

Ap1b1 Cas9-KO Strategy

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Reviewer:

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Design Date:

2020-1-20

Project Overview

Project Name

Ap1b1

Project type

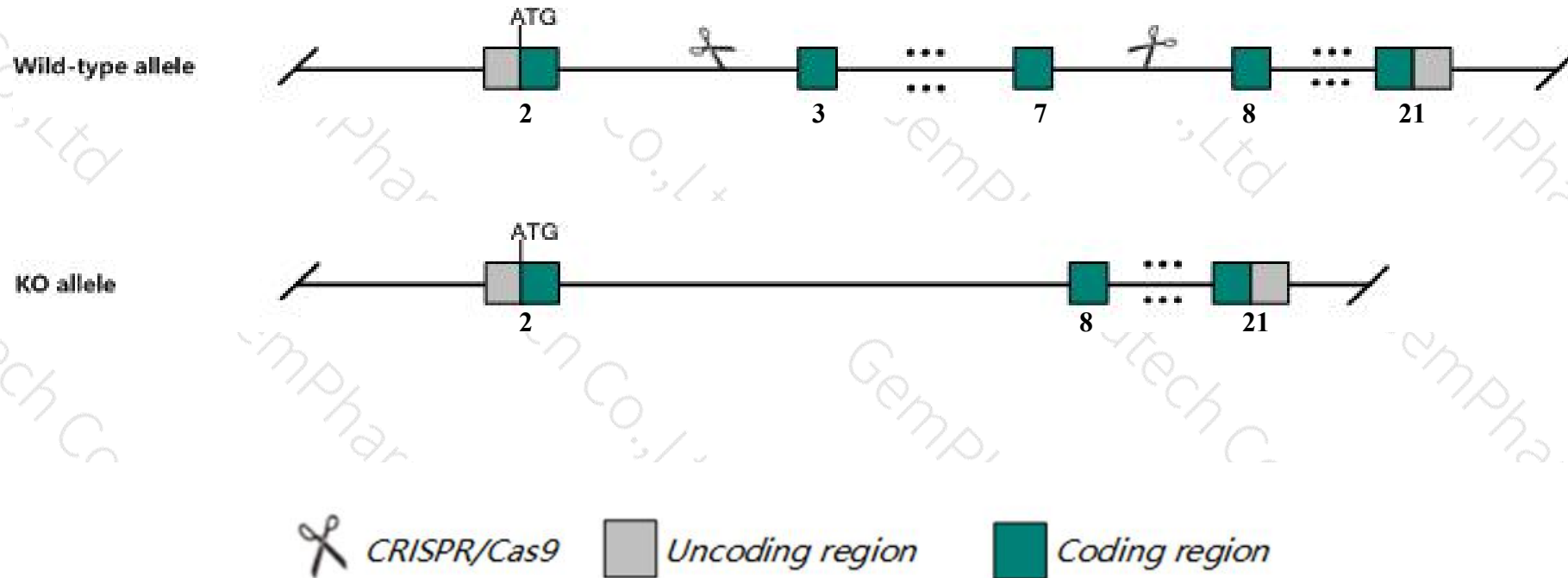
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ap1b1* gene. The schematic diagram is as follows:



- The *Ap1b1* gene has 9 transcripts. According to the structure of *Ap1b1* gene, exon3-exon7 of *Ap1b1-201* (ENSMUST00000009234.15) transcript is recommended as the knockout region. The region contains 901bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ap1b1* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Ap1b1* gene is located on the Chr11. 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)

Ap1b1 adaptor protein complex AP-1, beta 1 subunit [Mus musculus (house mouse)]

Gene ID: 11764, updated on 7-Apr-2019

Summary



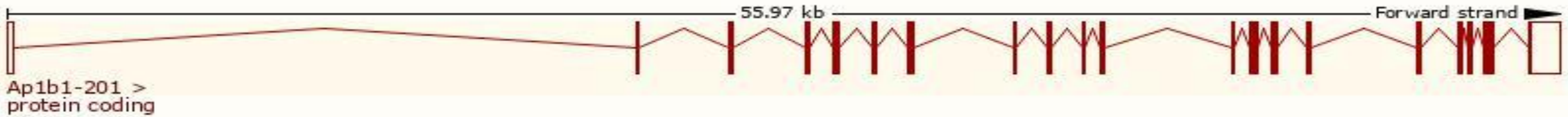
Official Symbol	Ap1b1 provided by MGI
Official Full Name	adaptor protein complex AP-1, beta 1 subunit provided by MGI
Primary source	MGI:MGI:1096368
See related	Ensembl:ENSMUSG000000009090
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Adtb1, b2b1660Clo
Expression	Ubiquitous expression in kidney adult (RPKM 38.3), large intestine adult (RPKM 36.2) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

