

Caps2 Cas9-KO Strategy

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Project Overview

Project Name

Caps2

Project type

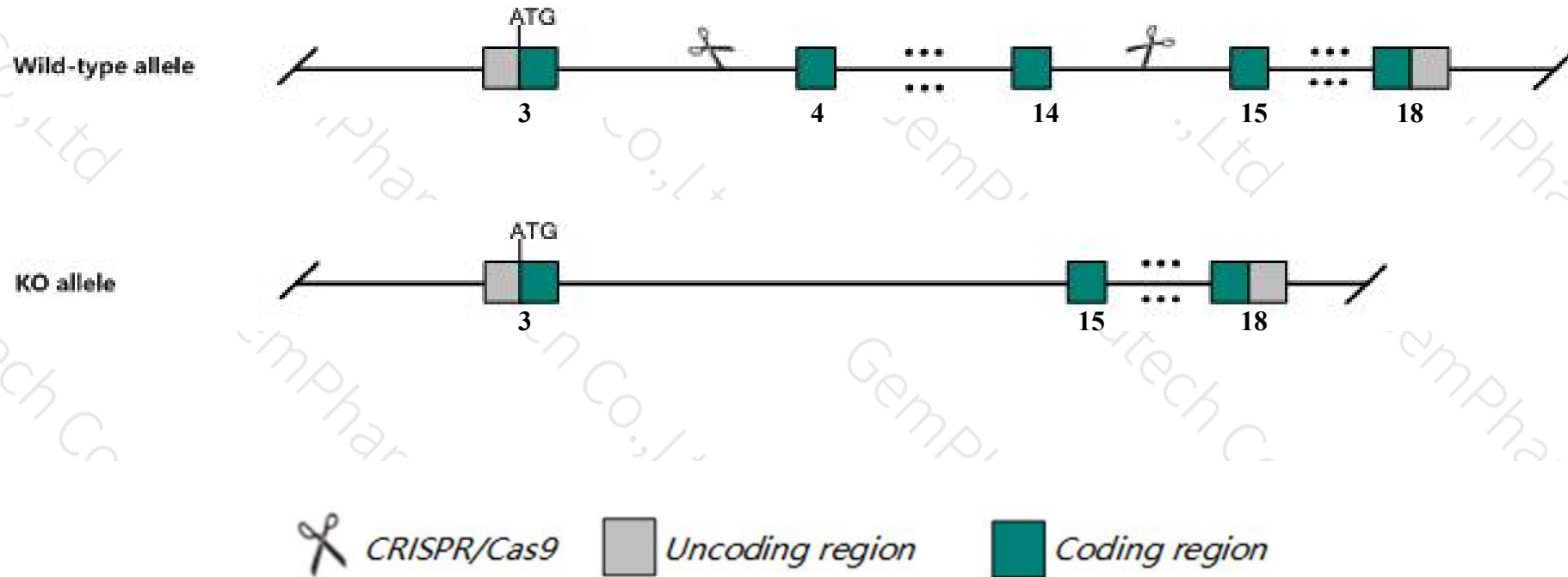
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Caps2* gene. The schematic diagram is as follows:



- The *Caps2* gene has 3 transcripts. According to the structure of *Caps2* gene, exon4-exon14 of *Caps2-201* (ENSMUST00000092176.7) transcript is recommended as the knockout region. The region contains 1097bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Caps2* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Caps2* gene is located on the Chr10. 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)

Caps2 calcyphosphine 2 [Mus musculus (house mouse)]

Gene ID: 353025, updated on 16-Feb-2019

Summary



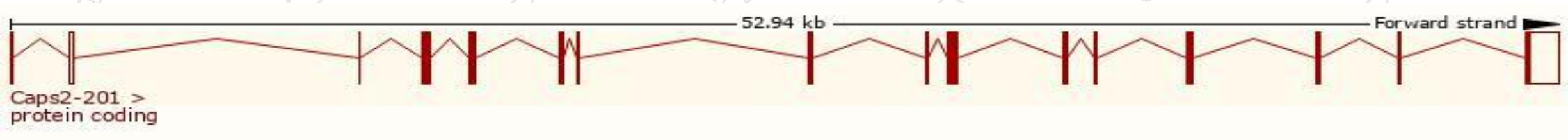
Official Symbol	Caps2 provided by MGI
Official Full Name	calcyphosphine 2 provided by MGI
Primary source	MGI:MGI:2441980
See related	Ensembl:ENSMUSG00000035694
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	D630005B03Rik
Expression	Biased expression in testis adult (RPKM 1.4), bladder adult (RPKM 0.1) and 9 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

