

Ap5b1 Cas9-KO Strategy

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Project Overview

Project Name

Ap5b1

Project type

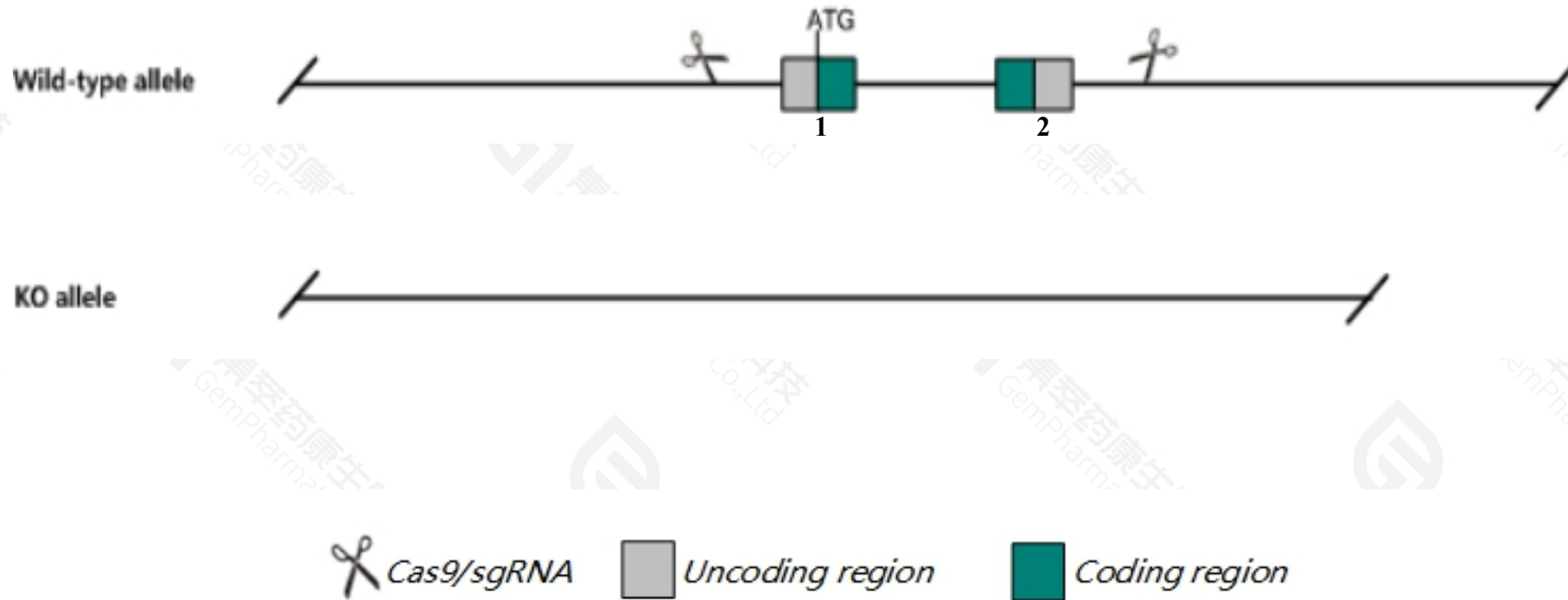
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ap5b1* gene. The schematic diagram is as follows:



- The *Ap5b1* gene has 3 transcripts. According to the structure of *Ap5b1* gene, exon1-exon2 of *Ap5b1*-201(ENSMUST00000096318.3) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ap5b1* 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 *Ap5b1* gene is located on the Chr19. 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.

Ap5b1 adaptor-related protein complex 5, beta 1 subunit [Mus musculus (house mouse)]

Gene ID: 381201, updated on 13-Mar-2020

Summary



Official Symbol Ap5b1 provided by [MGI](#)

Official Full Name adaptor-related protein complex 5, beta 1 subunit provided by [MGI](#)

Primary source [MGI:MGI:2685808](#)

See related [Ensembl:ENSMUSG00000049562](#)

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 Gm962, beta-5

Expression Broad expression in duodenum adult (RPKM 13.9), small intestine adult (RPKM 11.8) and 24 other tissues [See more](#)

Orthologs [human](#) [all](#)

Transcript information (Ensembl)

