

Cmya5 Cas9-KO Strategy

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Project Overview

Project Name

Cmya5

Project type

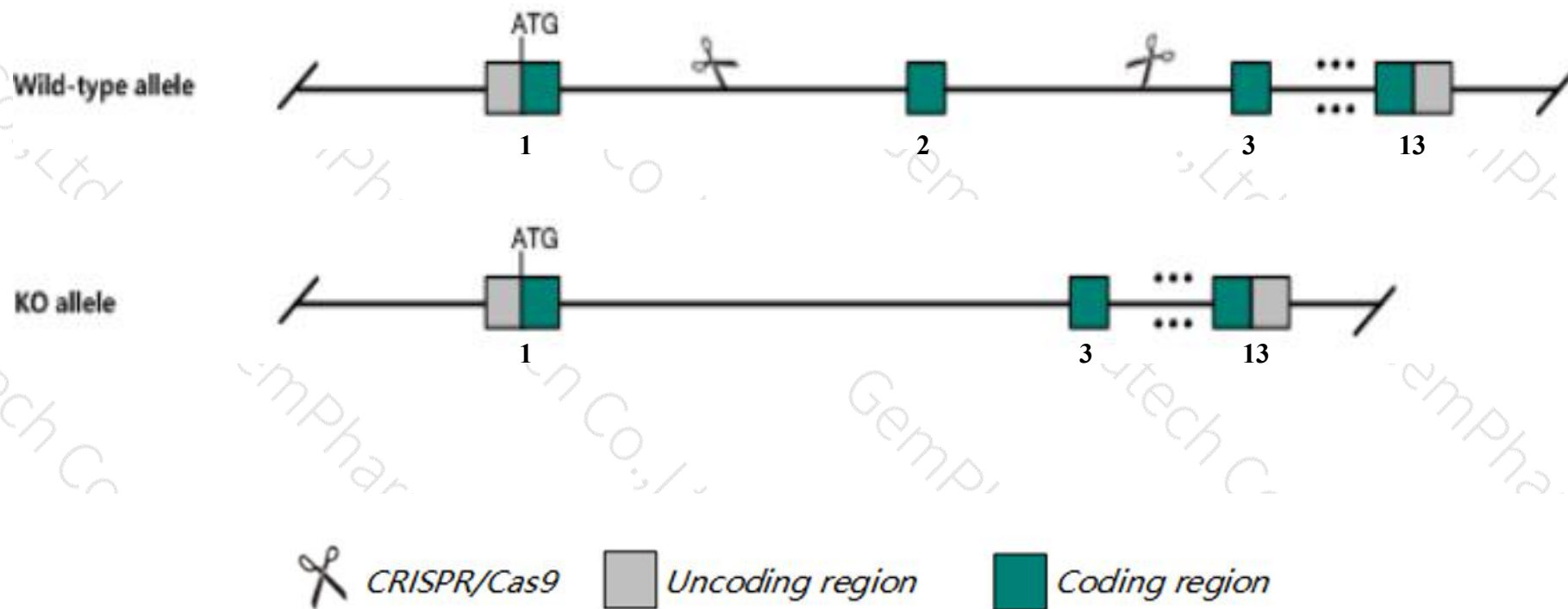
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cmya5* gene. The schematic diagram is as follows:



- The *Cmya5* gene has 1 transcript. According to the structure of *Cmya5* gene, exon2 of *Cmya5-201* (ENSMUST00000062122.3) transcript is recommended as the knockout region. The region contains 9310bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cmya5* gene. The brief process is as follows: CRISPR/Cas9 system

- The KO region contains functional region of the *A630019I02Rik* gene. Knockout the region may affect the function of *A630019I02Rik* gene.
- The *Cmya5* 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.
- 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)

Cmya5 cardiomyopathy associated 5 [Mus musculus (house mouse)]

Gene ID: 76469, updated on 13-Mar-2020

Summary



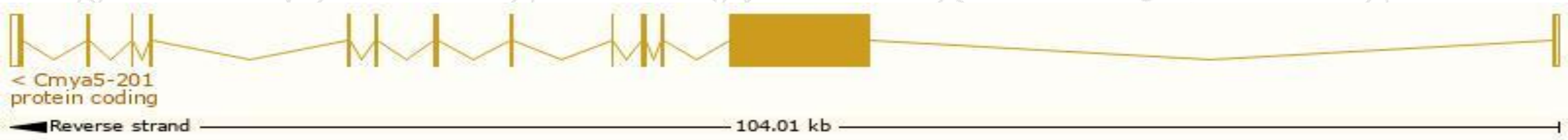
Official Symbol	Cmya5 provided by MGI
Official Full Name	cardiomyopathy associated 5 provided by MGI
Primary source	MGI:MGI:1923719
See related	Ensembl:ENSMUSG00000047419
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2310076E16Rik, 2310076E21Rik, AA420382, AI504003, Srfsd, Tims, sr553
Expression	Biased expression in heart adult (RPKM 21.9), mammary gland adult (RPKM 4.3) and 1 other tissue See more
Orthologs	human all