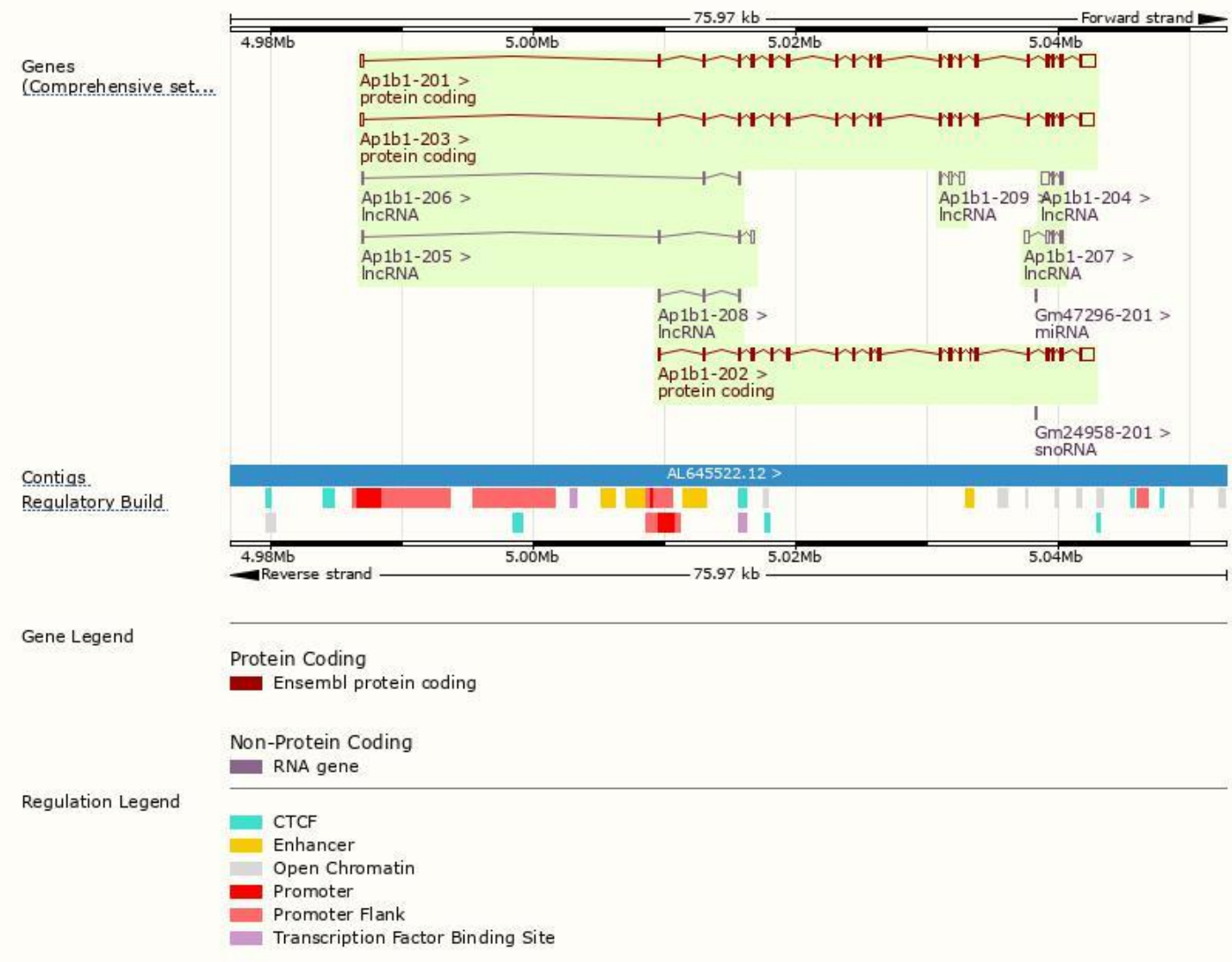
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ap1b1-201	ENSMUST00000009234.15	4085	943aa	Protein coding	CCDS36100	O35643	TSL:1 GENCODE basic APPRIS P1
Ap1b1-203	ENSMUST00000109897.7	3942	916aa	Protein coding	-	Q5SVG5	TSL:5 GENCODE basic
Ap1b1-202	ENSMUST00000101613.2	3735	923aa	Protein coding	-	Q5SVG4	TSL:5 GENCODE basic
Ap1b1-207	ENSMUST00000142325.7	847	No protein	lncRNA	-	-	TSL:3
Ap1b1-204	ENSMUST00000133007.1	818	No protein	lncRNA	-	-	TSL:3
Ap1b1-209	ENSMUST00000145704.1	717	No protein	lncRNA	-	-	TSL:2
Ap1b1-205	ENSMUST00000133014.7	563	No protein	lncRNA	-	-	TSL:3
Ap1b1-206	ENSMUST00000137292.7	382	No protein	lncRNA	-	-	TSL:2
Ap1b1-208	ENSMUST00000144426.1	361	No protein	lncRNA	-	-	TSL:2