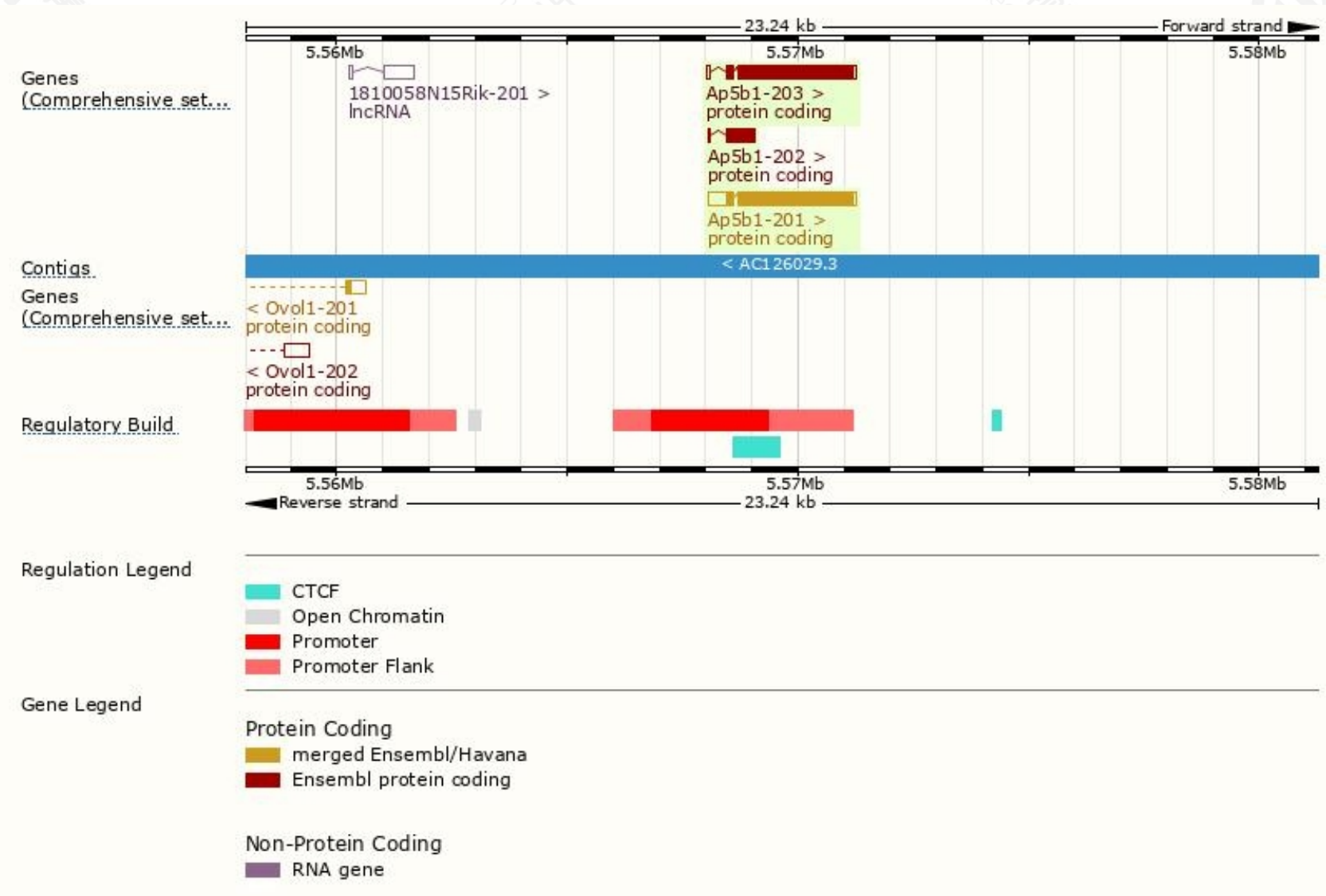
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ap5b1-201	ENSMUST00000096318.3	3092	876aa	Protein coding	CCDS29470	Q3TAP4	TSL:1 GENCODE basic APPRIS P1
Ap5b1-203	ENSMUST00000235575.1	2785	876aa	Protein coding	CCDS29470	Q3TAP4	GENCODE basic APPRIS P1
Ap5b1-202	ENSMUST00000235542.1	675	208aa	Protein coding	-	A0A494B8Y9	CDS 3' incomplete

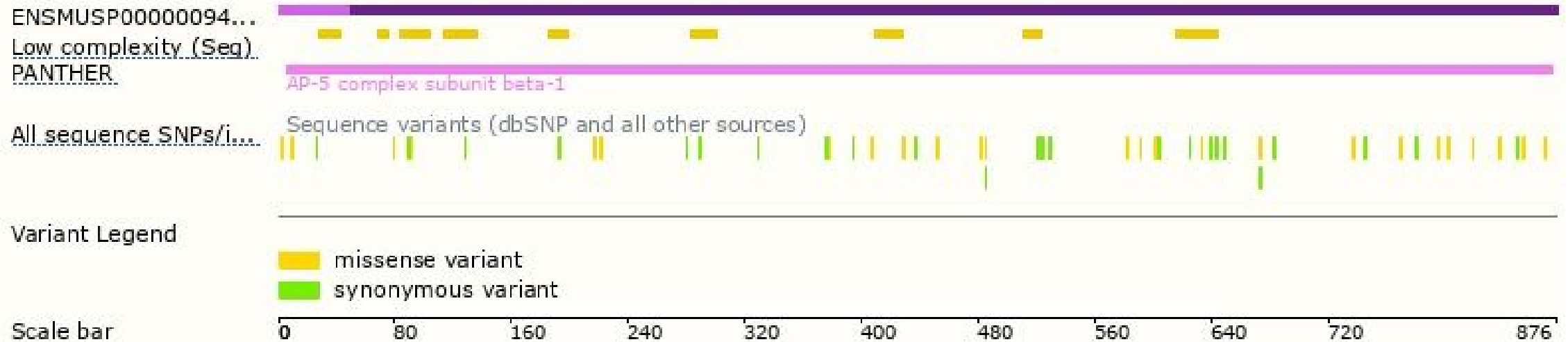
The strategy is based on the design of *Ap5b1-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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