

Vsnl1 Cas9-CKO Strategy

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Reviewer:

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Project Overview

Project Name

Vsnl1

Project type

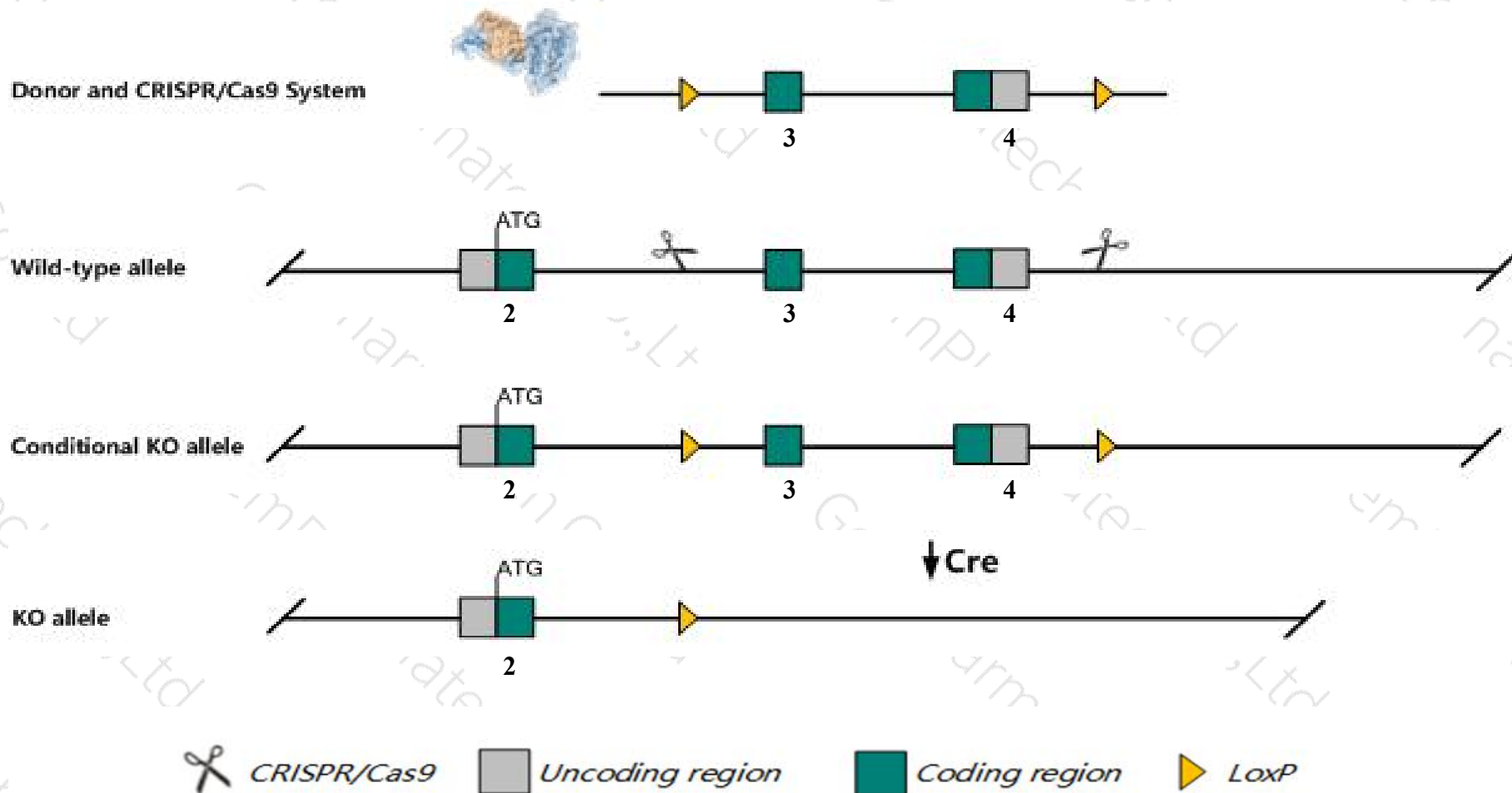
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Vsn11* gene. The schematic diagram is as follows:



- The *Vsn11* gene has 2 transcripts. According to the structure of *Vsn11* gene, exon3-exon4 of *Vsn11-201* (ENSMUST00000072299.6) transcript is recommended as the knockout region. The region contains most 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 *Vsn11* gene. The brief process is as follows: CRISPR/Cas9 system and Donor were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.
- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Vsn11* gene is located on the Chr12. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Vsnl1 visinin-like 1 [Mus musculus (house mouse)]