The strategy is based on the design of *Ap1b1-201* transcript,The transcription is shown below



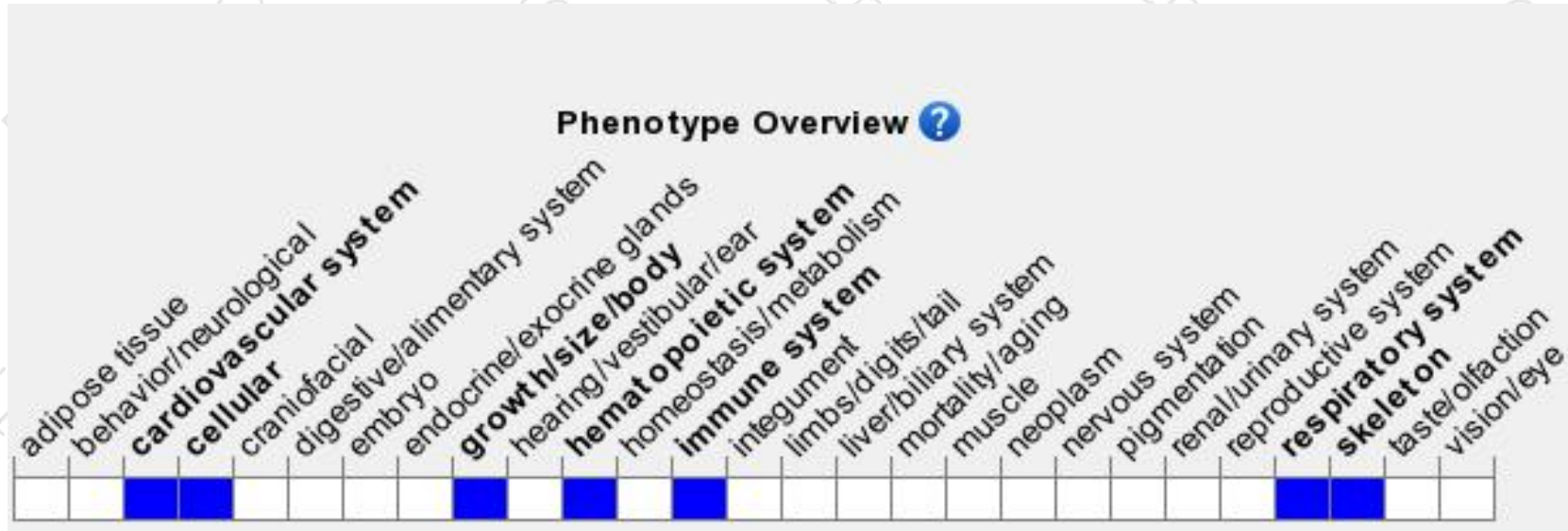
Genomic location distribution



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/>).

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

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