

Camsap1 Cas9-KO Strategy

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Project Overview

Project Name

Camsap1

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Camsap1* gene. The schematic diagram is as follows:



Technical routes

- The *Camsap1* gene has 12 transcripts. According to the structure of *Camsap1* gene, exon2-exon3 of *Camsap1*-202 (ENSMUST00000114167.8) transcript is recommended as the knockout region. The region contains 425bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Camsap1* gene. The brief process is as follows: CRISPR/Cas9 syst

- The *Camsap1* gene is located on the Chr2. 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)

Camsap1 calmodulin regulated spectrin-associated protein 1 [*Mus musculus* (house mouse)]

Gene ID: 227634, updated on 4-Sep-2019

Summary

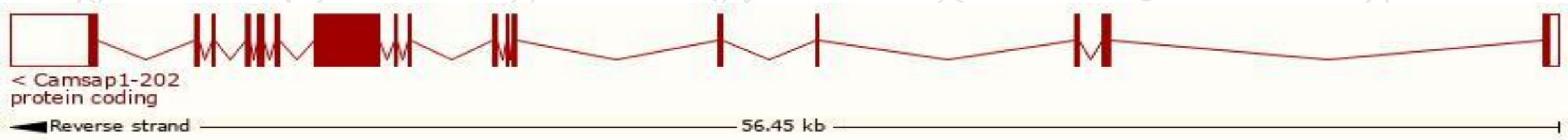
Official Symbol	Camsap1 provided by MGI
Official Full Name	calmodulin regulated spectrin-associated protein 1 provided by MGI
Primary source	MGI:MGI:3036242
See related	Ensembl:ENSMUSG00000026933
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	C77823; PRO2405; 9530003A05Rik
Expression	Broad expression in testis adult (RPKM 21.8), CNS E14 (RPKM 10.4) and 20 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

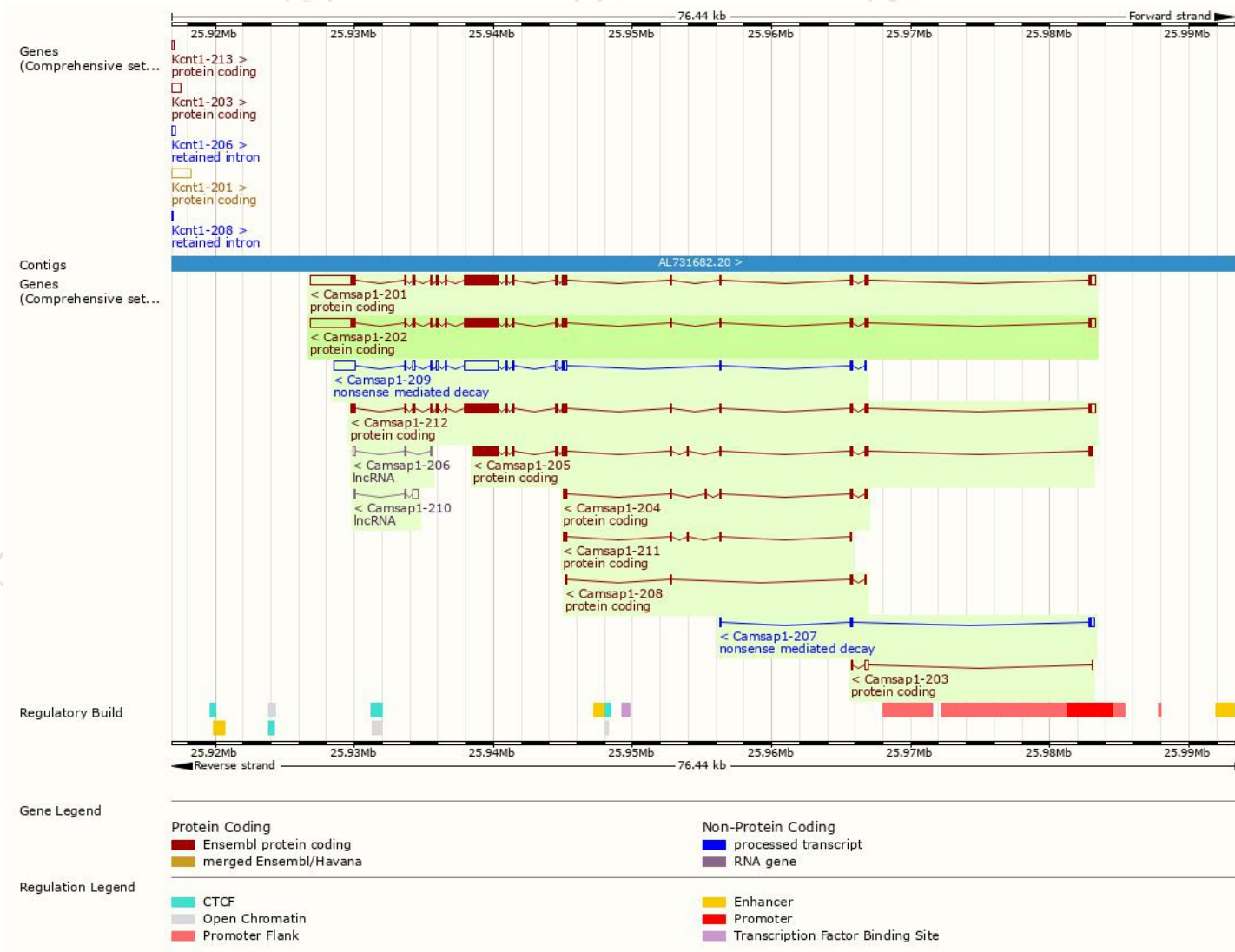
The gene has 12 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Camsap1-202	ENSMUST00000114167.8	7981	1582aa	Protein coding	CCDS50538	A0A0A0MQE5	TSL:5 GENCODE basic APPRIS P2
Camsap1-201	ENSMUST00000091268.10	7978	1581aa	Protein coding	-	A2AHC3	TSL:5 GENCODE basic APPRIS ALT2
Camsap1-212	ENSMUST00000183461.7	5090	1581aa	Protein coding	-	A2AHC3	TSL:5 GENCODE basic APPRIS ALT2
Camsap1-205	ENSMUST00000134882.7	3354	1077aa	Protein coding	-	A2AHC4	CDS 3' incomplete TSL:5
Camsap1-204	ENSMUST00000134054.7	795	265aa	Protein coding	-	F6Q2D3	CDS 5' and 3' incomplete TSL:3
Camsap1-211	ENSMUST00000151593.7	530	177aa	Protein coding	-	F6W3X2	CDS 5' and 3' incomplete TSL:5
Camsap1-208	ENSMUST00000142028.1	491	164aa	Protein coding	-	F6QF29	CDS 5' and 3' incomplete TSL:5
Camsap1-203	ENSMUST00000127823.1	378	47aa	Protein coding	-	V9GWZ6	CDS 3' incomplete TSL:3
Camsap1-209	ENSMUST00000143977.7	5464	112aa	Nonsense mediated decay	-	V9GXD7	CDS 5' incomplete TSL:5
Camsap1-207	ENSMUST00000139937.1	667	73aa	Nonsense mediated decay	-	V9GXT0	TSL:5
Camsap1-210	ENSMUST00000148146.1	597	No protein	lncRNA	-	-	TSL:5
Camsap1-206	ENSMUST00000134970.7	316	No protein	lncRNA	-	-	TSL:5

