

Vmn1r208 Cas9-CKO Strategy

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Project Overview

Project Name

Vmn1r208

Project type

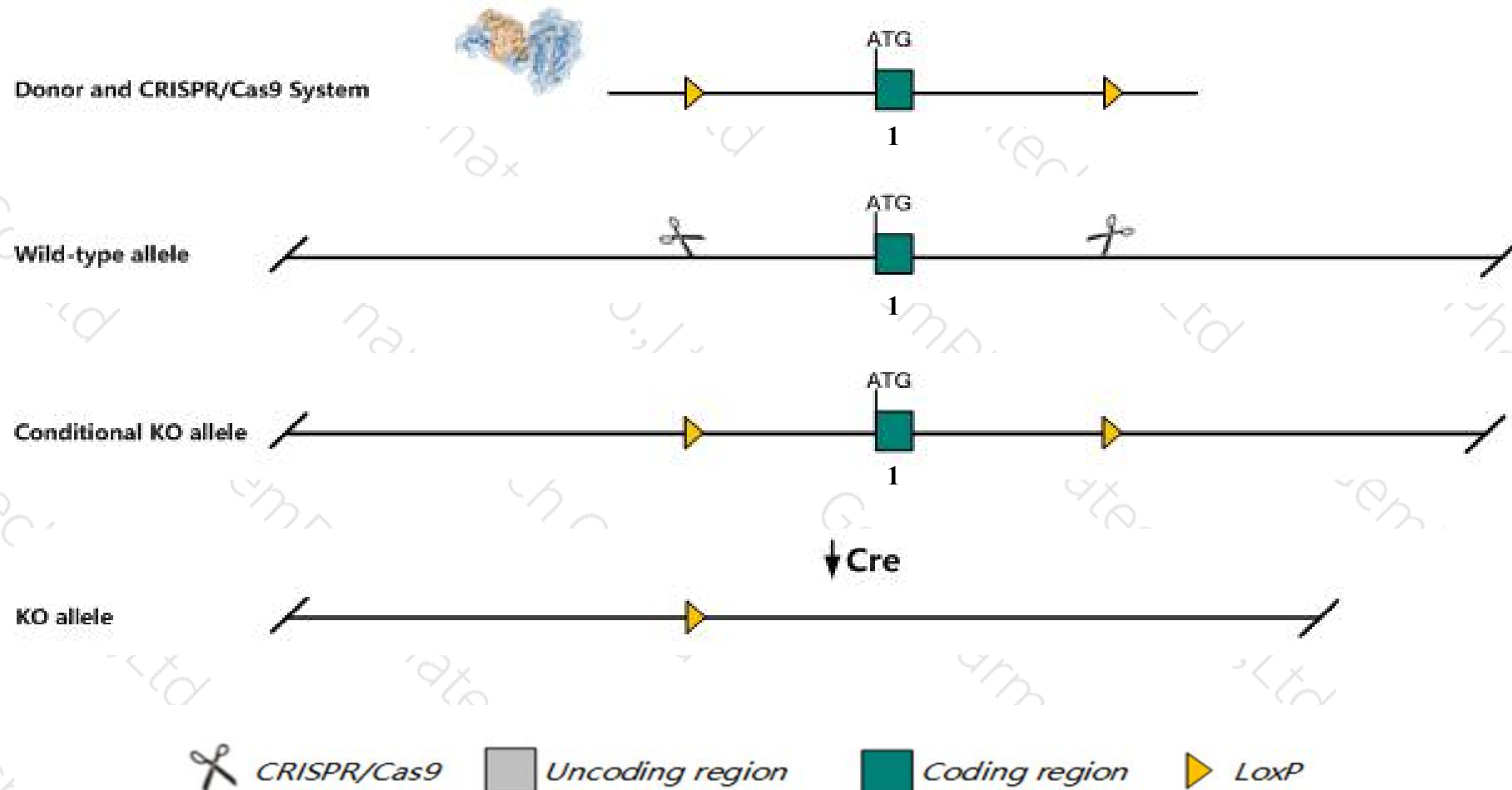
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Vmn1r208* gene. The schematic diagram is as follows:



Technical routes

- The *Vmn1r208* gene has 2 transcripts. According to the structure of *Vmn1r208* gene, exon1 of *Vmn1r208-201*(ENSMUST00000124841.2) transcript is recommended as the knockout region. The region contains all 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 *Vmn1r208* 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.

