

Acbd6 Cas9-KO Strategy

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Project Overview

Project Name

Acbd6

Project type

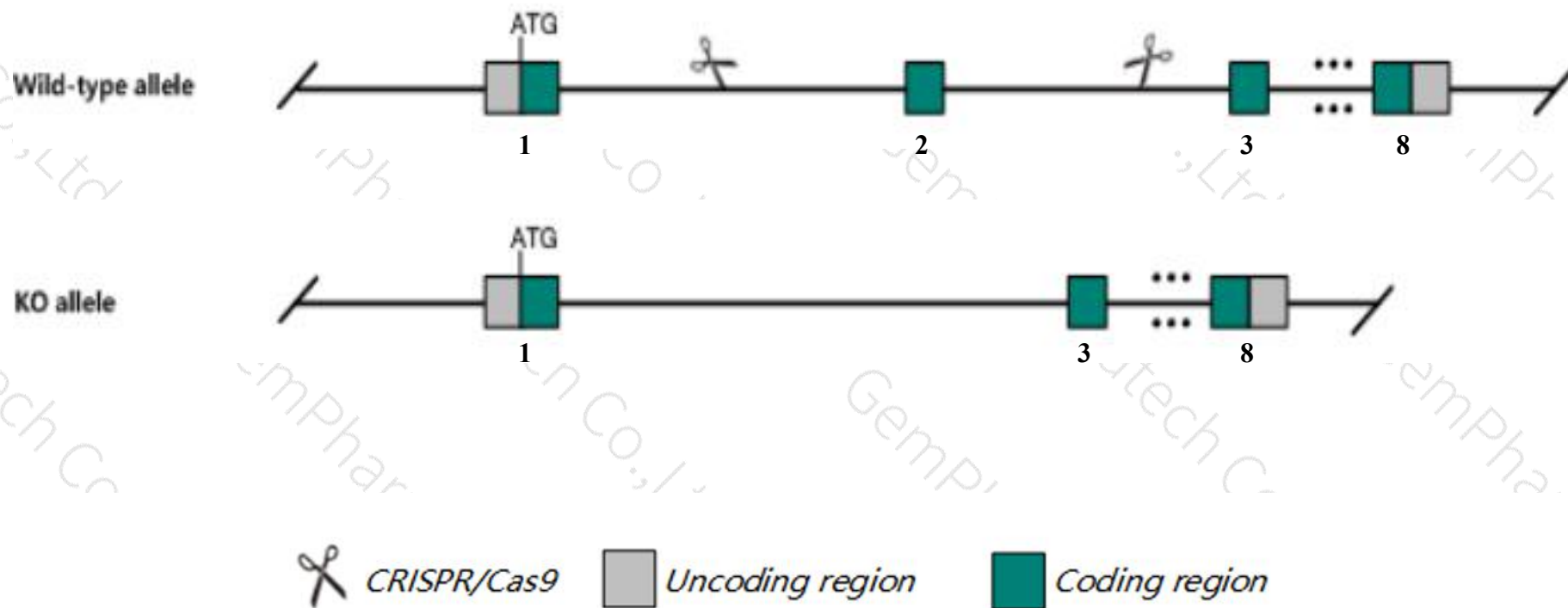
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Acbd6* gene. The schematic diagram is as follows:



- The *Acbd6* gene has 6 transcripts. According to the structure of *Acbd6* gene, exon2 of *Acbd6*-201(ENSMUST00000035560.8) transcript is recommended as the knockout region. The region contains 65bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Acbd6* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Acbd6* gene is located on the Chr1. 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)

Acbd6 acyl-Coenzyme A binding domain containing 6 [Mus musculus (house mouse)]

Gene ID: 72482, updated on 13-Mar-2020

Summary



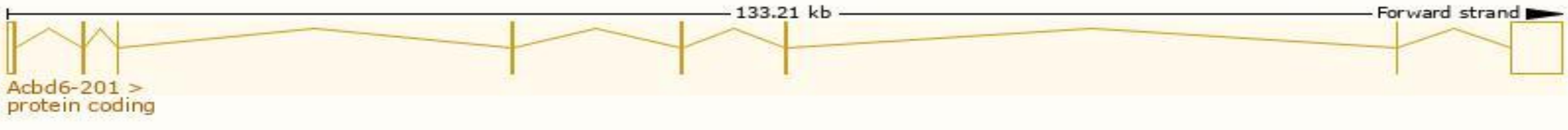
Official Symbol	Acbd6 provided by MGI
Official Full Name	acyl-Coenzyme A binding domain containing 6 provided by MGI
Primary source	MGI:MGI:1919732
See related	Ensembl:ENSMUSG00000033701
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	0610010G04Rik, 2610100E10Rik
Expression	Ubiquitous expression in adrenal adult (RPKM 57.6), ovary adult (RPKM 37.3) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

