

Cdc27 Cas9-KO Strategy

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Project Overview

Project Name

Cdc27

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cdc27* gene. The schematic diagram is as follows:



- The *Cdc27* gene has 5 transcripts. According to the structure of *Cdc27* gene, exon2-exon4 of *Cdc27-201* (ENSMUST00000093923.8) transcript is recommended as the knockout region. The region contains 350bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cdc27* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Cdc27* 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)

Cdc27 cell division cycle 27 [Mus musculus (house mouse)]

Gene ID: 217232, updated on 31-Jan-2019

Summary



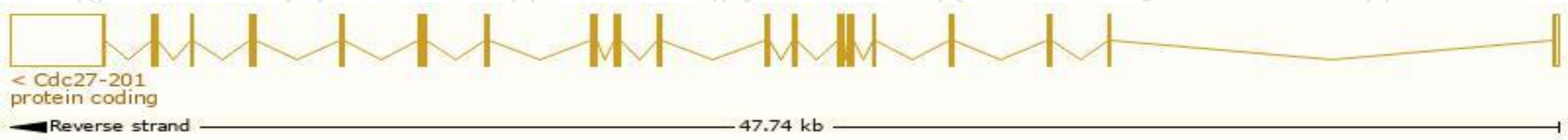
Official Symbol	Cdc27 provided by MGI
Official Full Name	cell division cycle 27 provided by MGI
Primary source	MGI:MGI:102685
See related	Ensembl:ENSMUSG00000020687
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI452358, APC3, BC023187
Expression	Ubiquitous expression in CNS E11.5 (RPKM 13.7), placenta adult (RPKM 12.0) and 25 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

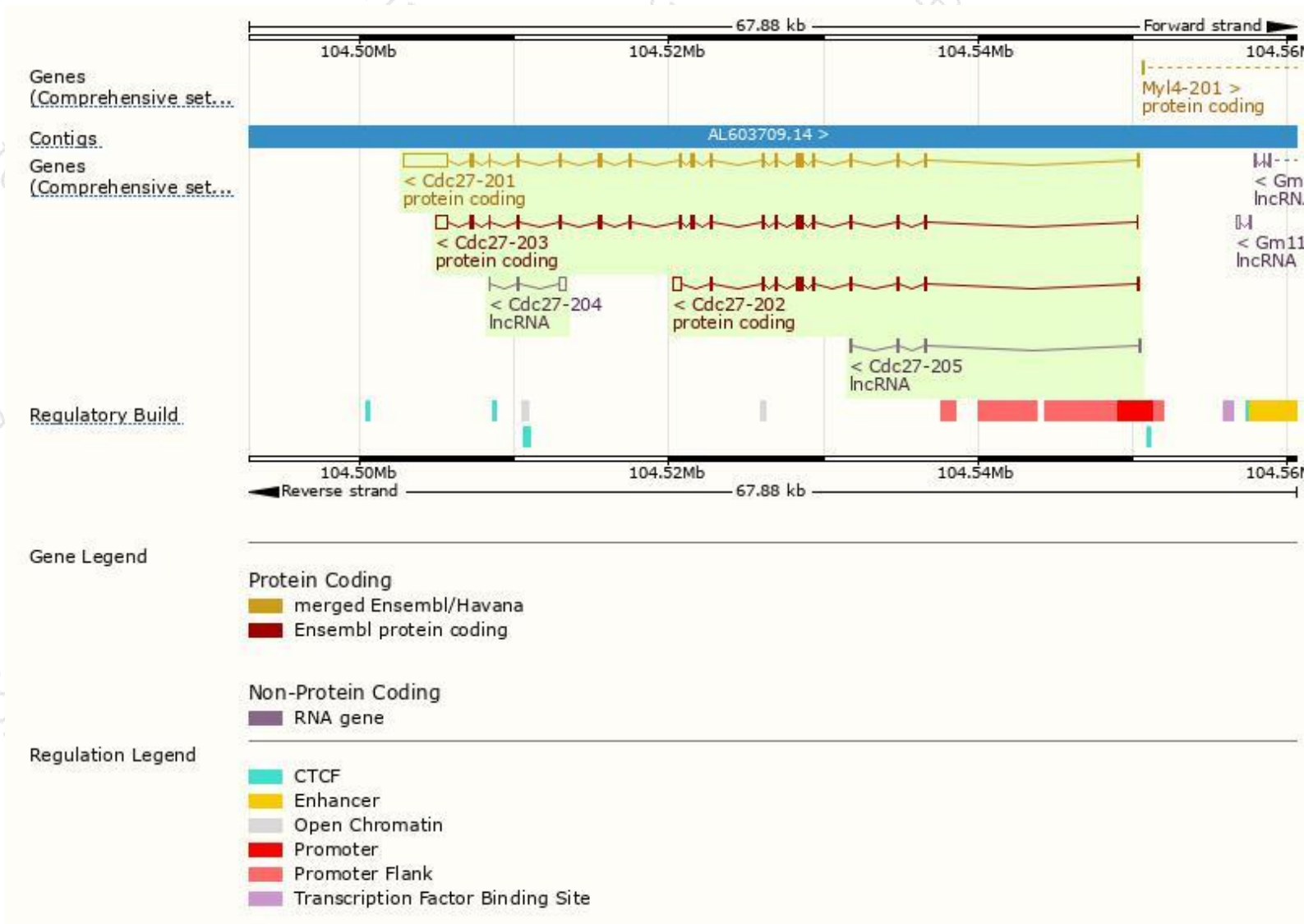
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cdc27-201	ENSMUST00000093923.8	5425	825aa	Protein coding	CCDS36354	A2A6Q5	TSL:1 GENCODE basic APPRIS P2
Cdc27-203	ENSMUST00000106962.8	3160	831aa	Protein coding	-	A2A6Q5	TSL:5 GENCODE basic APPRIS ALT 1
Cdc27-202	ENSMUST00000106961.1	1863	399aa	Protein coding	-	Q8R568	TSL:1 GENCODE basic
Cdc27-204	ENSMUST00000127506.1	580	No protein	lncRNA	-	-	TSL:3
Cdc27-205	ENSMUST00000135303.1	486	No protein	lncRNA	-	-	TSL:2

