

Carmn Cas9-KO Strategy

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Project Overview

Project Name

Carmn

Project type

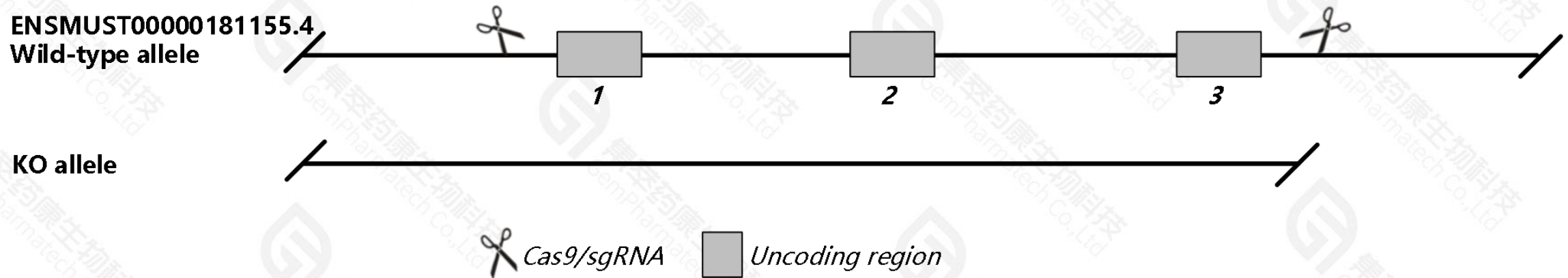
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Carmn* gene has 2 transcripts. According to the structure of *Carmn* gene, exon1-exon3 of *Carmn*-201(ENSMUST00000181155.4) transcript is recommended as the knockout region. The region contains all of sequence. Knock out the region will result in disruption of gene function.
- In this project we use CRISPR/Cas9 technology to modify *Carmn* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The KO region is close to *Mir143* and *Mir145a* gene. Knockout the region may affect the function of *Mir143* and *Mir145a* gene.
- The *Carmn* gene is located on the Chr18. 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)

Carmn cardiac mesoderm enhancer-associated non-coding RNA [*Mus musculus* (house mouse)]

[Download Datasets](#)

Gene ID: 328968, updated on 6-May-2021

Summary



Official Symbol	Carmn provided by MGI
Official Full Name	cardiac mesoderm enhancer-associated non-coding RNA provided by MGI
Primary source	MGI:MGI:4439832
Gene type	ncRNA
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	Car; Carmen; Mir143; Gm16908; Mir143hg; E330013P06
Expression	Biased expression in bladder adult (RPKM 136.6), stomach adult (RPKM 103.1) and 13 other tissues See more
Orthologs	human all

NEW

Try the new [Gene table](#)

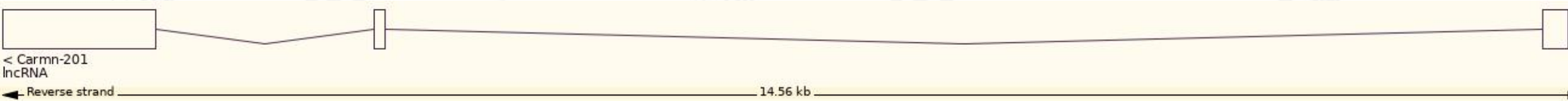
Try the new [Transcript table](#)

Transcript information (Ensembl)

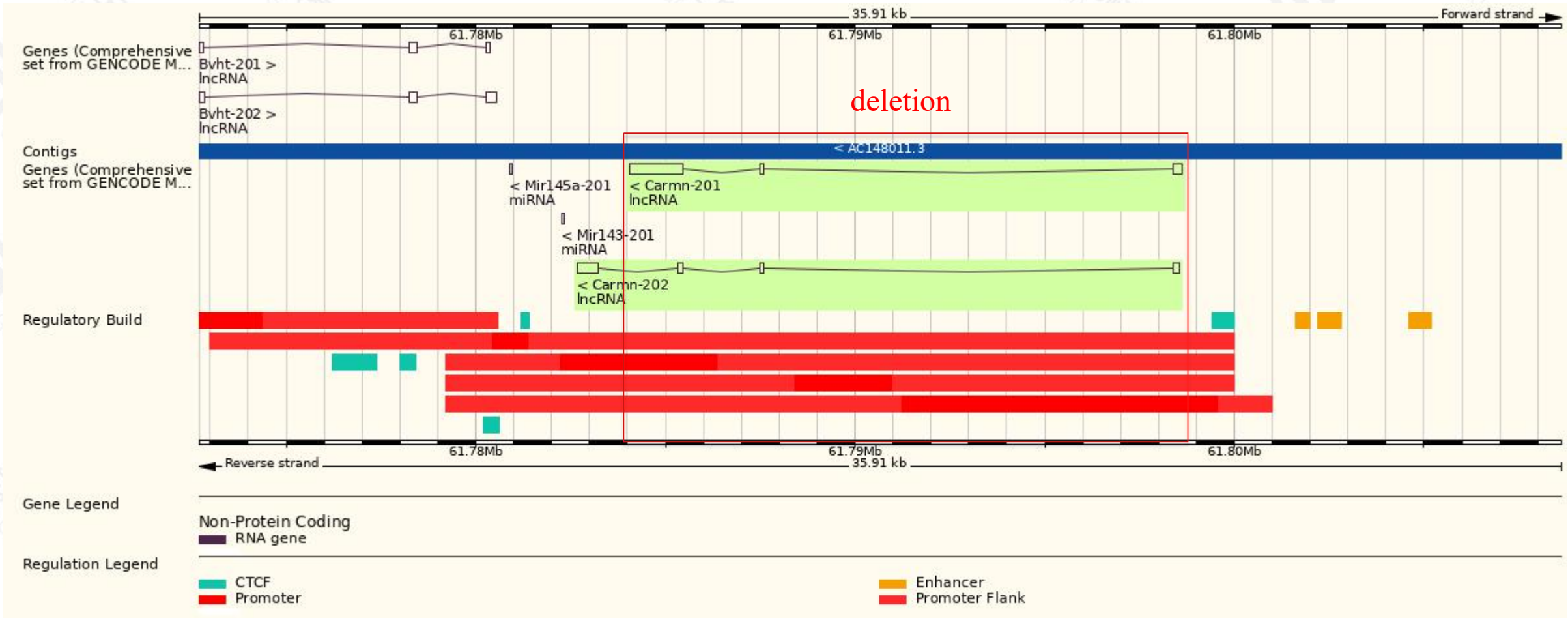
The gene has 2 transcripts,all transcripts are shown below:

Name ▲	Transcript ID ▲	bp ▲	Protein ▲	Biotype ▲	CCDS ▲	Flags ▲
Carmn-201	ENSMUST00000181155.4	1778	No protein	lncRNA	-	GENCODE basic TSL:2
Carmn-202	ENSMUST00000182244.8	988	No protein	lncRNA	-	GENCODE basic TSL:2

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



Genomic location distribution



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

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