

Camsap2 Cas9-KO Strategy

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Project Overview

Project Name

Camsap2

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Camsap2* gene. The schematic diagram is as follows:



- The *Camsap2* gene has 6 transcripts. According to the structure of *Camsap2* gene, exon2 of *Camsap2-202* (ENSMUST00000192001.5) transcript is recommended as the knockout region. The region contains 260bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Camsap2* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Camsap2* gene is located on the Chr1. 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.
- Transcript *Camsap2-206* may not be affected.
- 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)

Camsap2 calmodulin regulated spectrin-associated protein family, member 2 [*Mus musculus* (house mouse)]

Gene ID: 67886, updated on 27-Aug-2019

Summary

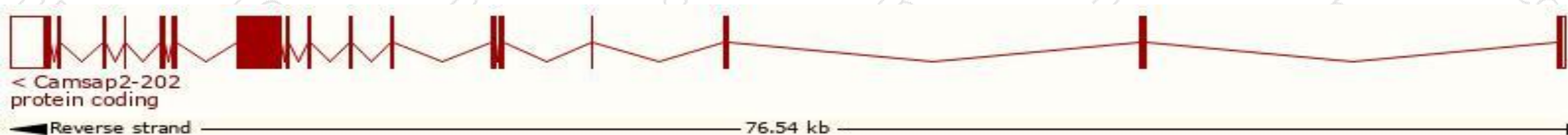
Official Symbol	Camsap2 provided by MGI
Official Full Name	calmodulin regulated spectrin-associated protein family, member 2 provided by MGI
Primary source	MGI:MGI:1922434
See related	Ensembl:ENSMUSG00000041570
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Camsap1l1; mKIAA1078; 1600013L13Rik; 4930541M15Rik
Expression	Broad expression in CNS E18 (RPKM 12.4), whole brain E14.5 (RPKM 11.7) and 25 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

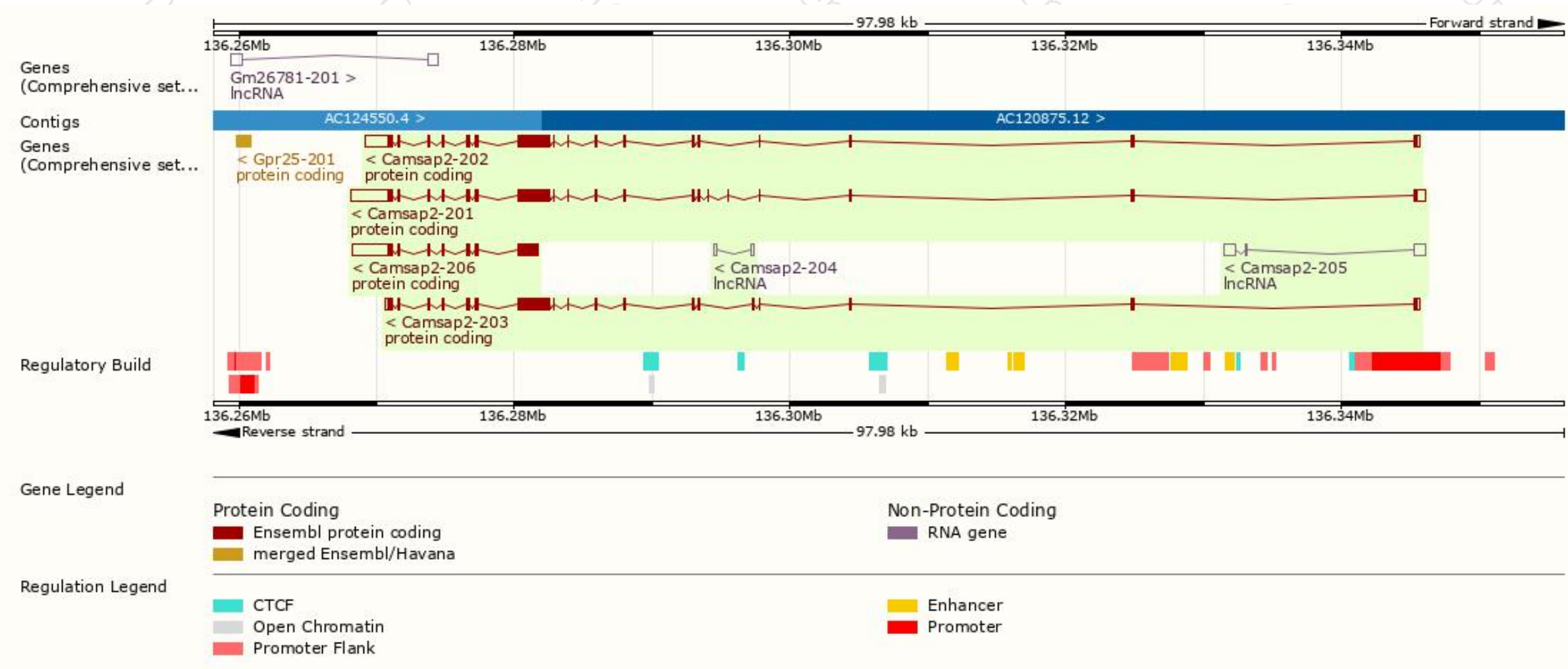
The gene has 6 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Camsap2-202	ENSMUST00000192001.5	6329	1461aa	Protein coding	CCDS83597	Q8C1B1	TSL:1 Gencode basic APPRIS ALT2
Camsap2-203	ENSMUST00000192314.1	4916	1472aa	Protein coding	CCDS83598	A0A0A6YY67	TSL:1 Gencode basic APPRIS P4
Camsap2-201	ENSMUST00000048309.11	7823	1478aa	Protein coding	-	H7BX08	TSL:5 Gencode basic APPRIS ALT2
Camsap2-206	ENSMUST00000194808.5	5034	814aa	Protein coding	-	A0A0A6YXV8	CDS 5' incomplete TSL:1
Camsap2-205	ENSMUST00000194730.1	1695	No protein	lncRNA	-	-	TSL:1
Camsap2-204	ENSMUST00000192933.1	442	No protein	lncRNA	-	-	TSL:3

