

Cdkl1 Cas9-KO Strategy

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Project Overview

Project Name

Cdkl1

Project type

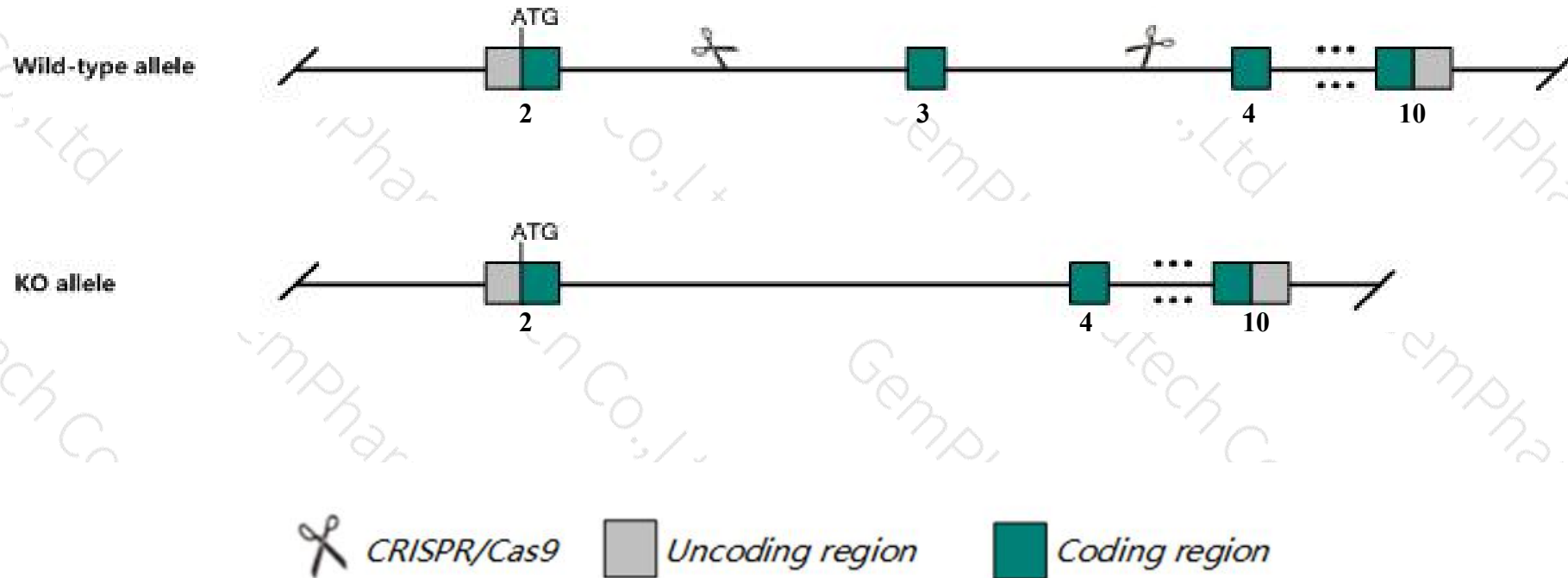
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cdkl1* gene. The schematic diagram is as follows:



- The *Cdkl1* gene has 2 transcripts. According to the structure of *Cdkl1* gene, exon3 of *Cdkl1-201* (ENSMUST00000021377.4) transcript is recommended as the knockout region. The region contains 122bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cdkl1* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Cdkl1* gene is located on the Chr12. 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)

Cdkl1 cyclin-dependent kinase-like 1 (CDC2-related kinase) [*Mus musculus* (house mouse)]