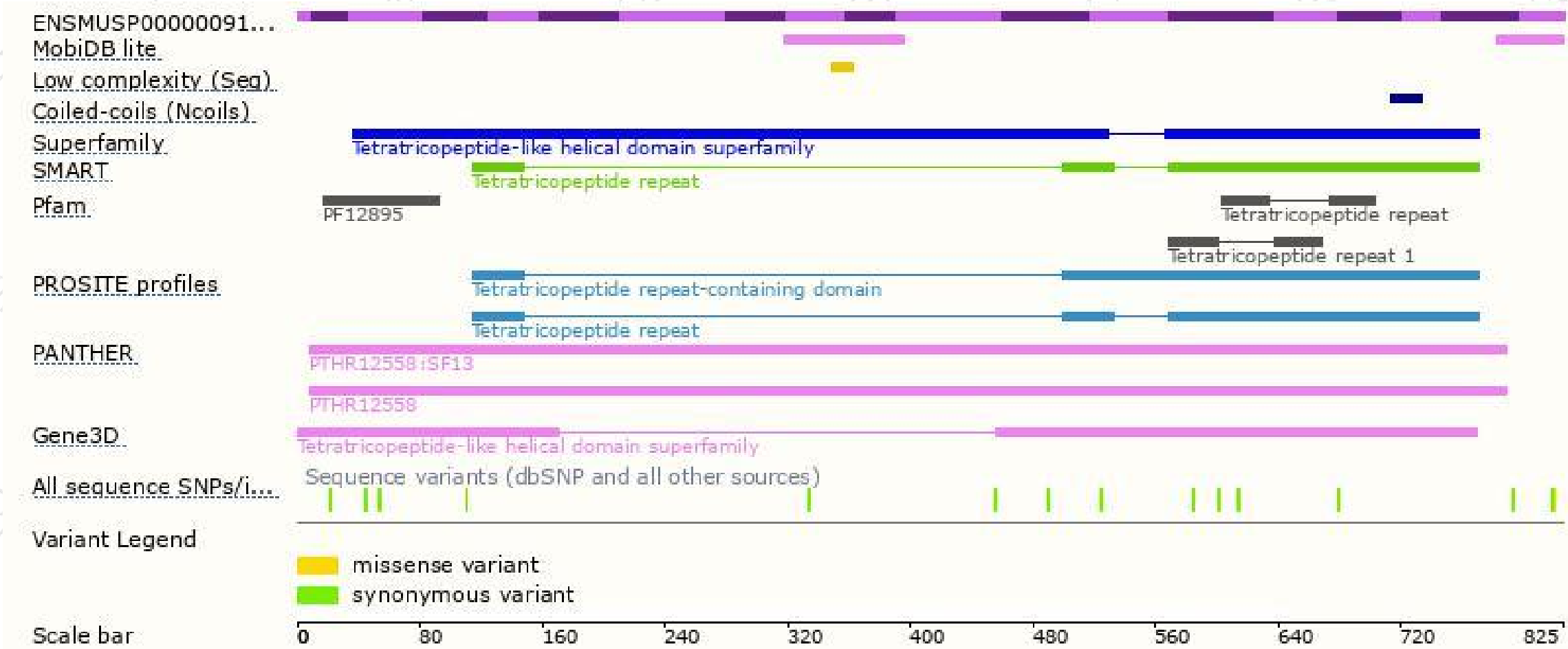
The strategy is based on the design of *Cdc27-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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