

Adprm Cas9-KO Strategy

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Project Overview

Project Name

Adprm

Project type

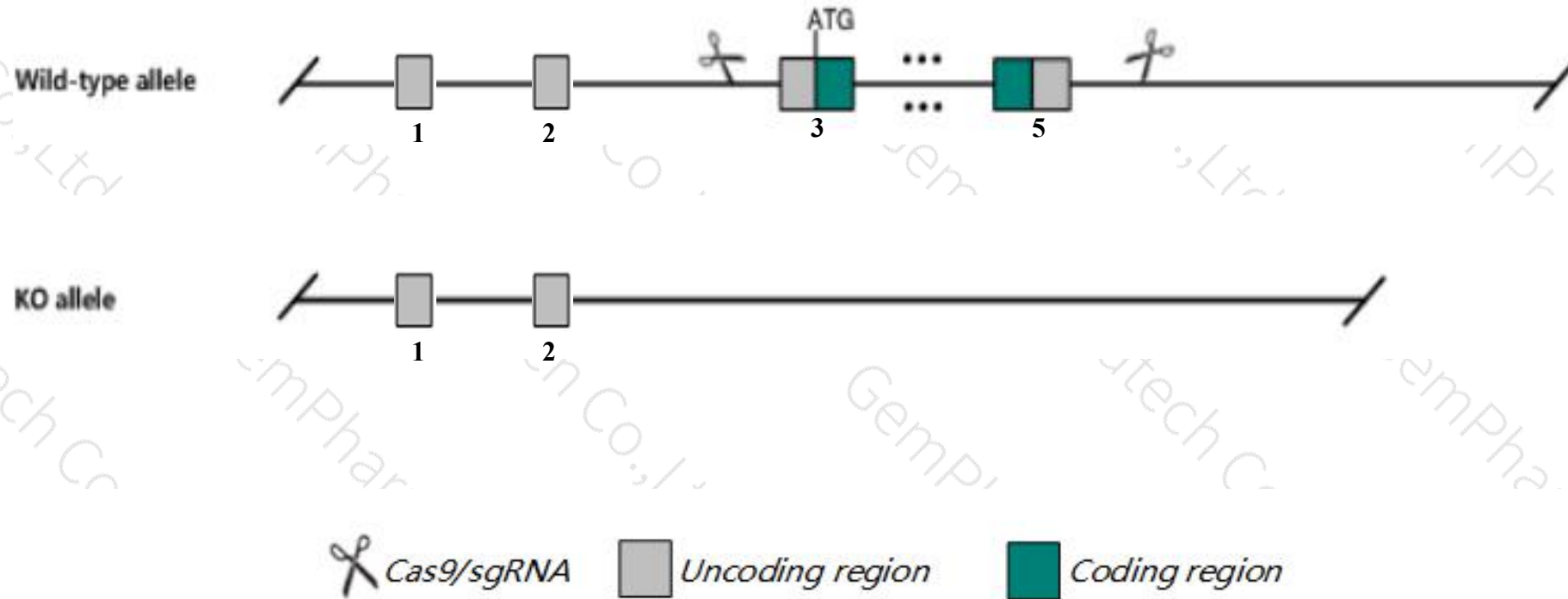
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Adprm* gene has 6 transcripts. According to the structure of *Adprm* gene, exon3-exon5 of *Adprm-201* (ENSMUST00000116363.1) 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 *Adprm* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Adprm* 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)

Adprm ADP-ribose/CDP-alcohol diphosphatase, manganese dependent [Mus musculus (house mouse)]

Gene ID: 66358, updated on 13-Mar-2020

Summary



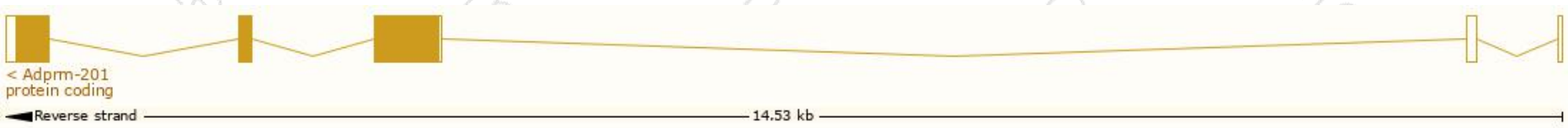
Official Symbol	Adprm provided by MGI
Official Full Name	ADP-ribose/CDP-alcohol diphosphatase, manganese dependent provided by MGI
Primary source	MGI:MGI:1913608
See related	Ensembl:ENSMUSG00000020910
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2310004I24Rik, MDS006
Expression	Ubiquitous expression in large intestine adult (RPKM 7.4), bladder adult (RPKM 7.0) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

