

C9 Cas9-KO Strategy

Designer:

Huimin Su

Reviewer:

Ruirui Zhang

Design Date:

2019/9/23

Project Overview

Project Name

C9

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *C9* gene. The schematic diagram is as follows:



- The *C9* gene has 4 transcripts. According to the structure of *C9* gene, exon2-exon5 of *C9-201* (ENSMUST00000022749.15) transcript is recommended as the knockout region. The region contains 520bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *C9* gene. The brief process is as follows: CRISPR/Cas9 system we

- The *C9* gene is located on the Chr15. 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)

C9 complement component 9 [*Mus musculus* (house mouse)]

Gene ID: 12279, updated on 15-Aug-2019

Summary

Official Symbol	C9 provided by MGI
Official Full Name	complement component 9 provided by MGI
Primary source	MGI:MGI:1098282
See related	Ensembl:ENSMUSG00000022149
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
Expression	Biased expression in liver adult (RPKM 20.8), placenta adult (RPKM 7.9) and 1 other tissue See more
Orthologs	human all

Transcript information (Ensembl)

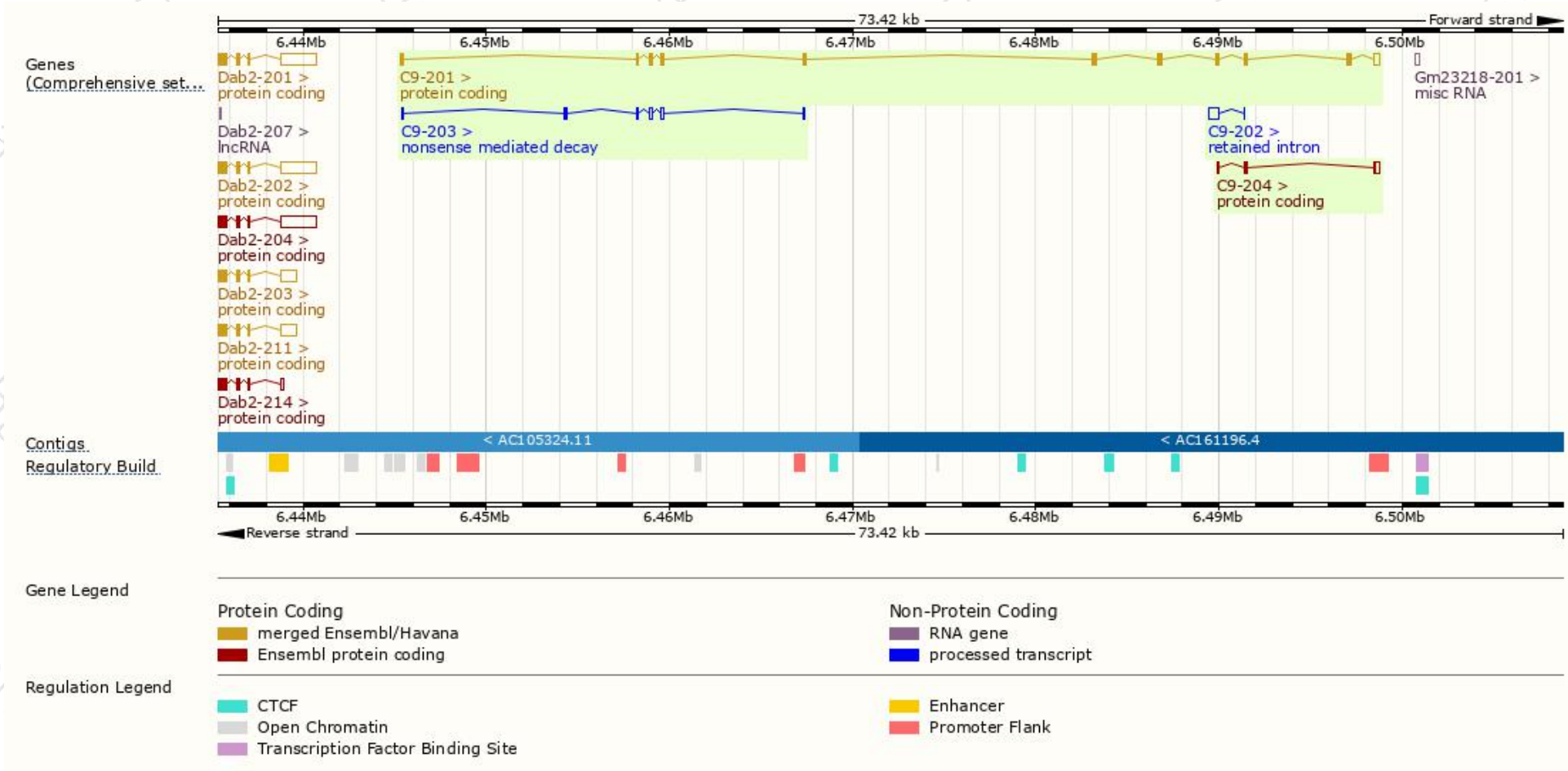
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
C9-201	ENSMUST00000022749.15	2048	561aa	Protein coding	CCDS27367	A0A0R4J032	TSL:1 GENCODE basic APPRIS P1
C9-204	ENSMUST00000147905.1	543	103aa	Protein coding	-	H3BKN4	CDS 5' incomplete TSL:3
C9-203	ENSMUST00000128097.2	736	67aa	Nonsense mediated decay	-	H3BL17	CDS 5' incomplete TSL:5
C9-202	ENSMUST00000127196.1	551	No protein	Retained intron	-	-	TSL:5

