

Ccnh Cas9-KO Strategy

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Project Overview

Project Name

Ccnh

Project type

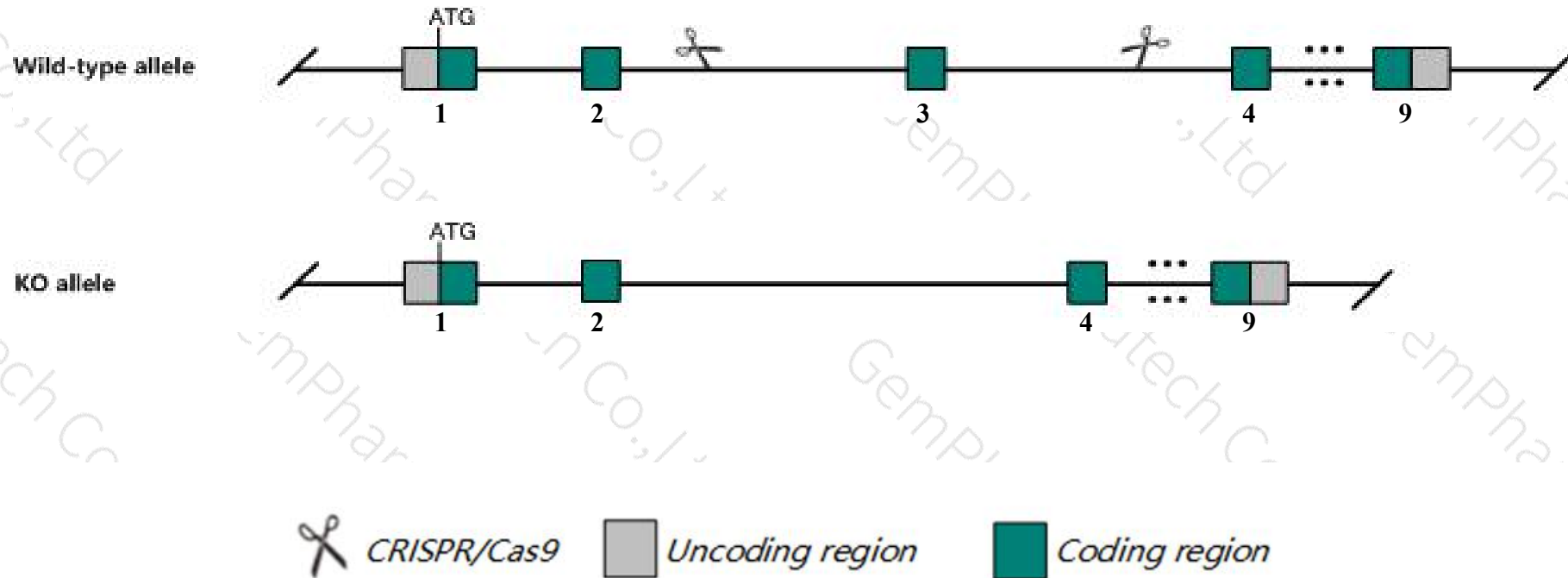
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Ccnh* gene has 7 transcripts. According to the structure of *Ccnh* gene, exon3 of *Ccnh-201* (ENSMUST00000022030.10) transcript is recommended as the knockout region. The region contains 74bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ccnh* gene. The brief process is as follows: CRISPR/Cas9 system v

- The *Ccnh* gene is located on the Chr13. 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.
- Transcript *Ccnh*-203 may not be affected.
- 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)

Ccnh cyclin H [*Mus musculus* (house mouse)]

Gene ID: 66671, updated on 10-Oct-2019

Summary

Official Symbol	Ccnh provided by MGI
Official Full Name	cyclin H provided by MGI
Primary source	MGI:MGI:1913921
See related	Ensembl:ENSMUSG00000021548
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	AI661354; AV102684; AW538719; 6330408H09Rik
Expression	Ubiquitous expression in CNS E11.5 (RPKM 14.7), CNS E18 (RPKM 11.2) and 26 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