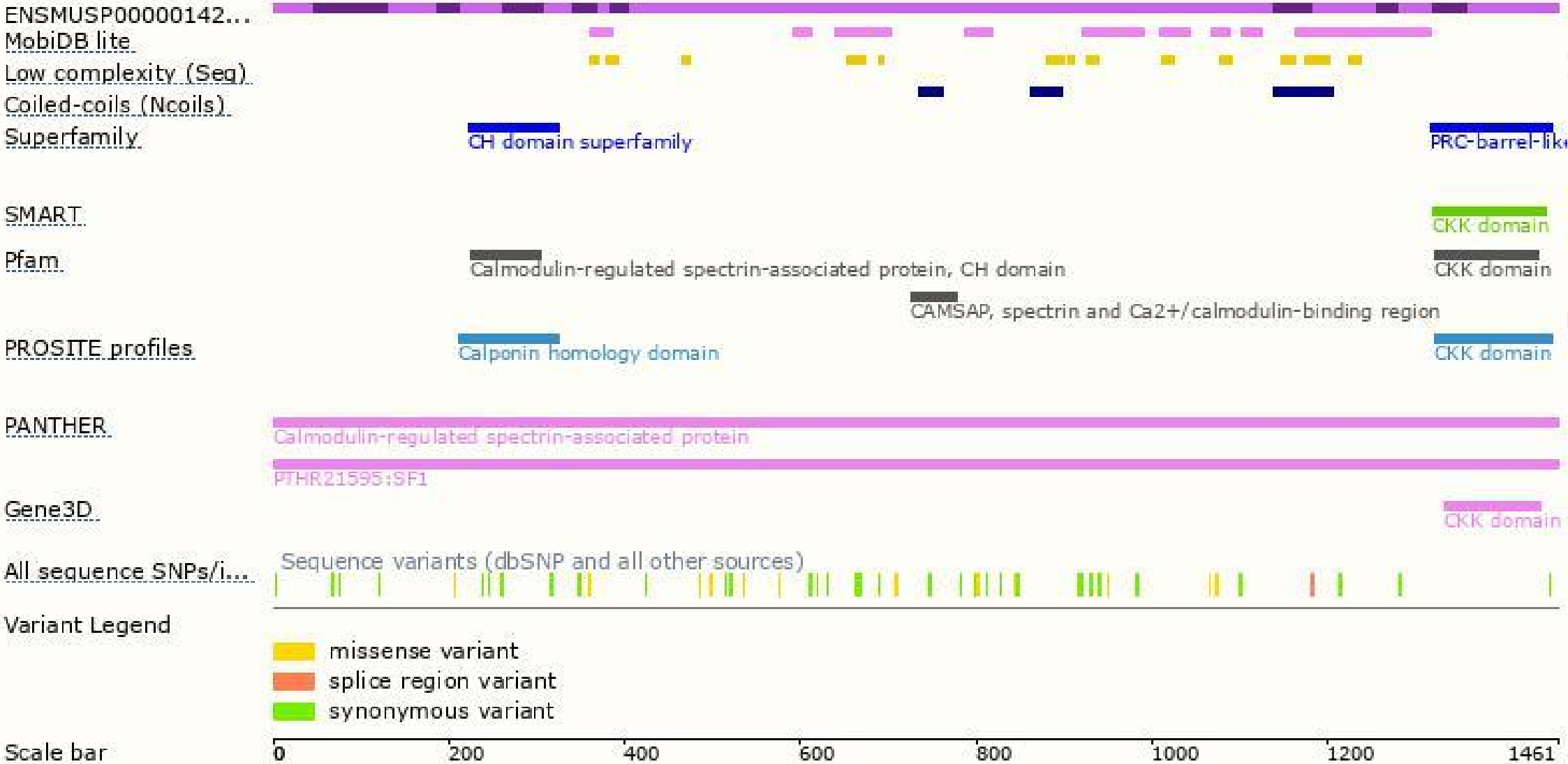
The strategy is based on the design of *Camsap2-202* transcript, The transcription is shown below:



Genomic location distribution



Protein domain



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

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