

Car13 Cas9-KO Strategy

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Project Overview

Project Name

Car13

Project type

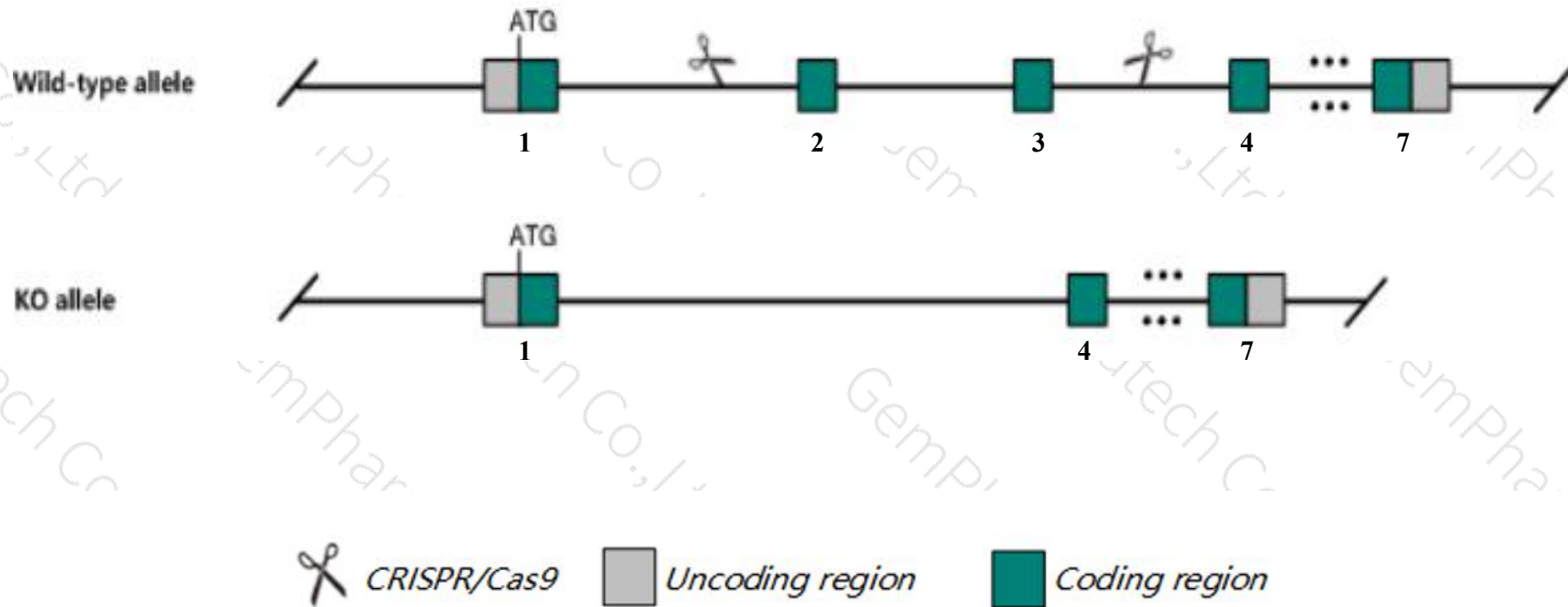
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Car13* gene. The schematic diagram is as follows:



- The *Car13* gene has 1 transcript. According to the structure of *Car13* gene, exon2-exon3 of *Car13-201* (ENSMUST00000029071.8) transcript is recommended as the knockout region. The region contains 317bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Car13* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Car13* gene is located on the Chr3. 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)

Kat7 K(lysine) acetyltransferase 7 [*Mus musculus* (house mouse)]

Gene ID: 217127, updated on 29-Mar-2020

Summary



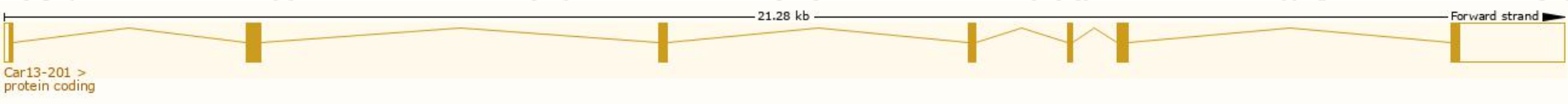
Official Symbol	Kat7 provided by MGI
Official Full Name	K(lysine) acetyltransferase 7 provided by MGI
Primary source	MGI:MGI:2182799
See related	Ensembl:ENSMUSG00000038909
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Hbo1; Hboa; Myst2
Expression	Ubiquitous expression in testis adult (RPKM 20.1), placenta adult (RPKM 13.7) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

