

Amer2 Cas9-KO Strategy

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Project Overview

Project Name

Amer2

Project type

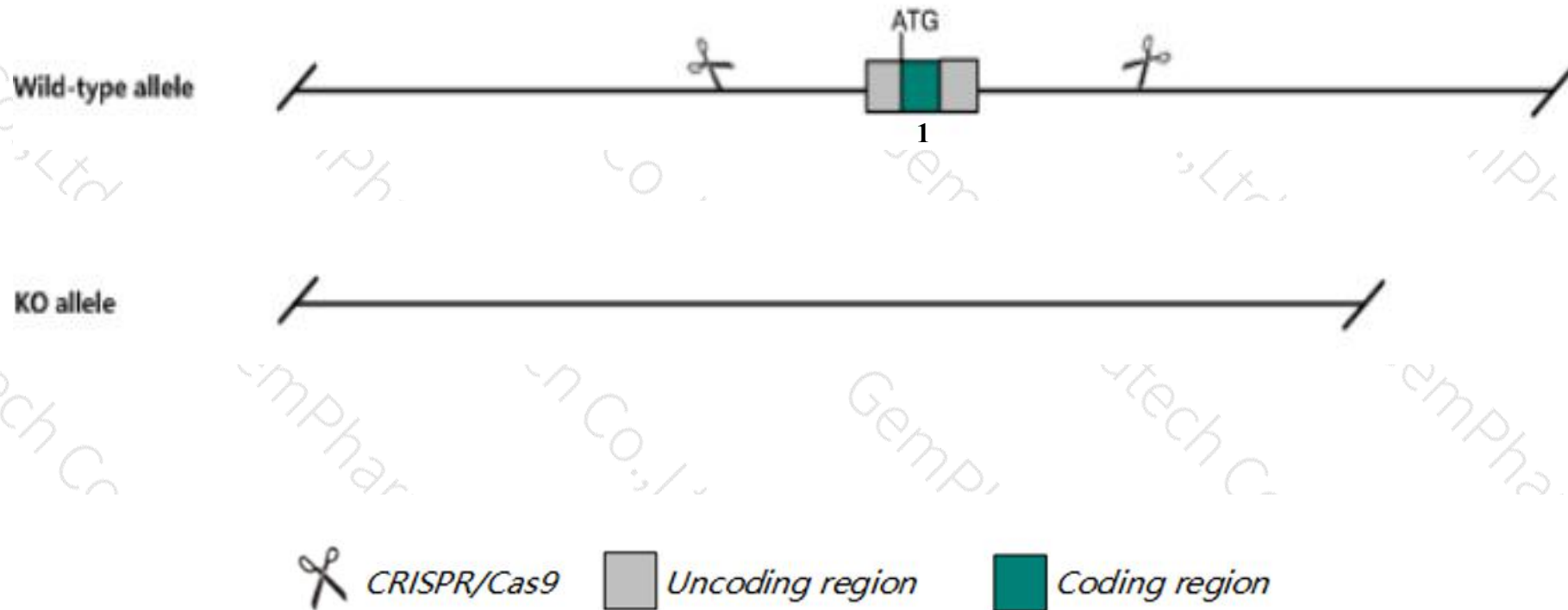
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Amer2* gene. The schematic diagram is as follows:



- The *Amer2* gene has 4 transcripts. According to the structure of *Amer2* gene, exon1 of *Amer2*-204 (ENSMUST00000239079.1) 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 *Amer2* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Amer2* gene is located on the Chr14. 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)

Amer2 APC membrane recruitment 2 [*Mus musculus* (house mouse)]

Gene ID: 72125, updated on 13-Mar-2020

Summary



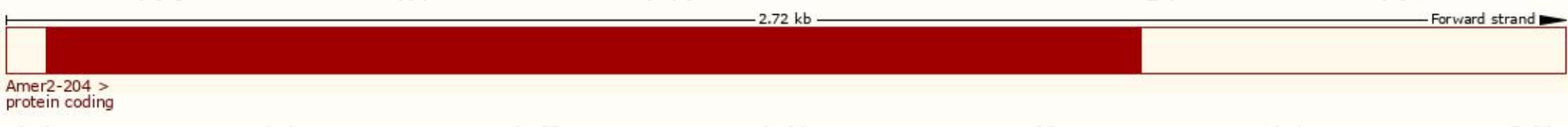
Official Symbol	Amer2 provided by MGI
Official Full Name	APC membrane recruitment 2 provided by MGI
Primary source	MGI:MGI:1919375
See related	Ensembl:ENSMUSG00000021986
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Fam123a; 2600011E07Rik
Expression	Biased expression in cerebellum adult (RPKM 8.0), whole brain E14.5 (RPKM 7.7) and 6 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

