

Tas2r144 Cas9-CKO Strategy

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Project Overview

Project Name

Tas2r144

Project type

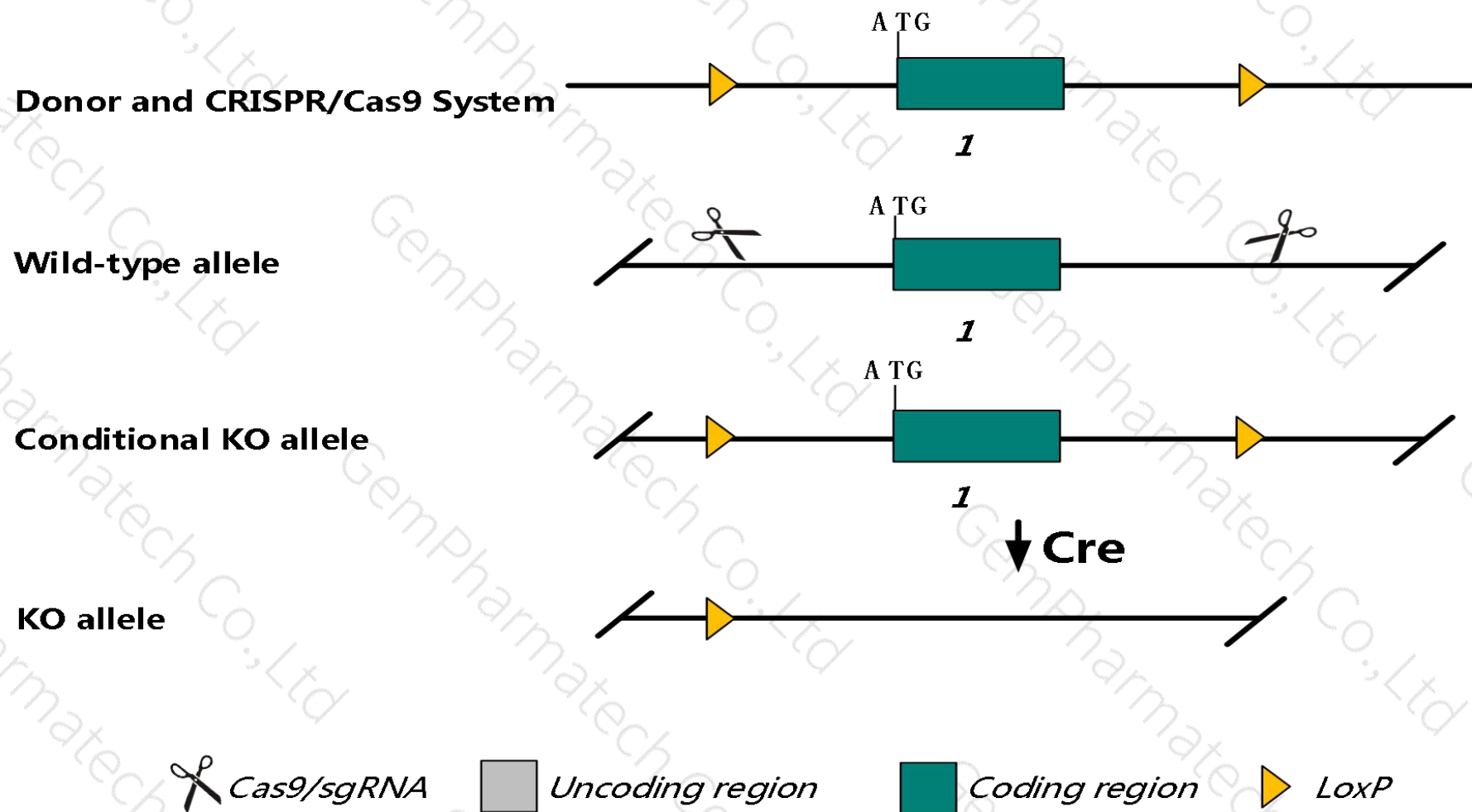
Cas9-CKO

Animal background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the Tas2r144 gene. The schematic diagram is as follows:



- The Tas2r144 gene has 1 transcript. According to the structure of Tas2r144 gene, exon1 of Tas2r144-201 transcript is recommended as the knockout region. The region contains all coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify Tas2r144 gene. The brief process is as follows: gRNA was transcribed in vitro, donor was constructed. Cas9, gRNA 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 or cell types.