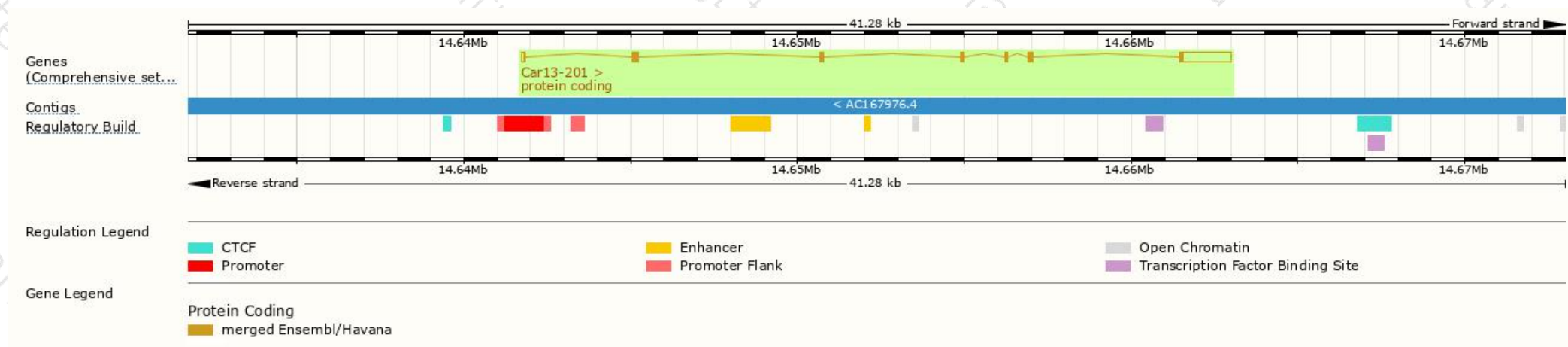
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Car13-201	ENSMUST00000029071.8	2299	262aa	Protein coding	CCDS17247	Q9D6N1	TSL:1 Gencode basic APPRIS P1

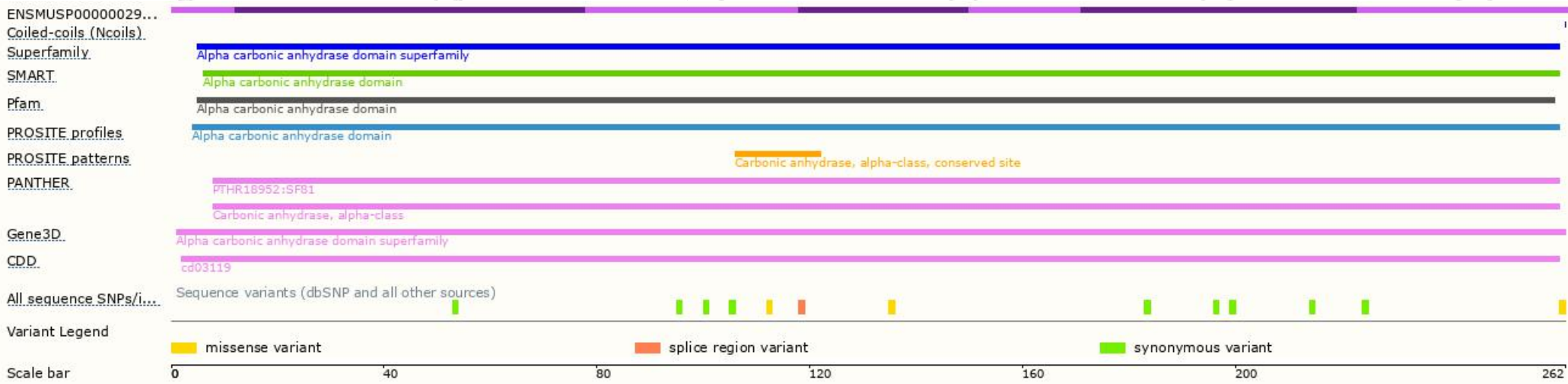
The strategy is based on the design of *Car13-201* transcript, the transcription is shown below



Genomic location distribution

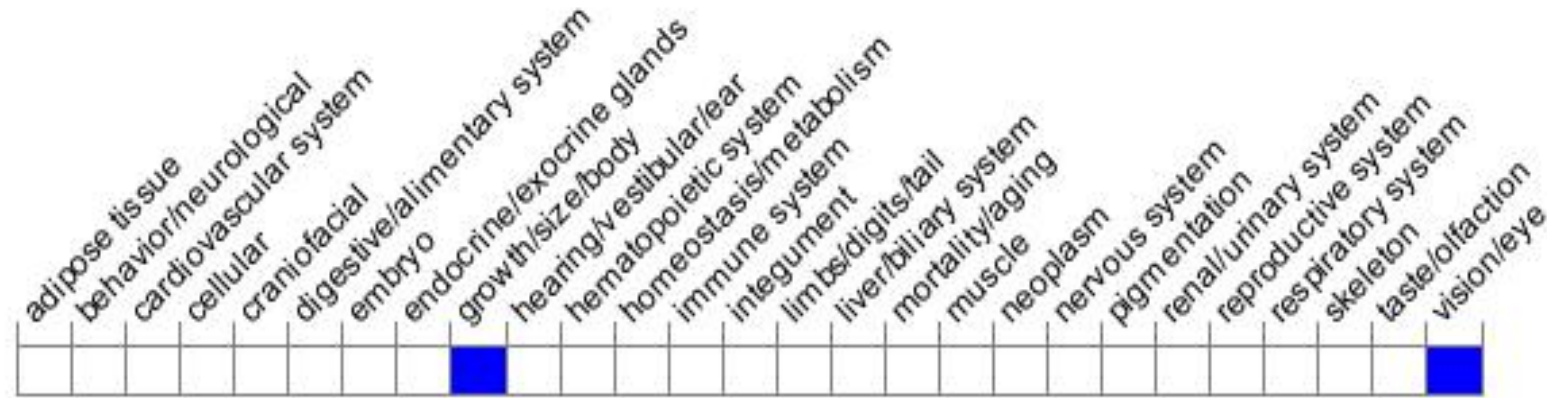


Protein domain



Mouse phenotype description(MGI)

Phenotype Overview



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

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