

Vwc2l Cas9-CKO Strategy

Designer:

Huan Wang

Design Date:

2019-8-3

Project Overview

Project Name

Vwc2l

Project type

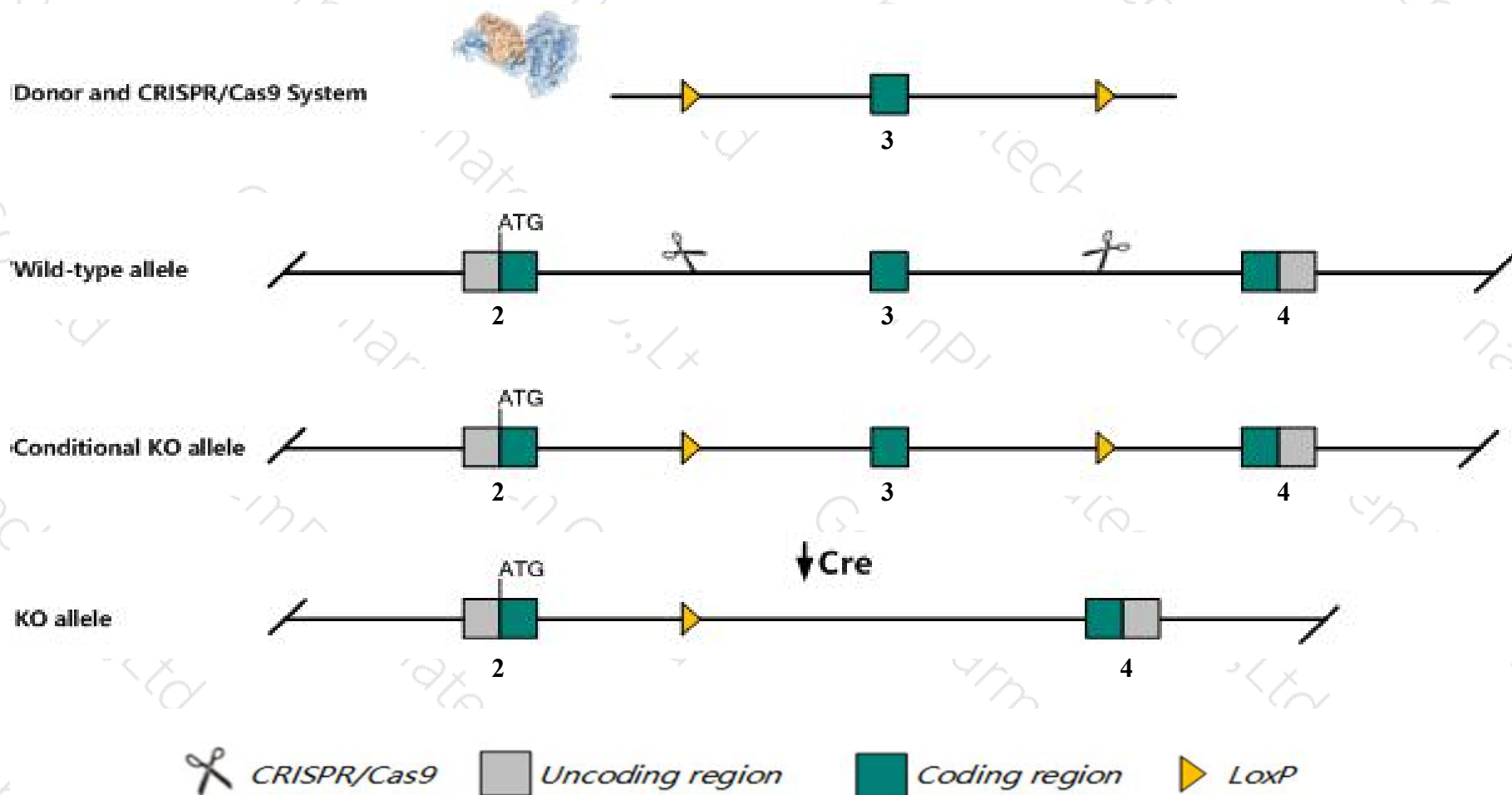
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Vwc2l* gene. The schematic diagram is as follows:



- The *Vwc2l* gene has 4 transcripts. According to the structure of *Vwc2l* gene, exon3 of *Vwc2l-201* (ENSMUST00000053922.11) transcript is recommended as the knockout region. The region contains 130bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Vwc2l* 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 *Vwc2l* 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.
- 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)

Vwc2l von Willebrand factor C domain-containing protein 2-like [Mus musculus (house mouse)]

Gene ID: 320460, updated on 31-Jan-2019

Summary



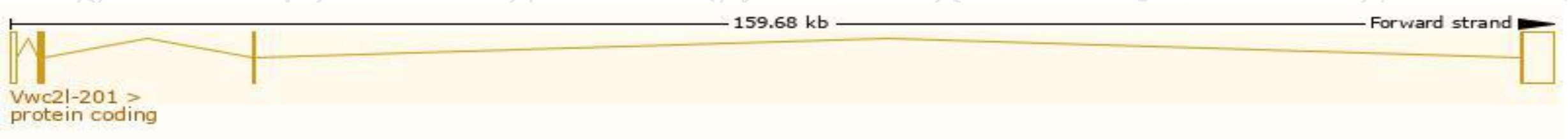
Official Symbol	Vwc2l provided by MGI
Official Full Name	von Willebrand factor C domain-containing protein 2-like provided by MGI
Primary source	MGI:MGI:2444069
See related	Ensembl:ENSMUSG00000045648
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	A830006F12Rik, Brl
Expression	Low expression observed in reference dataset See more
Orthologs	human all

Transcript information (Ensembl)

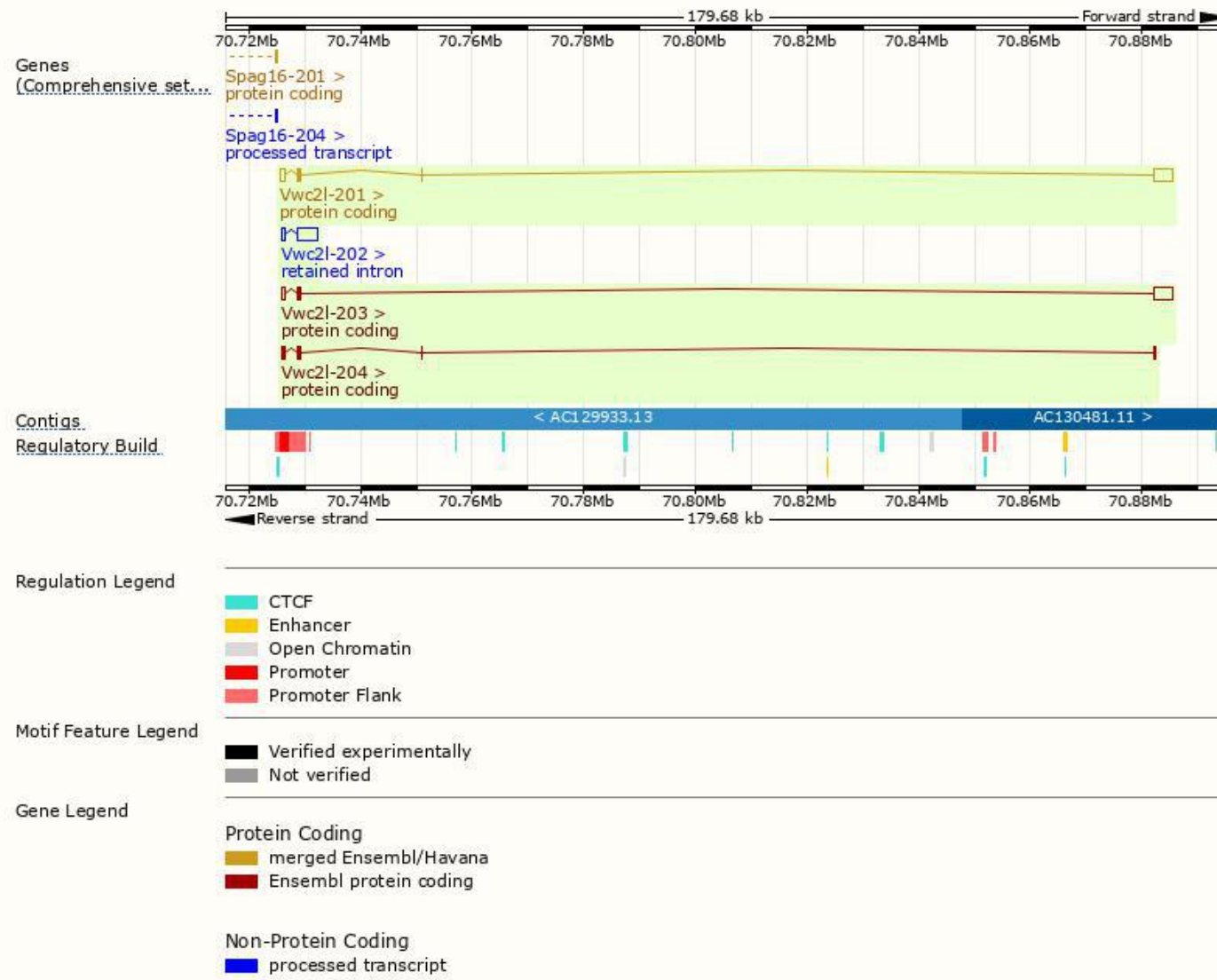
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Vwc2l-201	ENSMUST00000053922.11	4655	222aa	Protein coding	CCDS15028	Q505H4	TSL:1 GENCODE basic APPRIS P1
Vwc2l-203	ENSMUST00000161937.1	4323	139aa	Protein coding	CCDS78606	Q505H4	TSL:1 GENCODE basic
Vwc2l-204	ENSMUST00000162182.1	1195	175aa	Protein coding	-	Q505H4	TSL:1 GENCODE basic
Vwc2l-202	ENSMUST00000159205.1	4191	No protein	Retained intron	-	-	TSL:1