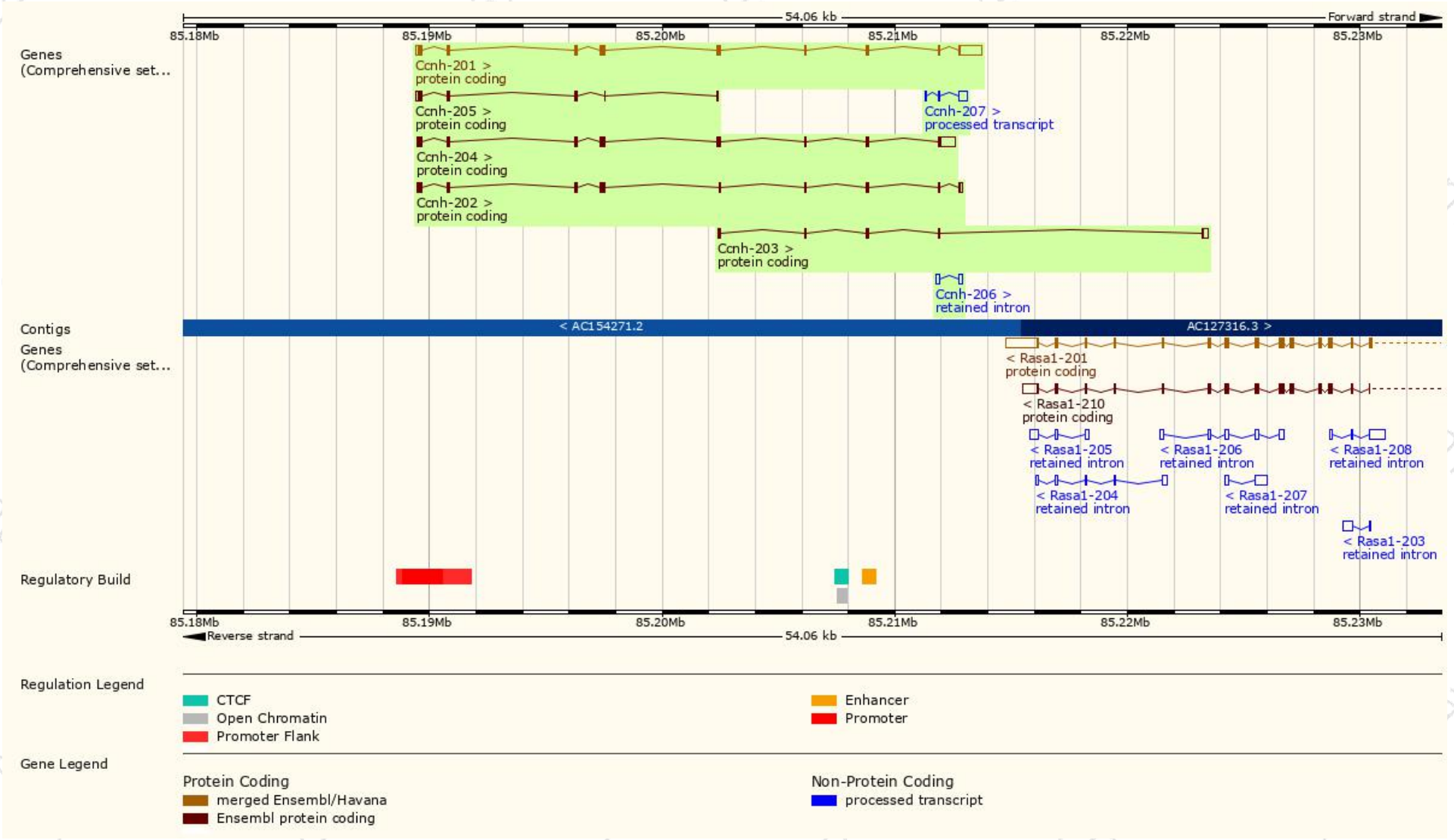
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ccnh-201	ENSMUST00000022030.10	2045	323aa	Protein coding	CCDS26666	Q61458	TSL:1 GENCODE basic APPRIS P1
Ccnh-202	ENSMUST00000163600.7	1055	287aa	Protein coding	CCDS84047	E9PWD3	TSL:5 GENCODE basic
Ccnh-204	ENSMUST00000164127.7	1718	327aa	Protein coding	-	Q3UUW5	TSL:1 GENCODE basic
Ccnh-203	ENSMUST00000163713.1	599	121aa	Protein coding	-	F7D1U6	CDS 5' incomplete TSL:2
Ccnh-205	ENSMUST00000165077.7	527	142aa	Protein coding	-	E9QA43	CDS 3' incomplete TSL:1
Ccnh-207	ENSMUST00000172029.1	465	No protein	Processed transcript	-	-	TSL:5
Ccnh-206	ENSMUST00000166932.1	297	No protein	Retained intron	-	-	TSL:2

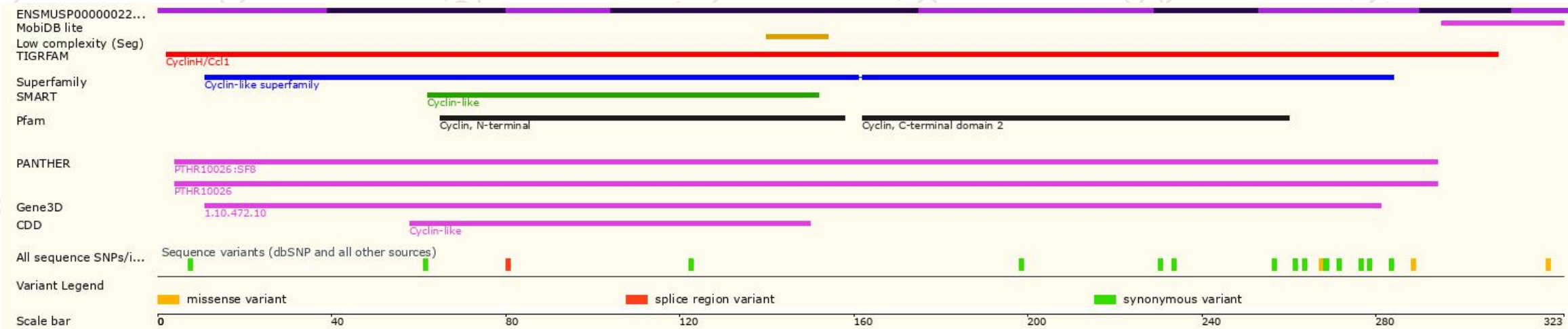
The strategy is based on the design of *Ccnh-201* transcript, the transcription is shown below:



Genomic location distribution



Protein domain



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

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