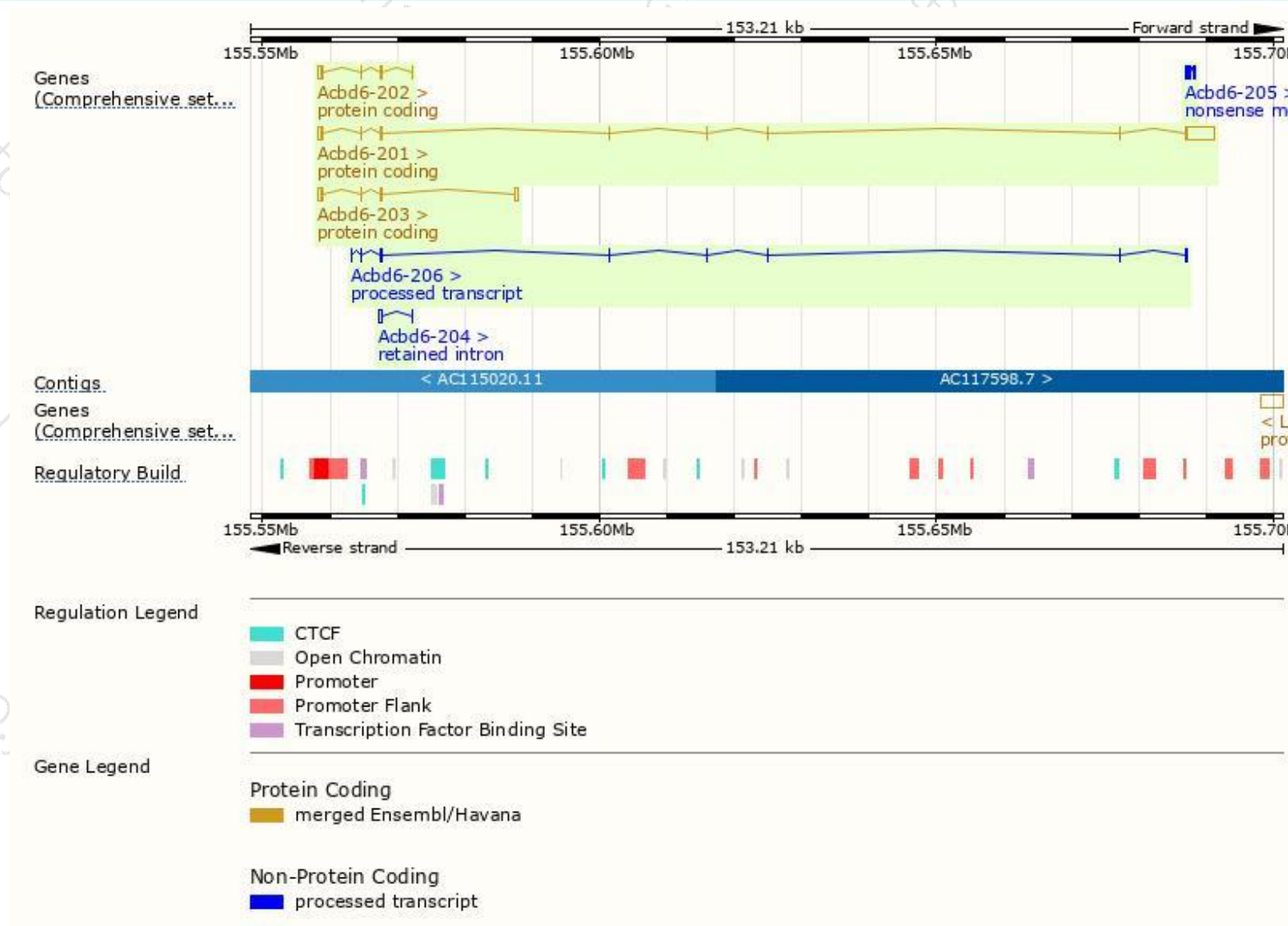
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Acbd6-201	ENSMUST00000035560.8	5592	282aa	Protein coding	CCDS15385	Q14BV7 Q9D061	TSL:1 GENCODE basic APPRIS P1
Acbd6-203	ENSMUST00000097529.4	1255	139aa	Protein coding	CCDS48398	Q9D061	TSL:1 GENCODE basic
Acbd6-202	ENSMUST00000080138.12	993	137aa	Protein coding	CCDS48397	Q9D061	TSL:1 GENCODE basic
Acbd6-205	ENSMUST00000192730.1	424	37aa	Nonsense mediated decay	-	A0A0A6YWZ1	CDS 5' incomplete TSL:3
Acbd6-206	ENSMUST00000194476.1	691	No protein	Processed transcript	-	-	TSL:5
Acbd6-204	ENSMUST00000159339.1	496	No protein	Retained intron	-	-	TSL:2