Gene ID: 71091, updated on 14-Aug-2019

Summary

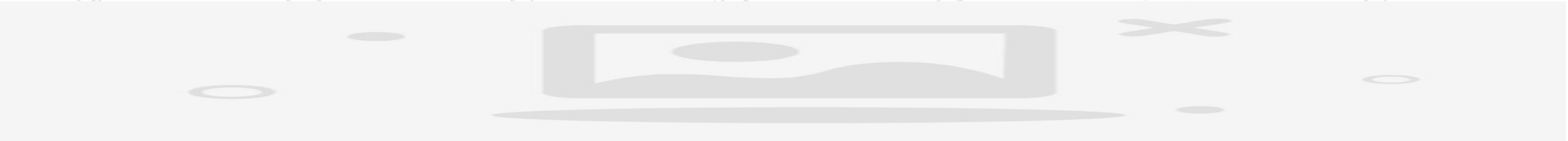
Official Symbol	Cdkl1 provided by MGI
Official Full Name	cyclin-dependent kinase-like 1 (CDC2-related kinase) provided by MGI
Primary source	MGI:MGI:1918341
See related	Ensembl:ENSMUSG00000020990
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4933411O17Rik
Expression	Biased expression in kidney adult (RPKM 23.9), ovary adult (RPKM 3.4) and 7 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

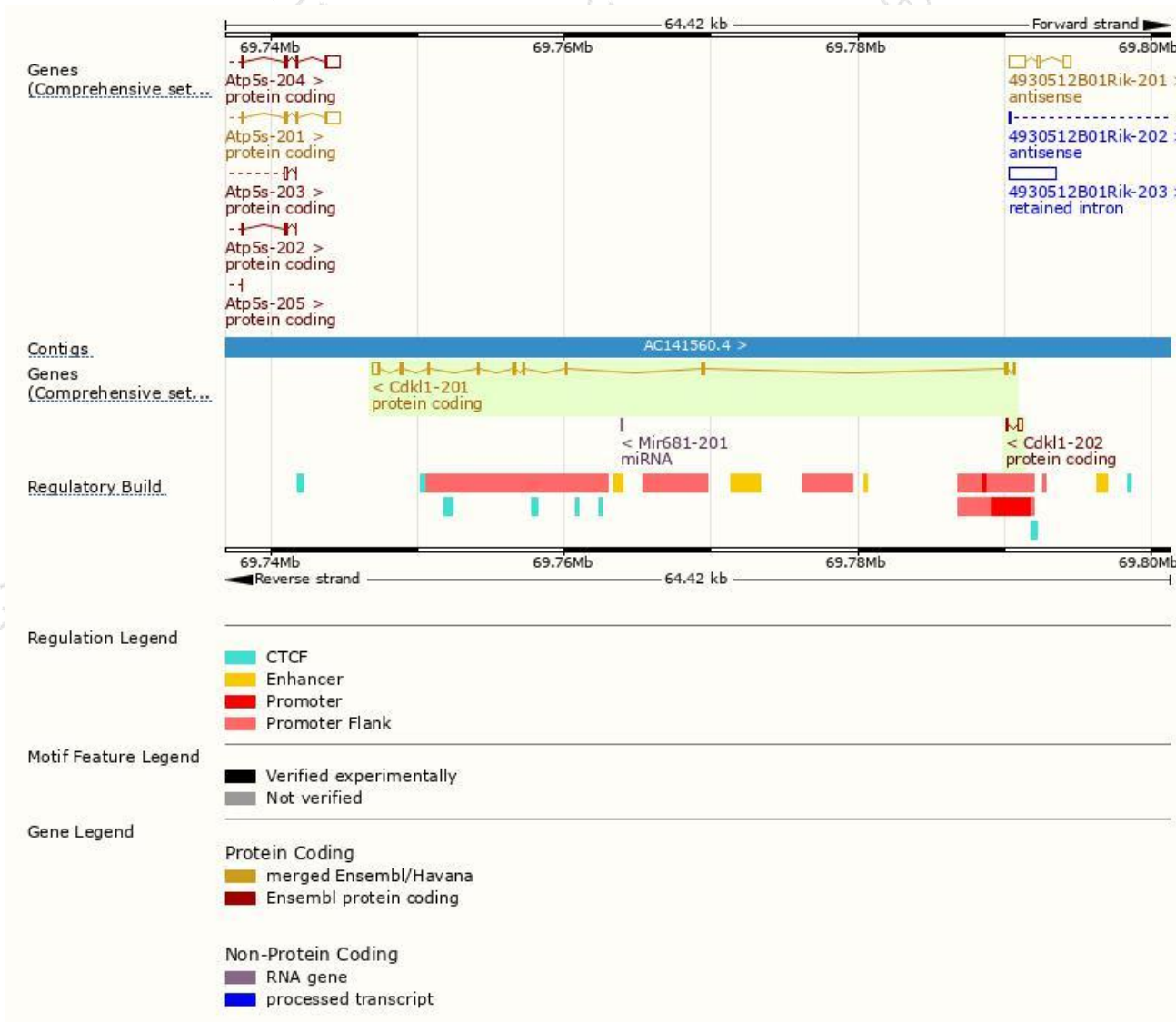
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cdkl1-201	ENSMUST00000021377.4	1689	352aa	Protein coding	CCDS25955	Q14BG3 Q8CEQ0	TSL:1 GENCODE basic APPRIS P1
Cdkl1-202	ENSMUST00000221646.1	465	1aa	Protein coding	-	-	CDS 3' incomplete TSL:2

