

Acsbg2 Cas9-KO Strategy

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Project Overview

Project Name

Acsbg2

Project type

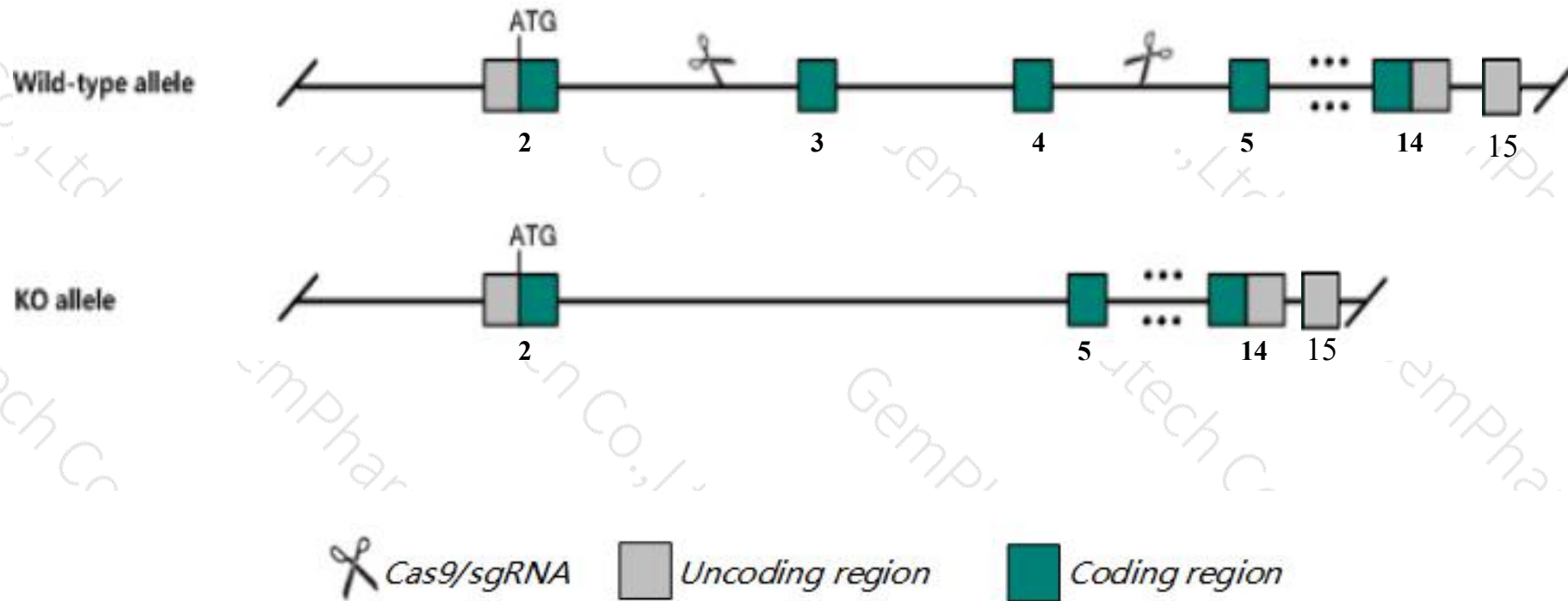
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Acsbg2* gene. The schematic diagram is as follows:



- The *Acsbg2* gene has 1 transcript. According to the structure of *Acsbg2* gene, exon3-exon4 of *Acsbg2-201* (ENSMUST00000043062.4) transcript is recommended as the knockout region. The region contains 319bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Acsbg2* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, phenotypic analysis of mice homozygous for a gene trap allele indicates this mutation has no notable phenotype in any parameter tested.
- The *Acsbg2* gene is located on the Chr17. 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)

Acsbg2 acyl-CoA synthetase bubblegum family member 2 [Mus musculus (house mouse)]

Gene ID: 328845, updated on 13-Mar-2020

Summary



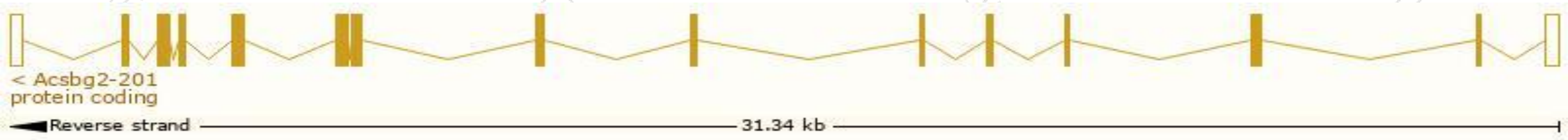
Official Symbol	Acsbg2 provided by MGI
Official Full Name	acyl-CoA synthetase bubblegum family member 2 provided by MGI
Primary source	MGI:MGI:3587728
See related	Ensembl:ENSMUSG00000024207
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Bgr
Expression	Restricted expression toward testis adult (RPKM 66.3) See more
Orthologs	human all