Transcript information (Ensembl)

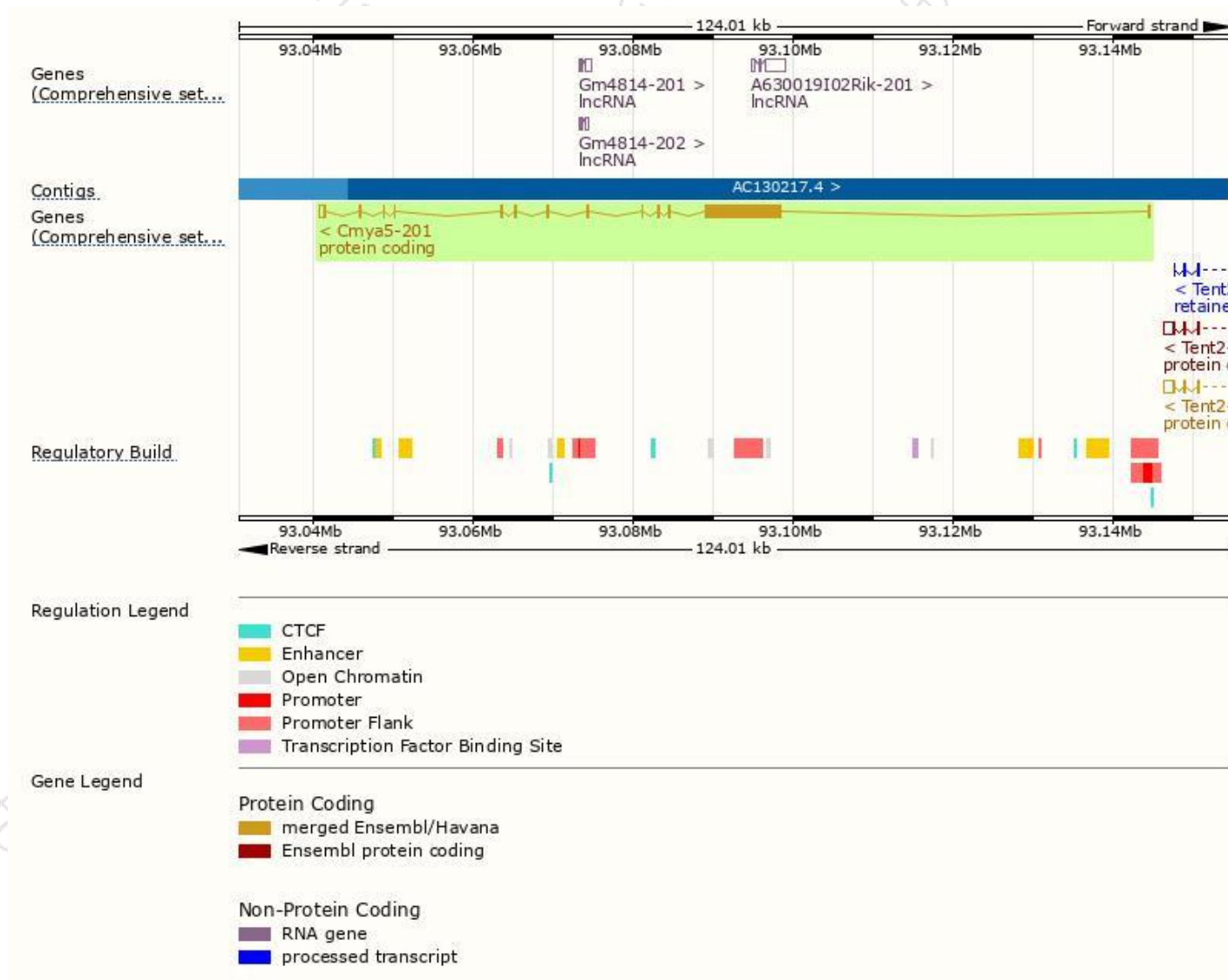
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cmya5-201	ENSMUST00000062122.3	11850	3676aa	Protein coding	CCDS49329	E9QLJ0	TSL:1 GENCODE basic APPRIS is a system to annotate alternatively spliced transcripts based on a range of computational methods to identify the most functionally important transcript(s) of a gene. APPRIS P1

The strategy is based on the design of *Cmya5-201* 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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