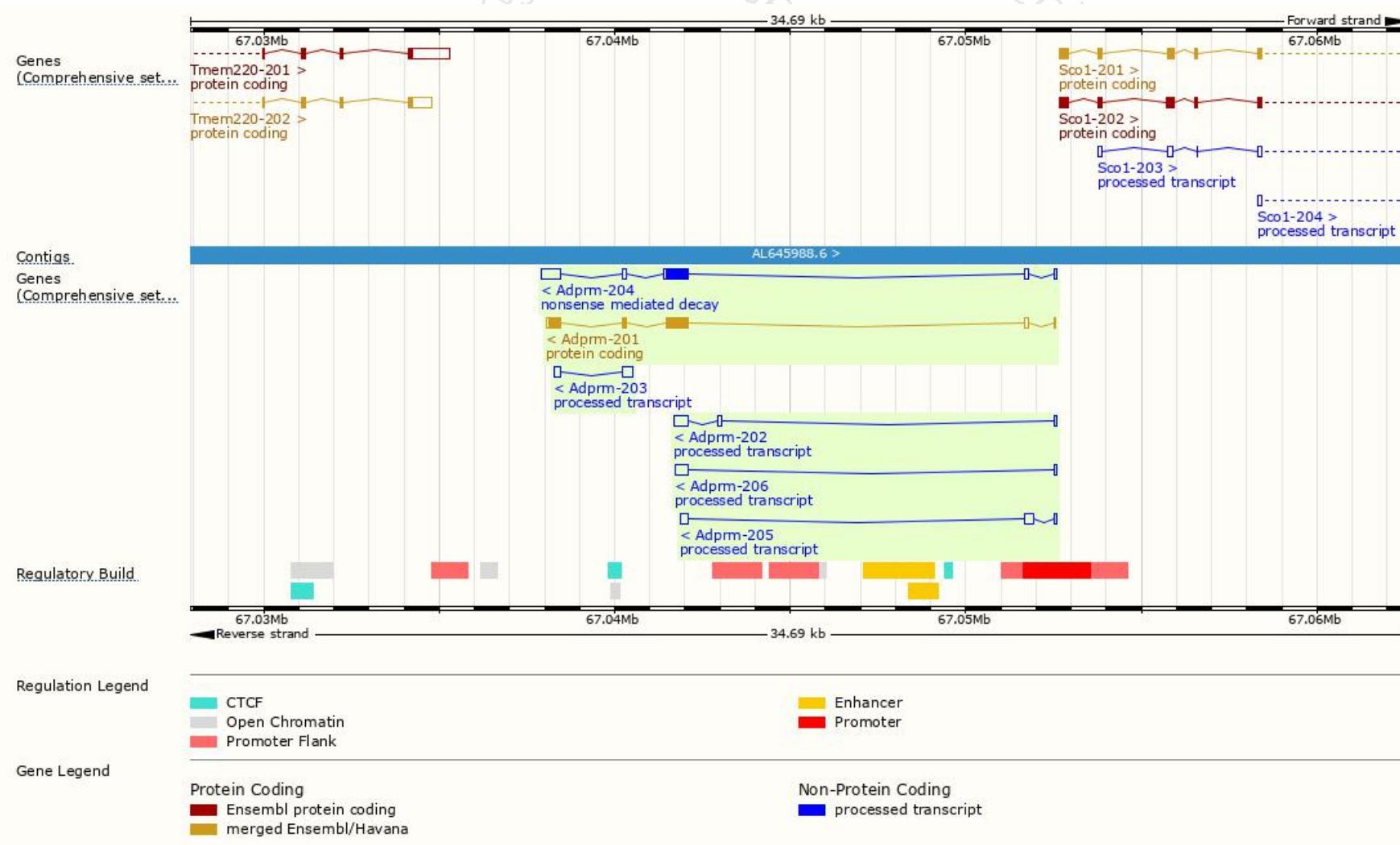
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Adprm-201	ENSMUST00000116363.1	1283	340aa	Protein coding	CCDS48820	Q99KS6	TSL:1 GENCODE basic APPRIS P1
Adprm-204	ENSMUST00000146338.7	1531	205aa	Nonsense mediated decay	-	Q99KS6	TSL:2
Adprm-202	ENSMUST00000127407.1	581	No protein	Processed transcript	-	-	TSL:3
Adprm-205	ENSMUST00000146648.1	515	No protein	Processed transcript	-	-	TSL:3
Adprm-203	ENSMUST00000136013.1	486	No protein	Processed transcript	-	-	TSL:2
Adprm-206	ENSMUST00000148379.1	428	No protein	Processed transcript	-	-	TSL:2