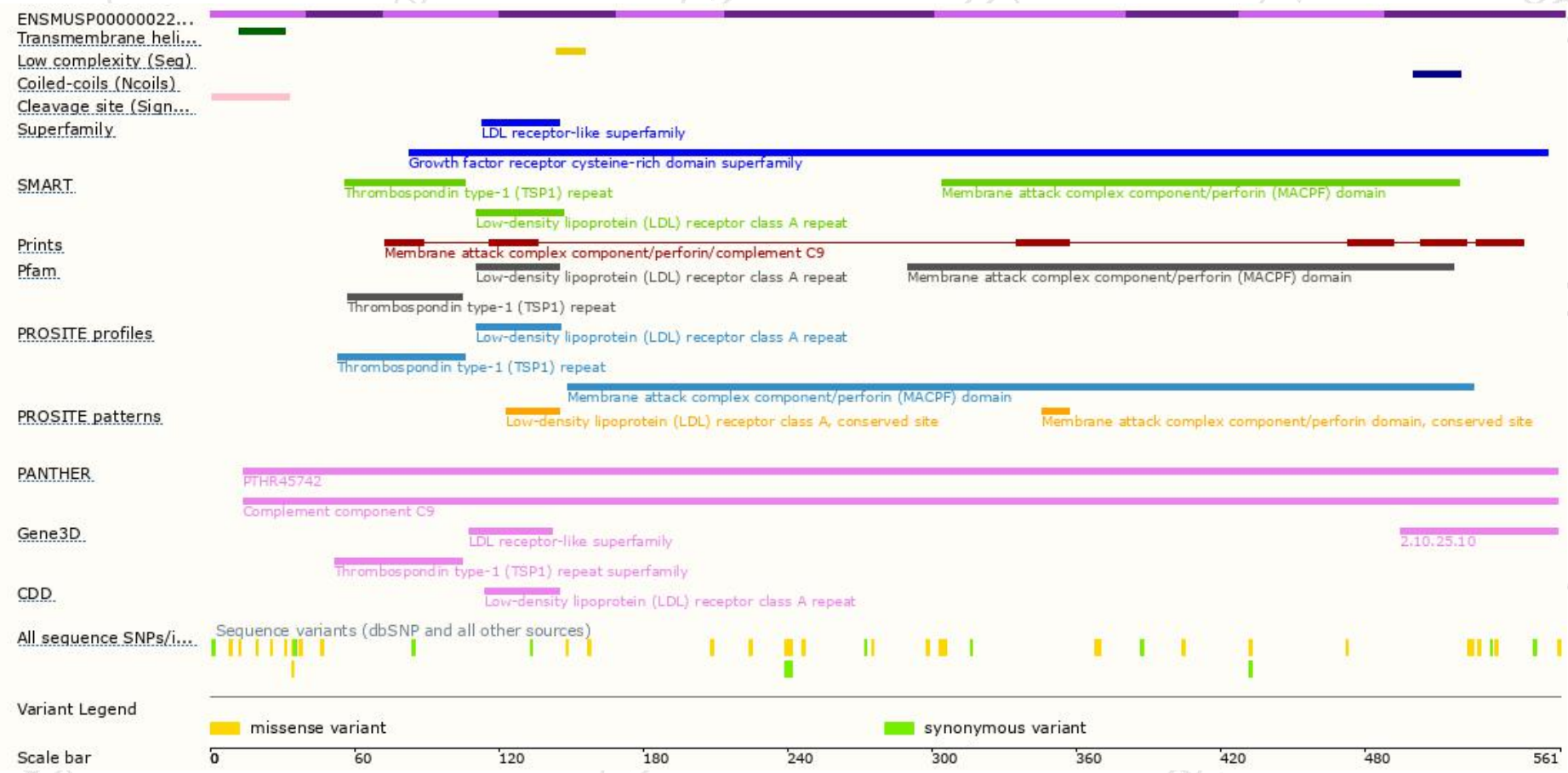
The strategy is based on the design of C9-201 transcript,The transcription is shown below