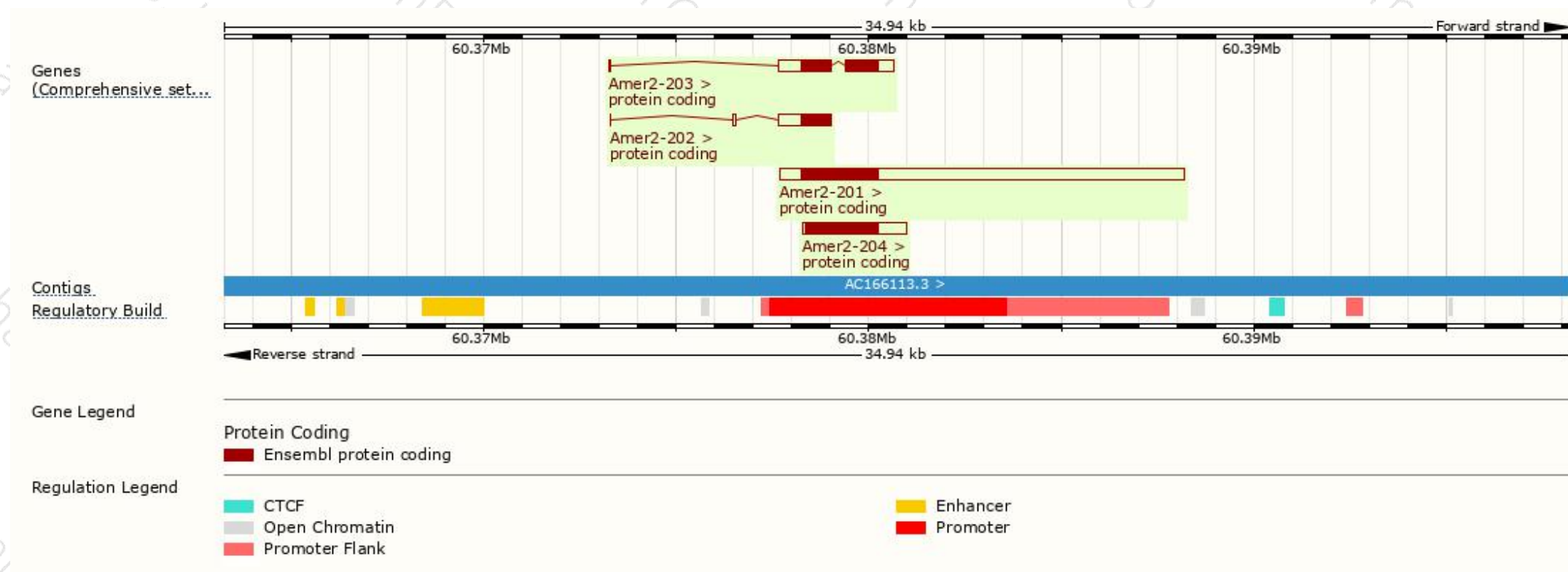
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Amer2-204	ENSMUST00000239079.1	2718	635aa	Protein coding	CCDS27177	-	GENCODE basic APPRIS P2
Amer2-201	ENSMUST00000022561.8	10506	672aa	Protein coding	-	A0A0R4J030 Q8CCJ4	TSL:NA GENCODE basic APPRIS ALT2
Amer2-203	ENSMUST00000225247.2	2662	546aa	Protein coding	-	A0A286YD03	GENCODE basic
Amer2-202	ENSMUST00000224957.2	1444	254aa	Protein coding	-	A0A286YCG0	CDS 3' incomplete

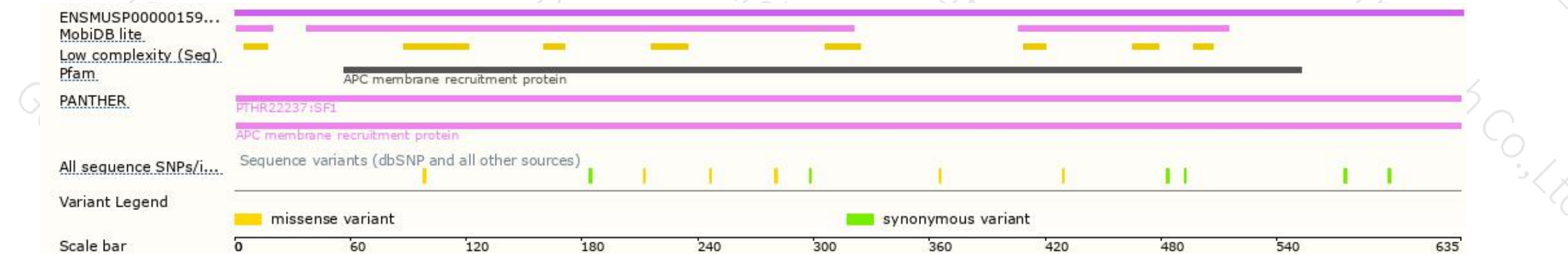
The strategy is based on the design of *Amer2-204* transcript, the transcription is shown below



Genomic location distribution



Protein domain



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

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