept11-208	ENSMUST00000202308.3	1792	425aa	Protein coding	CCDS80332	Q8C1B7	TSL:5 GENCODE basic APPRIS ALT1
Sept11-207	ENSMUST00000202217.2	1380	432aa	Protein coding	CCDS84906	A0A0J9YUL3	TSL:5 GENCODE basic APPRIS ALT1
Sept11-205	ENSMUST00000201700.3	3478	425aa	Protein coding	-	A0A0J9YTY0	TSL:2 GENCODE basic
Sept11-206	ENSMUST00000202196.3	1066	204aa	Protein coding	-	A0A0J9YVA6	CDS 3' incomplete TSL:5
Sept11-209	ENSMUST00000202415.3	434	97aa	Protein coding	-	A0A0J9YUV6	CDS 3' incomplete TSL:3
Sept11-204	ENSMUST00000201695.1	1119	No protein	Retained intron	-	-	TSL:2
Sept11-202	ENSMUST00000201377.1	640	No protein	Retained intron	-	-	TSL:NA

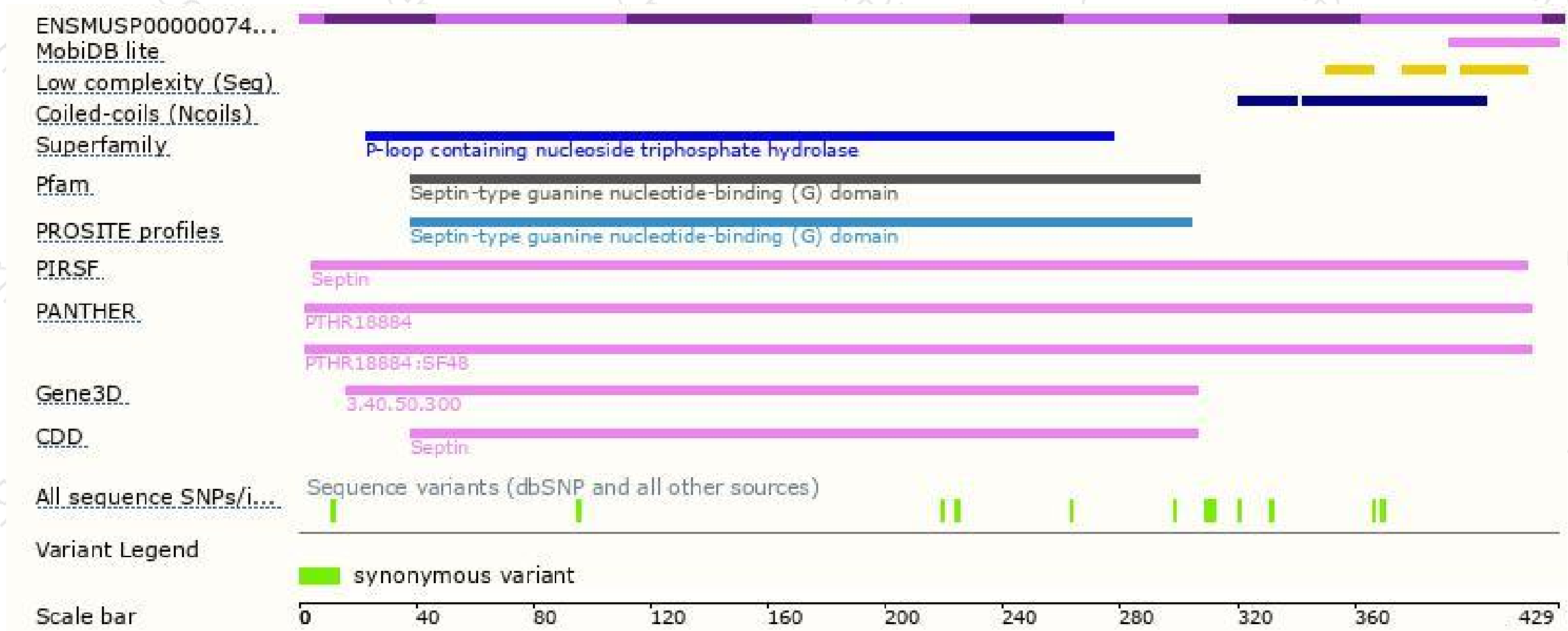
The strategy is based on the design of *Sept11-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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