Gene ID: 26950, updated on 31-Jan-2019

Summary



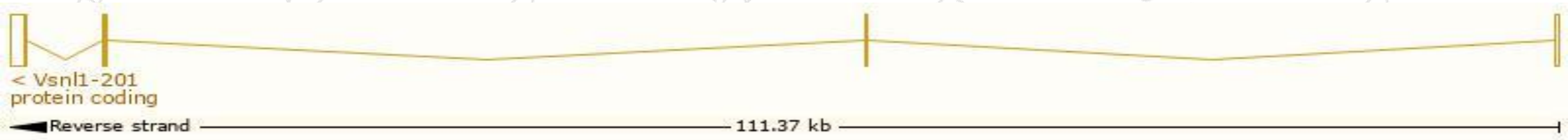
Official Symbol	Vsnl1 provided by MGI
Official Full Name	visinin-like 1 provided by MGI
Primary source	MGI:MGI:1349453
See related	Ensembl:ENSMUSG00000054459
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	VILIP, VnsI1
Expression	Biased expression in cortex adult (RPKM 134.2), cerebellum adult (RPKM 127.1) and 3 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

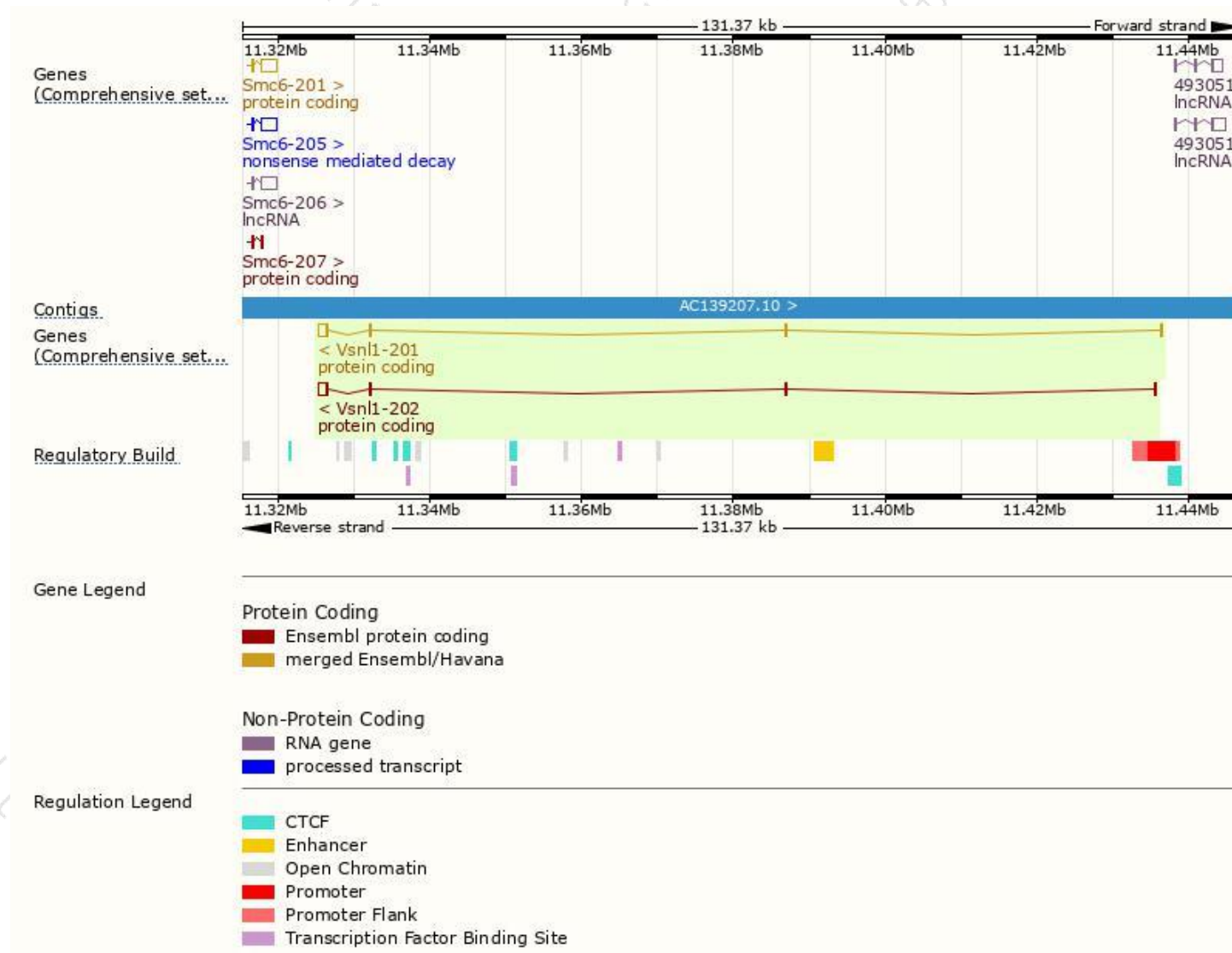
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Vsnl1-201	ENSMUST00000072299.6	1903	191aa	Protein coding	CCDS25816	P62761 Q4W4C9	TSL:1 GENCODE basic APPRIS P1
Vsnl1-202	ENSMUST00000220506.1	1699	191aa	Protein coding	CCDS25816	P62761 Q4W4C9	TSL:5 GENCODE basic APPRIS P1

The strategy is based on the design of *Vsnl1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain

ENSMUSP00000072...