Transcript information (Ensembl)

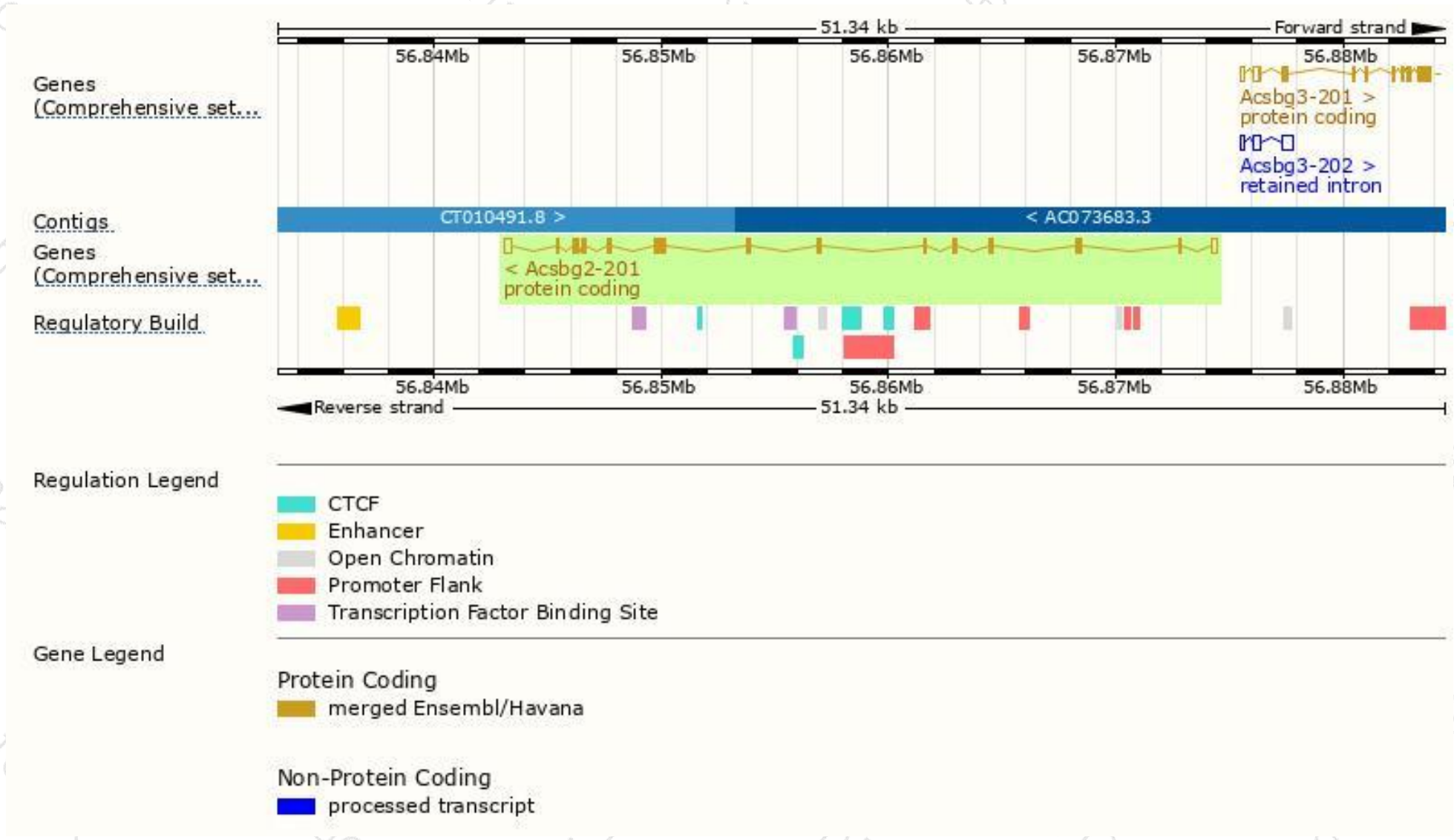
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Acsbg2-201	ENSMUST00000043062.4	2609	667aa	Protein coding	CCDS28916	Q2XU92	TSL:1 GENCODE basic APPRIS P1