The strategy is based on the design of *Acbd6-201* transcript,the transcription is shown below:



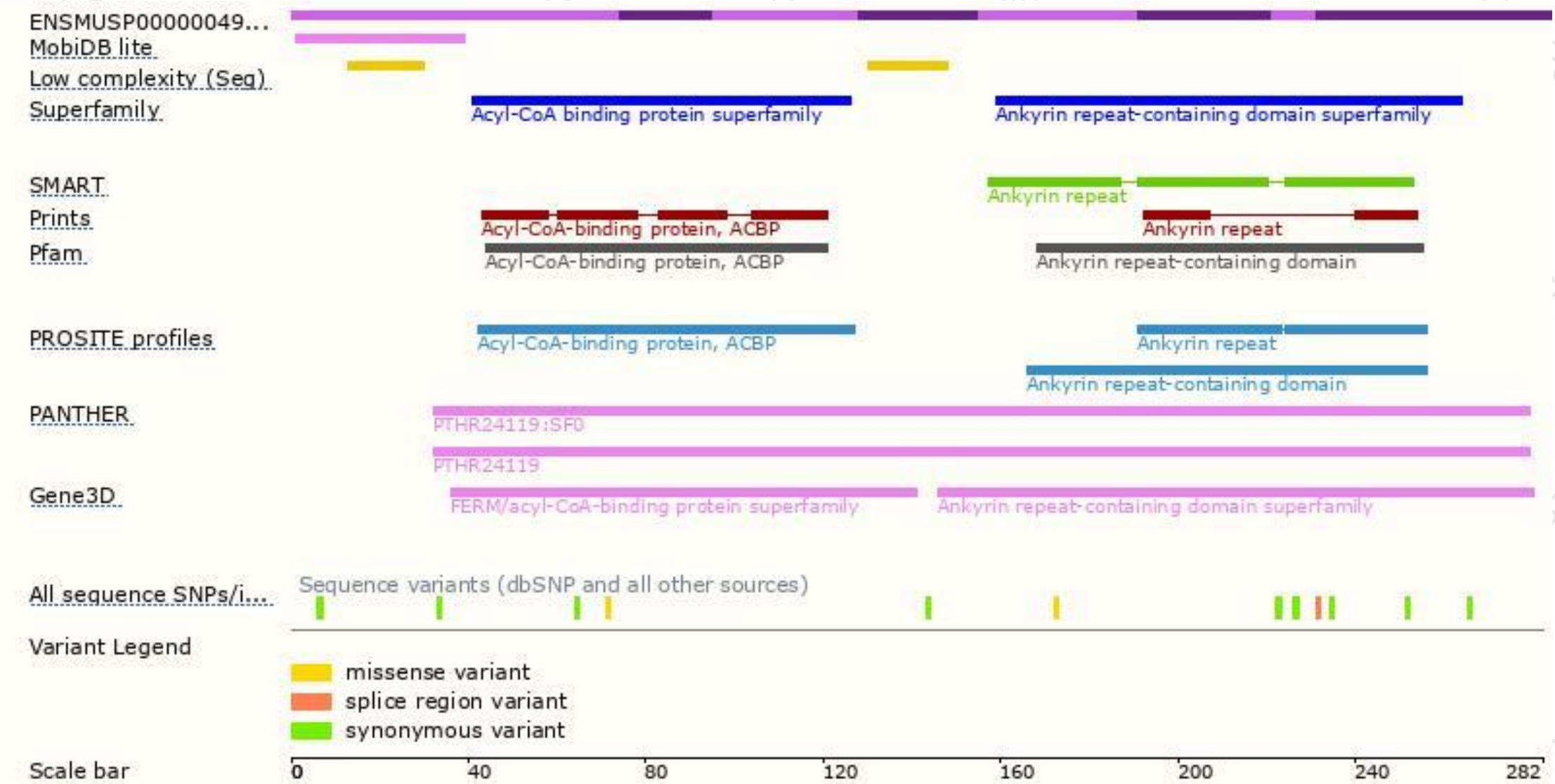
Genomic location distribution



Protein domain



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

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