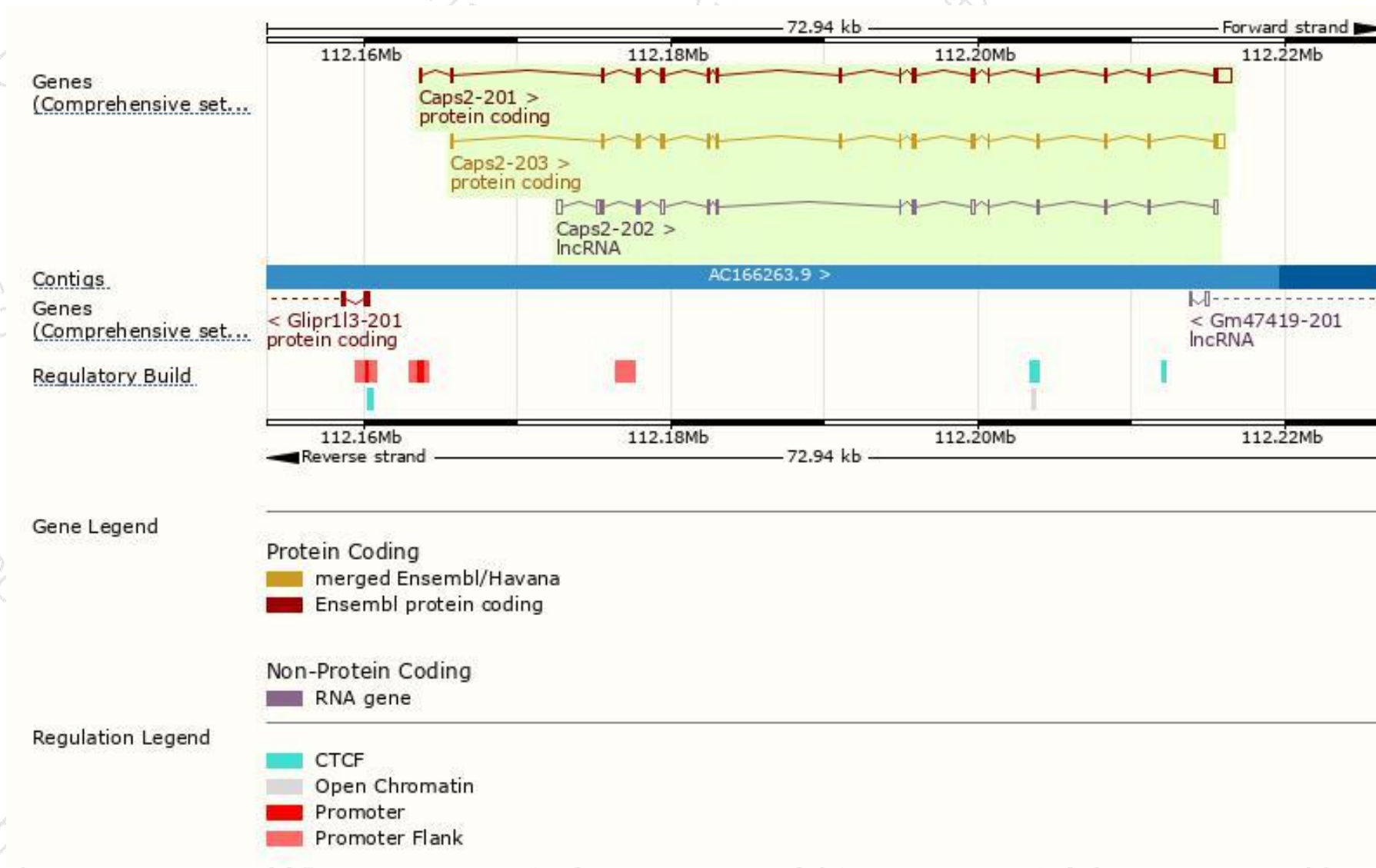
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Caps2-201	ENSMUST00000092176.7	2838	550aa	Protein coding	CCDS78896	Q8BUG5	TSL:1 GENCODE basic APPRIS ALT2
Caps2-203	ENSMUST00000170013.1	2321	592aa	Protein coding	CCDS24172	E9Q2J8	TSL:1 GENCODE basic APPRIS P3
Caps2-202	ENSMUST00000132994.1	2243	No protein	lncRNA	-	-	TSL:1