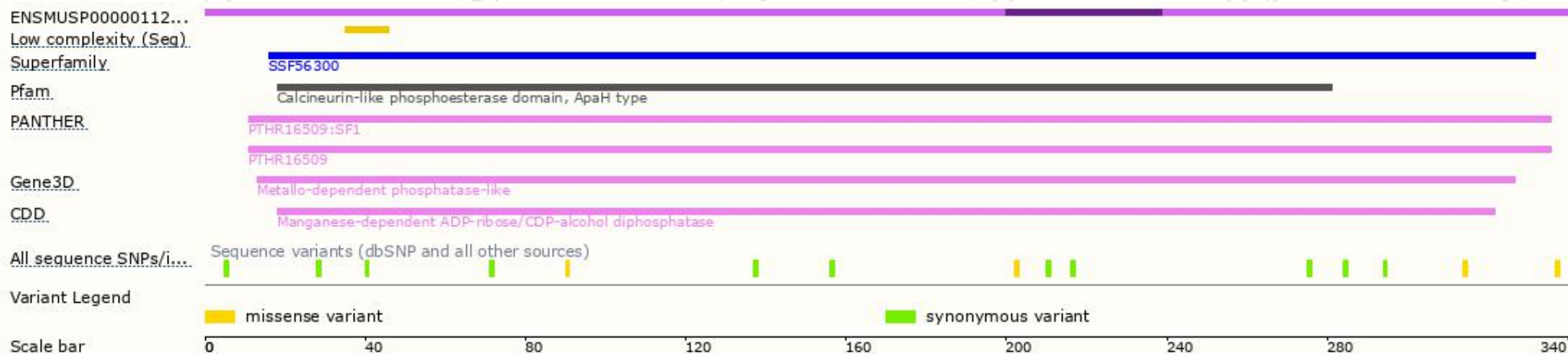
The strategy is based on the design of *Adprm-201* transcript,the transcription is shown below



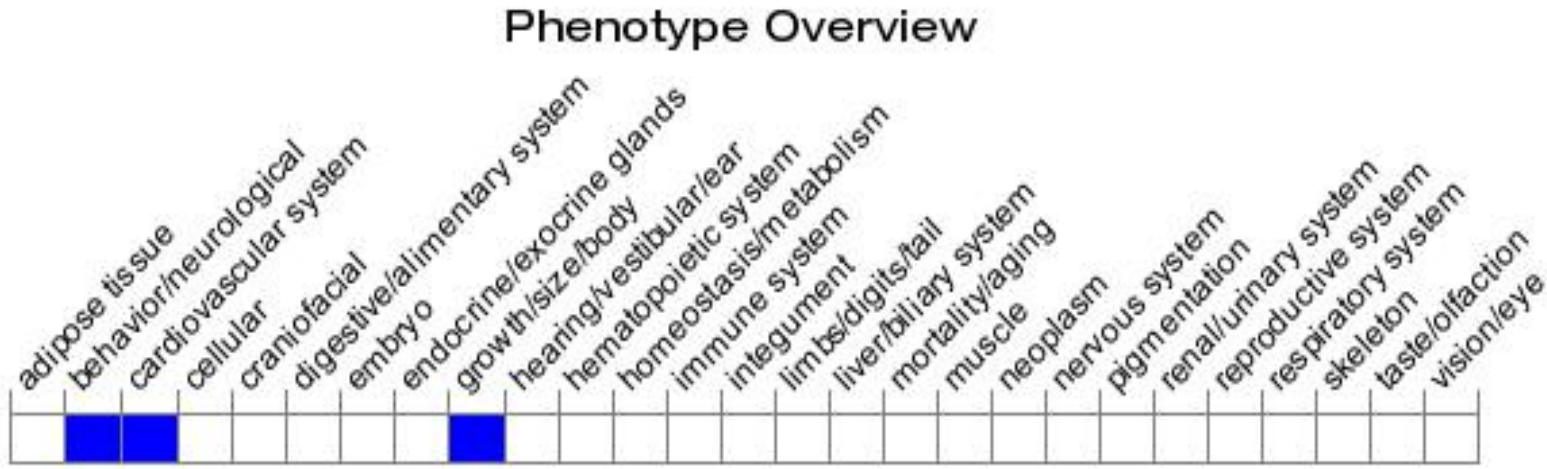
Genomic location distribution



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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