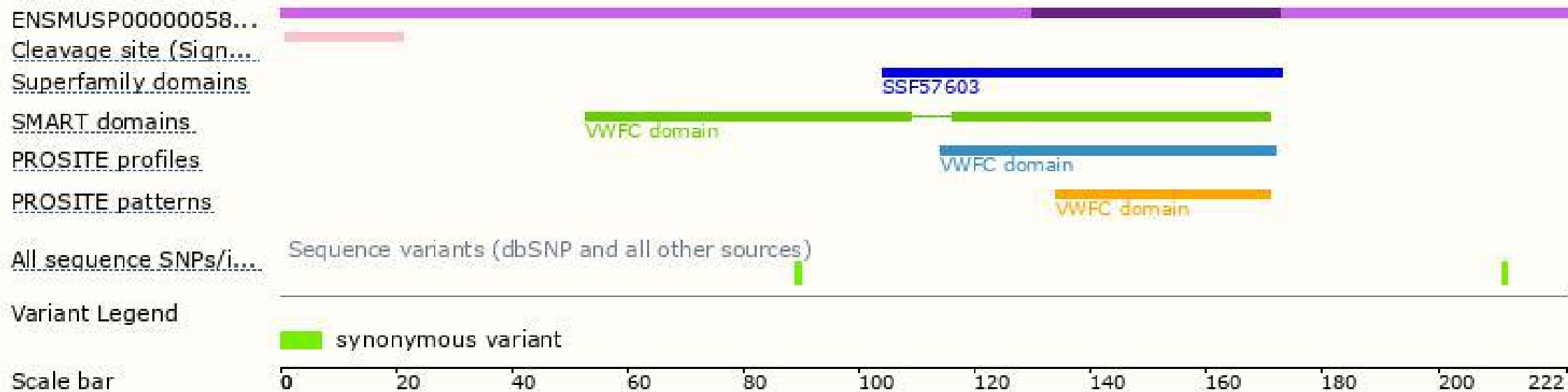
The strategy is based on the design of *Vwc2l-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