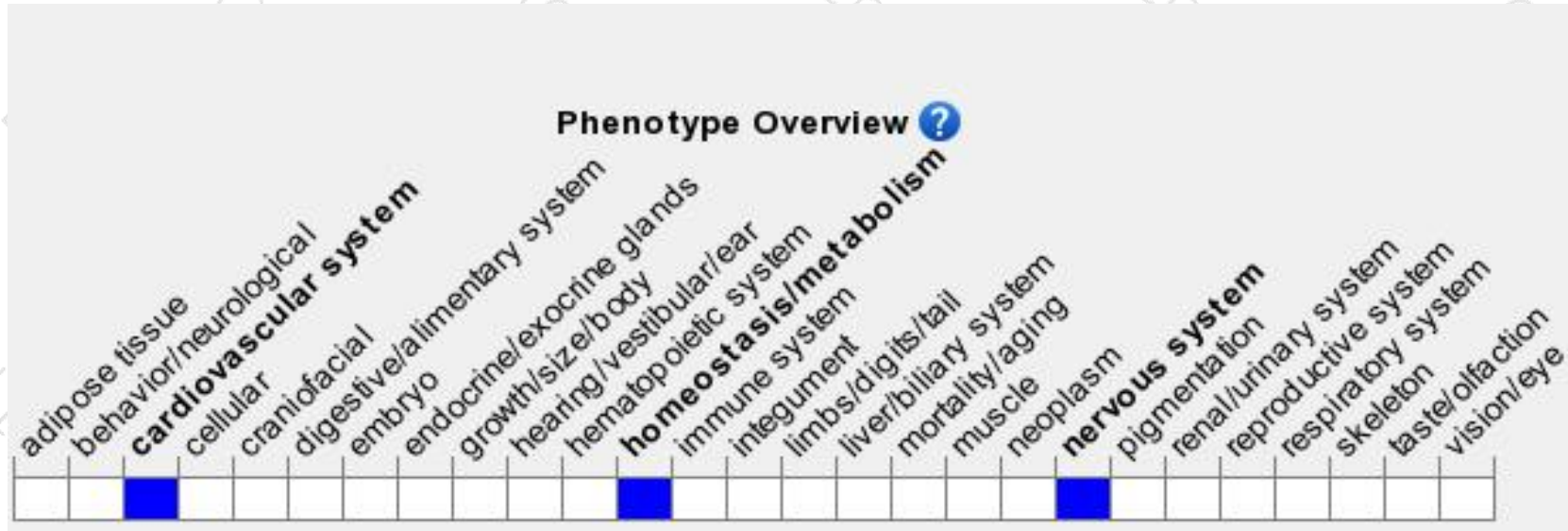
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

Tel: 400-9660890