[Superfamily](#)

[SMART](#)

[Prints](#)

[Pfam](#)

[PROSITE profiles](#)

[PROSITE patterns](#)

[PANTHER](#)

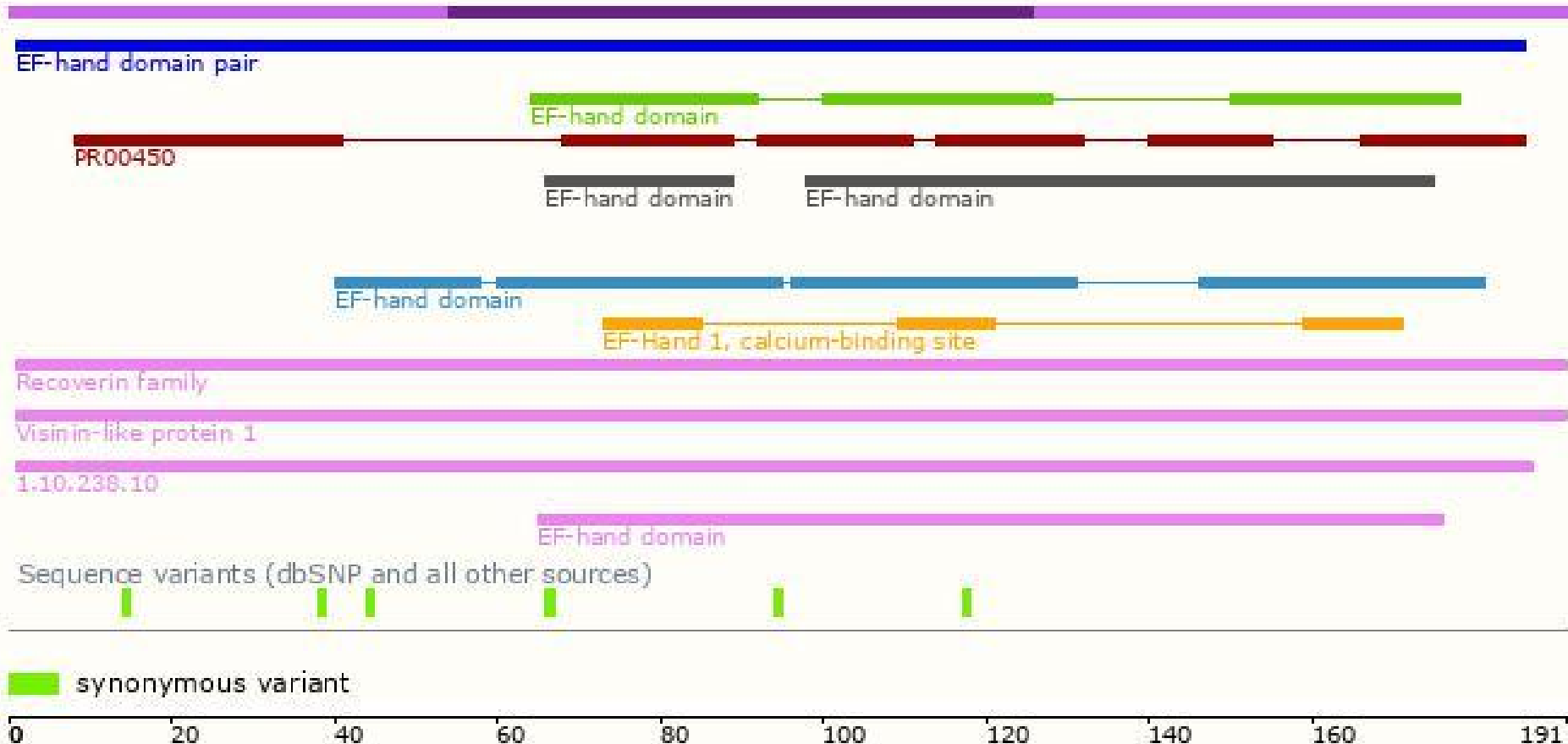
[Gene3D](#)

[CDD](#)

[All sequence SNPs/i...](#)

[Variant Legend](#)

[Scale bar](#)



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

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