- The KO region contains functional region of the *Gm11314* gene. Knockout the region may affect the function of *Gm11314* gene.
- The *Vmn1r208* gene is located on the Chr13. 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)

Vmn1r208 vomeronasal 1 receptor 208 [Mus musculus (house mouse)]

Gene ID: 171252, updated on 13-Mar-2020

Summary

Official Symbol	Vmn1r208 provided by MGI
Official Full Name	vomeronasal 1 receptor 208 provided by MGI
Primary source	MGI:MGI:2159668
See related	Ensembl:ENSMUSG00000071493
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	V1rh9, Vmn1r208-ps

Transcript information (Ensembl)

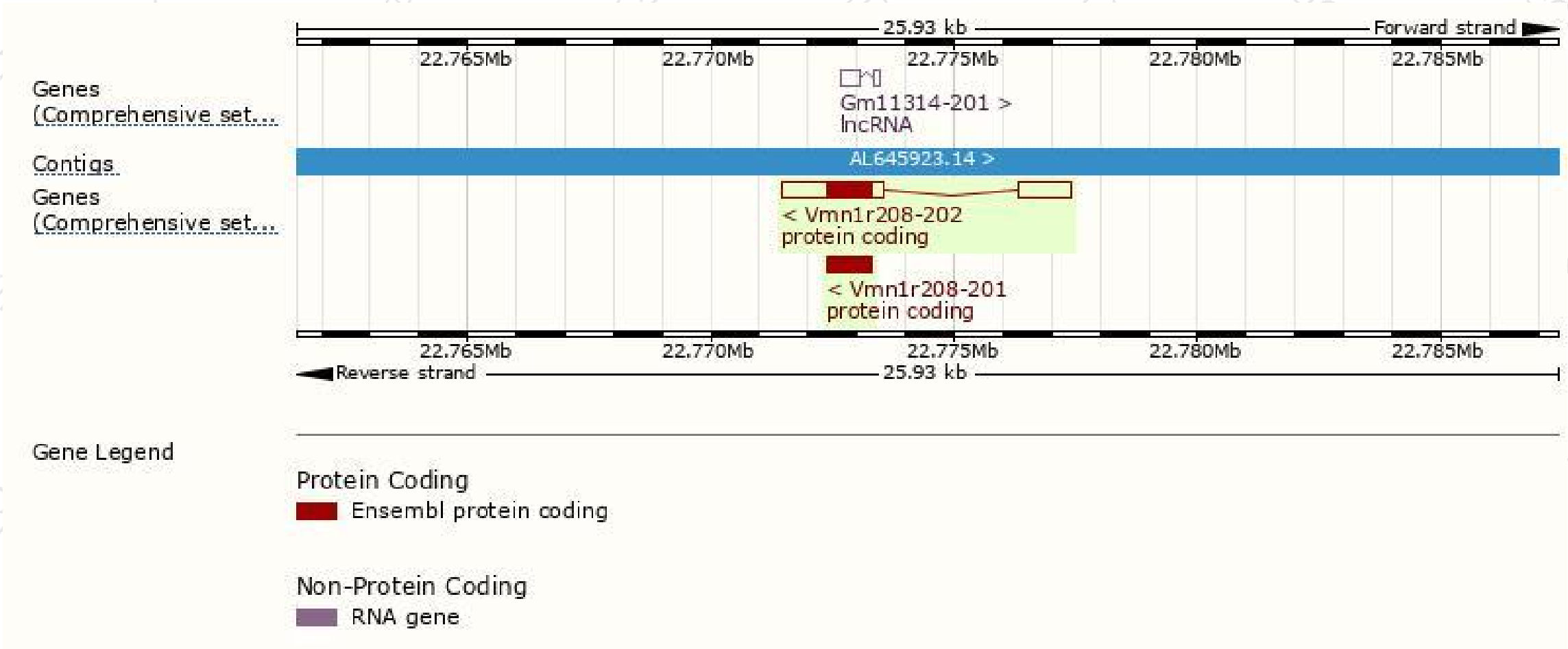
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Vmn1r208-202	ENSMUST00000227136.1	3156	308aa	Protein coding	CCDS36616	Q8R275	GENCODE basic APPRIS P1
Vmn1r208-201	ENSMUST00000124841.2	927	308aa	Protein coding	CCDS36616	Q8R275	TSL:NA GENCODE basic APPRIS P1

