

***Tas2r118* Cas9-CKO Strategy**

Designer:

Jinling Wang

Design Date:

2019-9-30

Project Overview

Project Name

Tas2r118

Project type

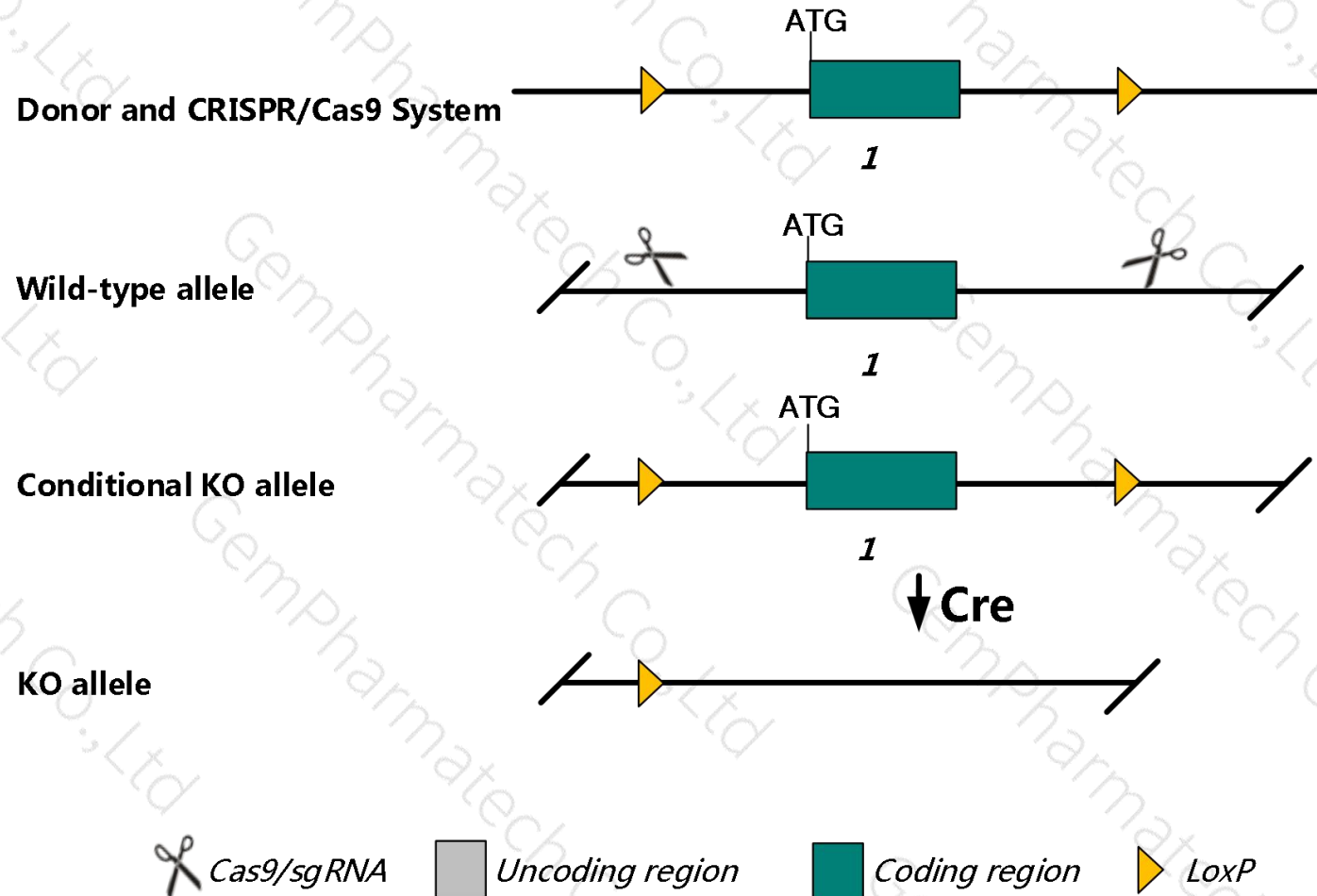
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Tas2r118* gene. The schematic diagram is as follows:



Technical routes

- The *Tas2r118* gene has 1 transcripts. According to the structure of *Tas2r118* gene, exon3 of *Tas2r118-201* (NSMUSG00000043865) 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 *Tas2r118* 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 Tas2r118 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 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)

Tas2r118 taste receptor, type 2, member 118 [*Mus musculus* (house mouse)]

Gene ID: 387347, updated on 18-Sep-2018

Summary



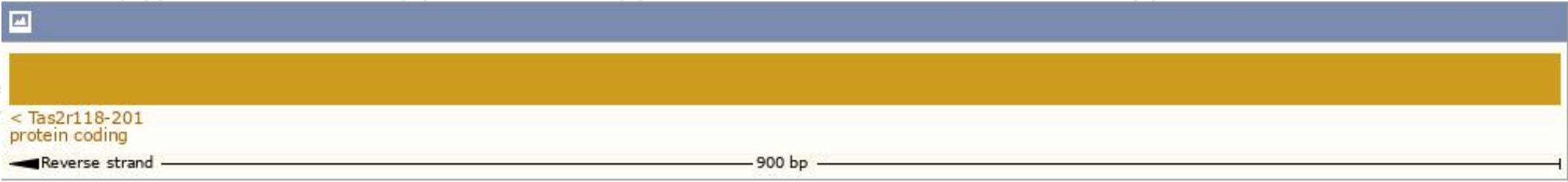
Official Symbol	Tas2r118 provided by MGI
Official Full Name	taste receptor, type 2, member 118 provided by MGI
Primary source	MGI:MGI:2681247
See related	Ensembl:ENSMUSG000000043865 Vega:OTTMUSG000000037020
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Gm465; T2R16; T2R18; mGR18; mt2r40; Tas2r16; Tas2r18
Orthologs	human all

Transcript information (Ensembl)

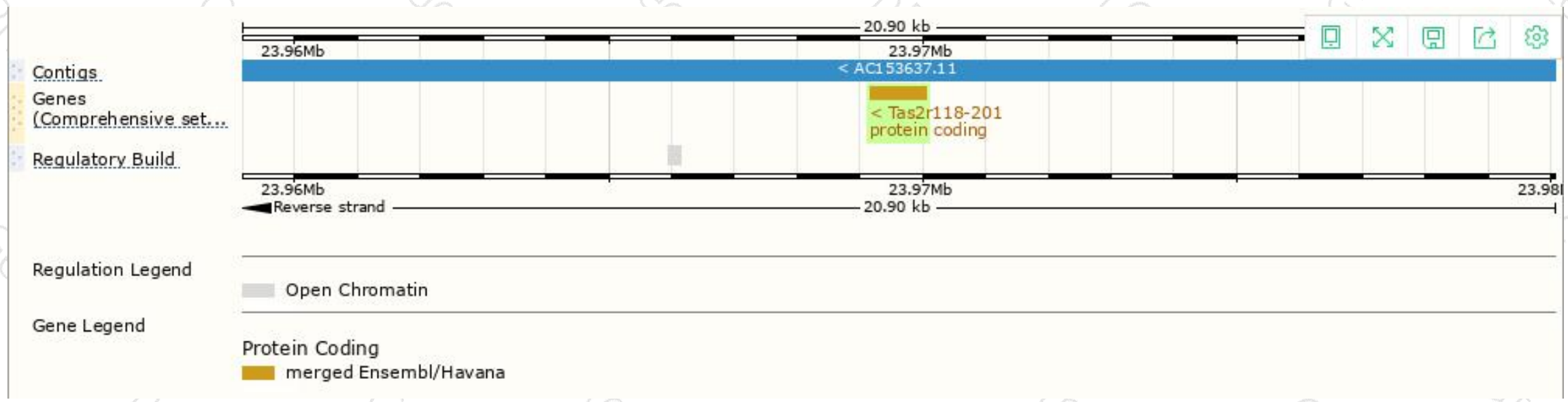
The gene has 1 transcripts,all transcripts are shown below:

Show/hide columns (1 hidden)							Filter	
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	RefSeq	Flags
Tas2r118-201	ENSMUST00000062463.3	900	299aa	Protein coding	CCDS19939	P59529	NM_207022 NP_996905	TSL:NA GENCODE basic APPRIS P1

The strategy is based on the design of *Tas2r118-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