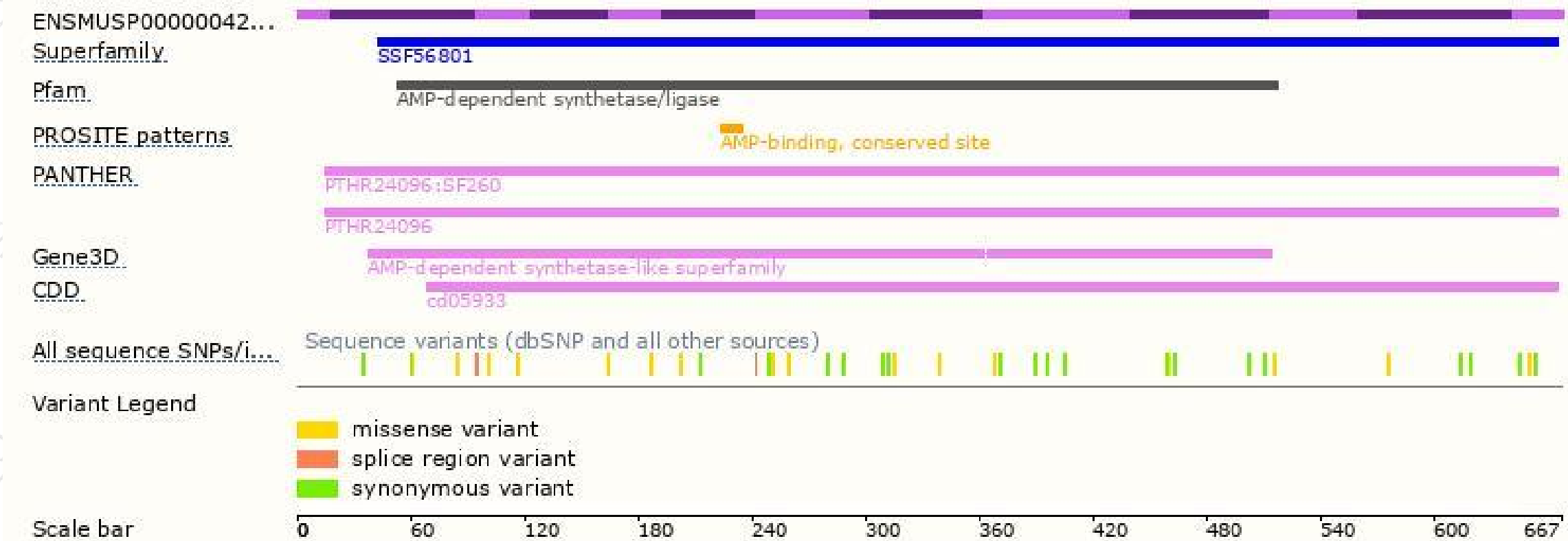
The strategy is based on the design of *Acsbg2-201* transcript, the transcription is shown below:



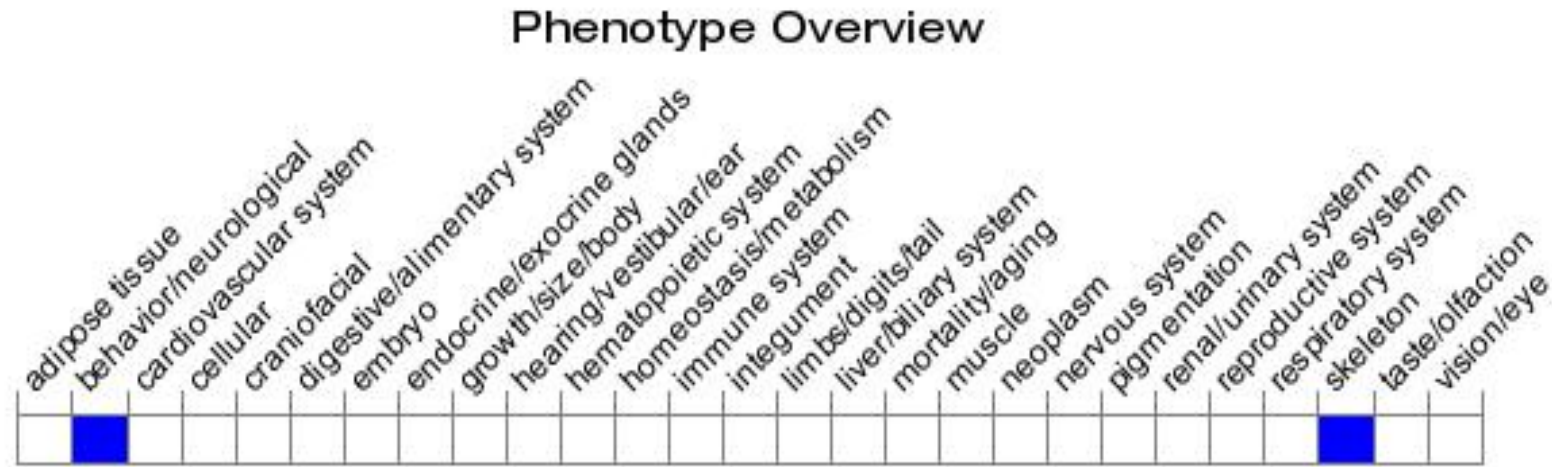
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



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

According to the existing MGI data, phenotypic analysis of mice homozygous for a gene trap allele indicates this mutation has no notable phenotype in any parameter tested.

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

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