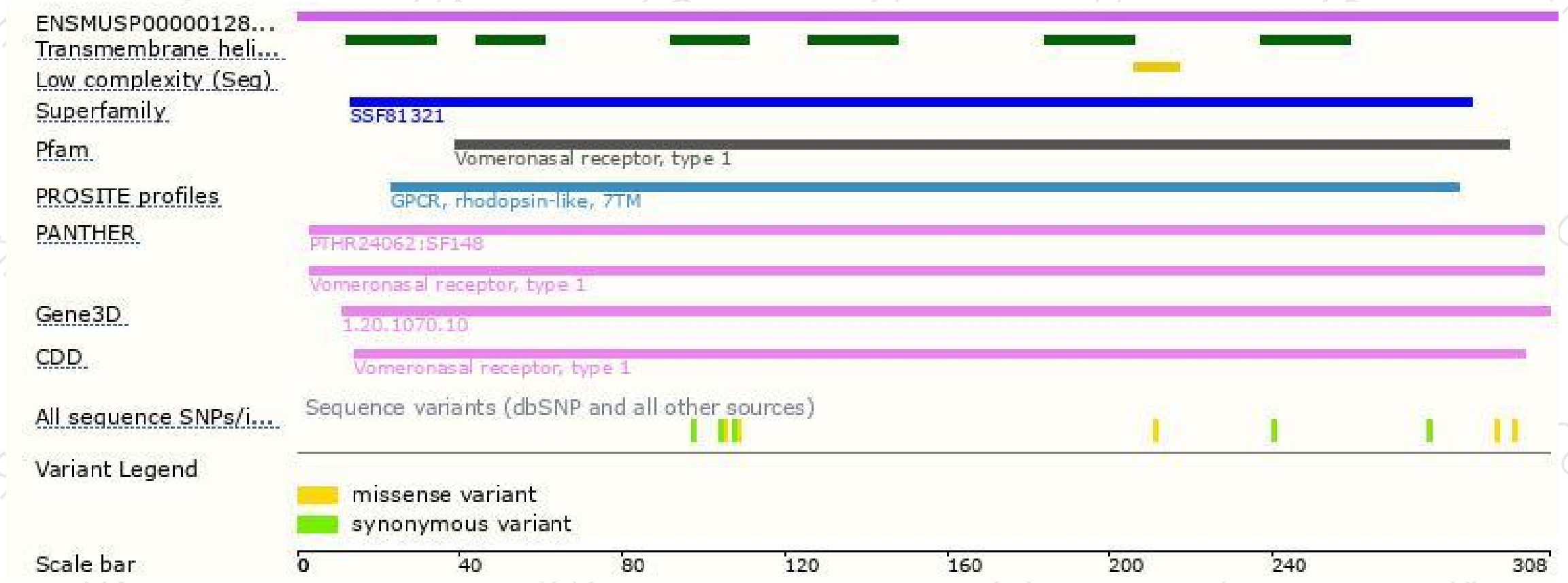
The strategy is based on the design of *Vmn1r208-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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