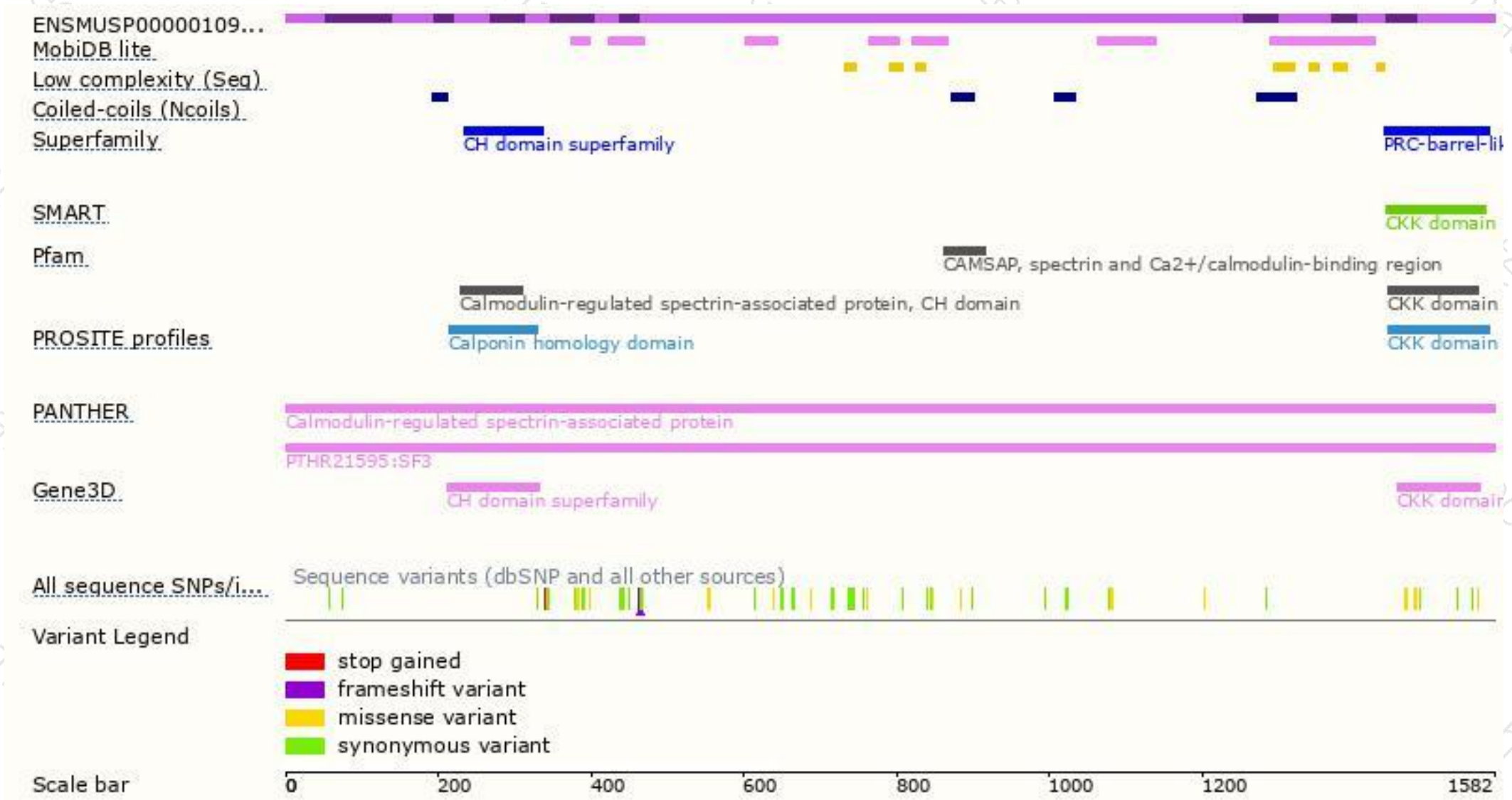
The strategy is based on the design of *Camsap1-202* transcript,The transcription is shown below:



Genomic location distribution



Protein domain



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

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