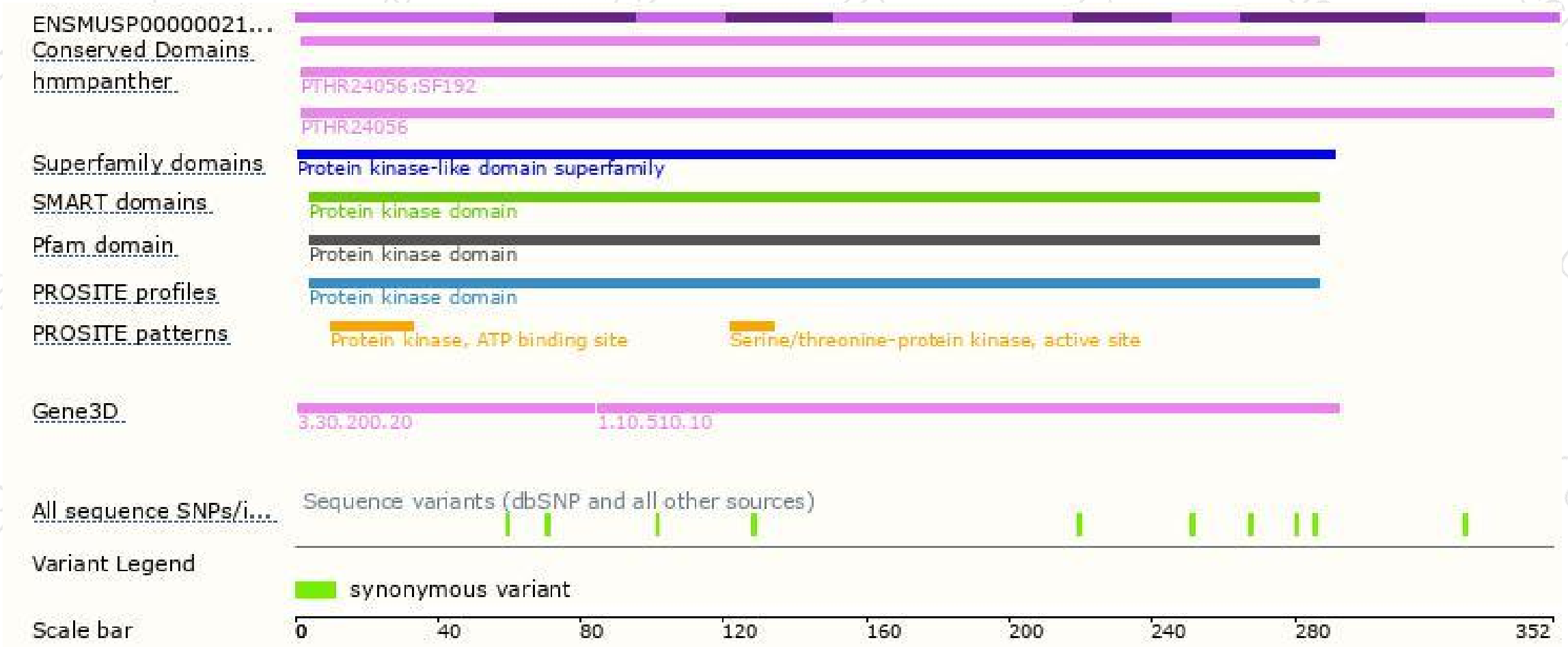
The strategy is based on the design of *Cdkl1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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