Notice

- The Tas2r144 gene is located on the Chr6. 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 gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information (NCBI)

Tas2r144 taste receptor, type 2, member 144 [*Mus musculus* (house mouse)]

Gene ID: 387515, updated on 31-Jan-2019

Summary

Official Symbol Tas2r144 provided by [MGI](#)
Official Full Name taste receptor, type 2, member 144 provided by [MGI](#)
Primary source [MGI:MGI:2681312](#)
See related [Ensembl:ENSMUSG00000051917](#)
Gene type protein coding
RefSeq status PROVISIONAL
Organism [Mus musculus](#)
Lineage Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as mt2r33; Tas2r40; Tas2r44
Orthologs [human](#) [all](#)

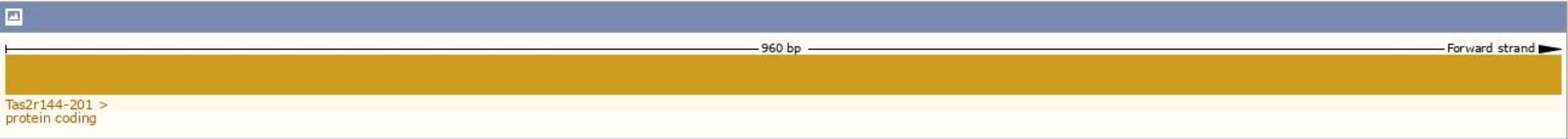
Transcript information (Ensembl)

The gene has 1 transcript, and the transcript is shown below :

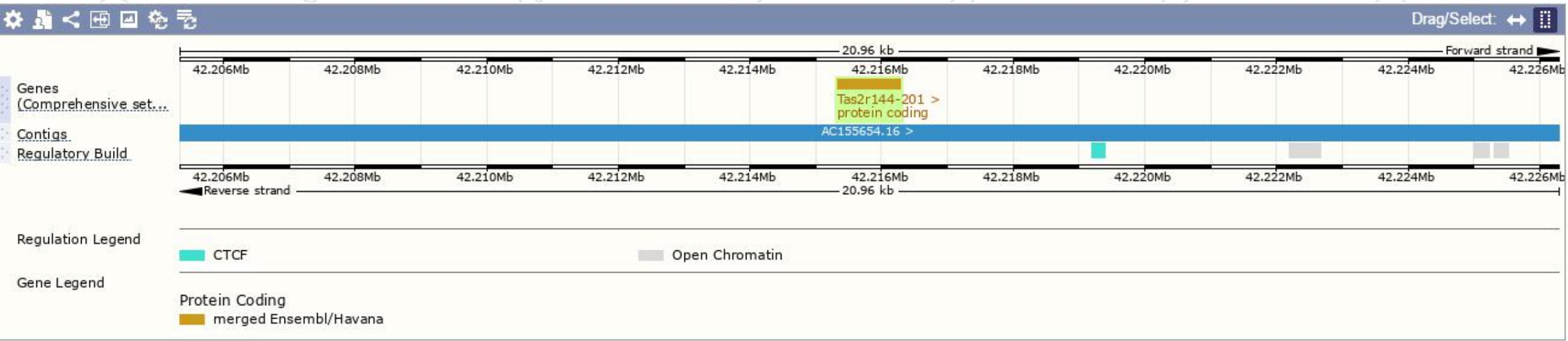
Show/hide columns (1 hidden) Filter

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Tas2r144-201	ENSMUST00000063489.3	960	319aa	Protein coding	CCDS20062	Q7TQB8	TSL:NA GENCODE basic APPRIS P1

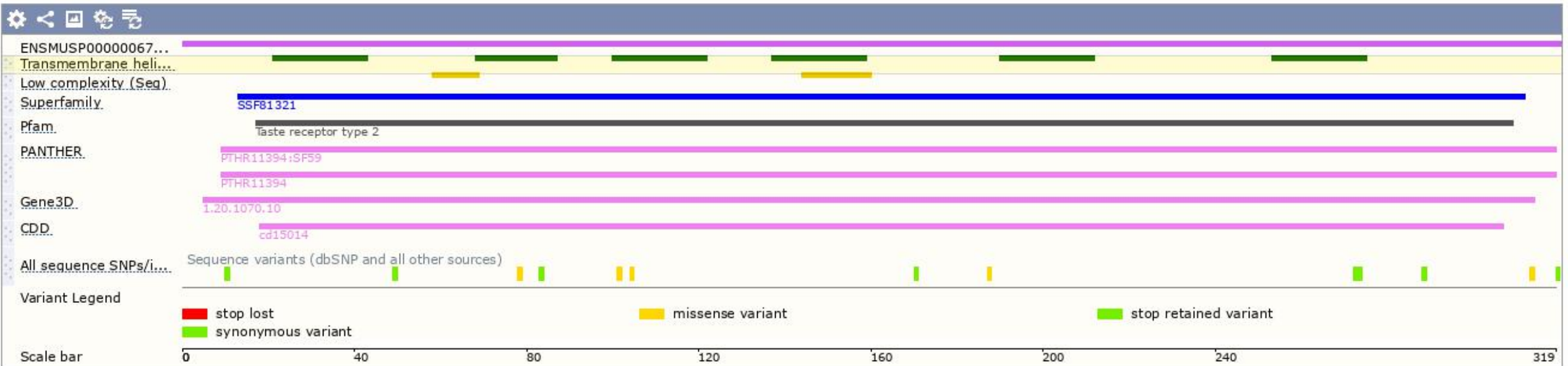
The strategy is based on the design of *Tas2r144-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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