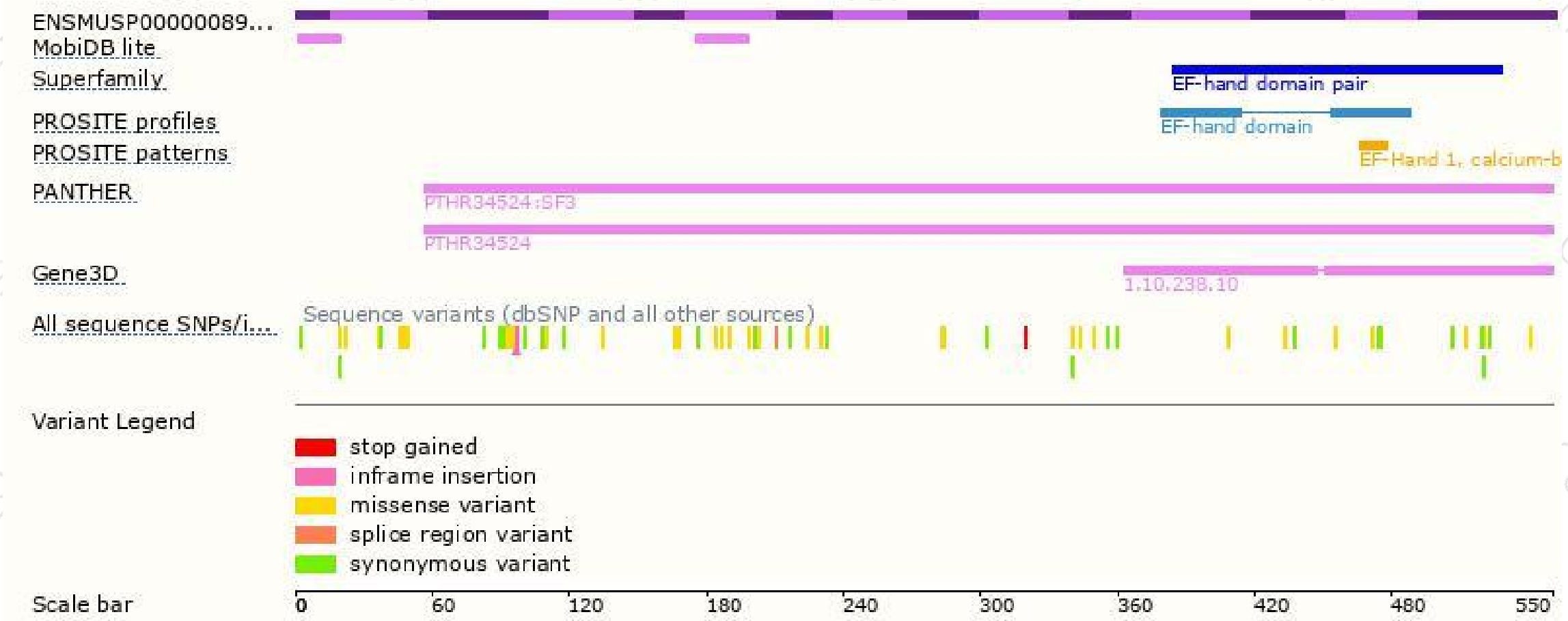
The strategy is based on the design of *Caps2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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