

Wipi2 Cas9-CKO Strategy

Designer:Fengjuan Wang
Reviewer:Fengjuan Wang
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Project Overview

Project Name

Wipi2

Project type

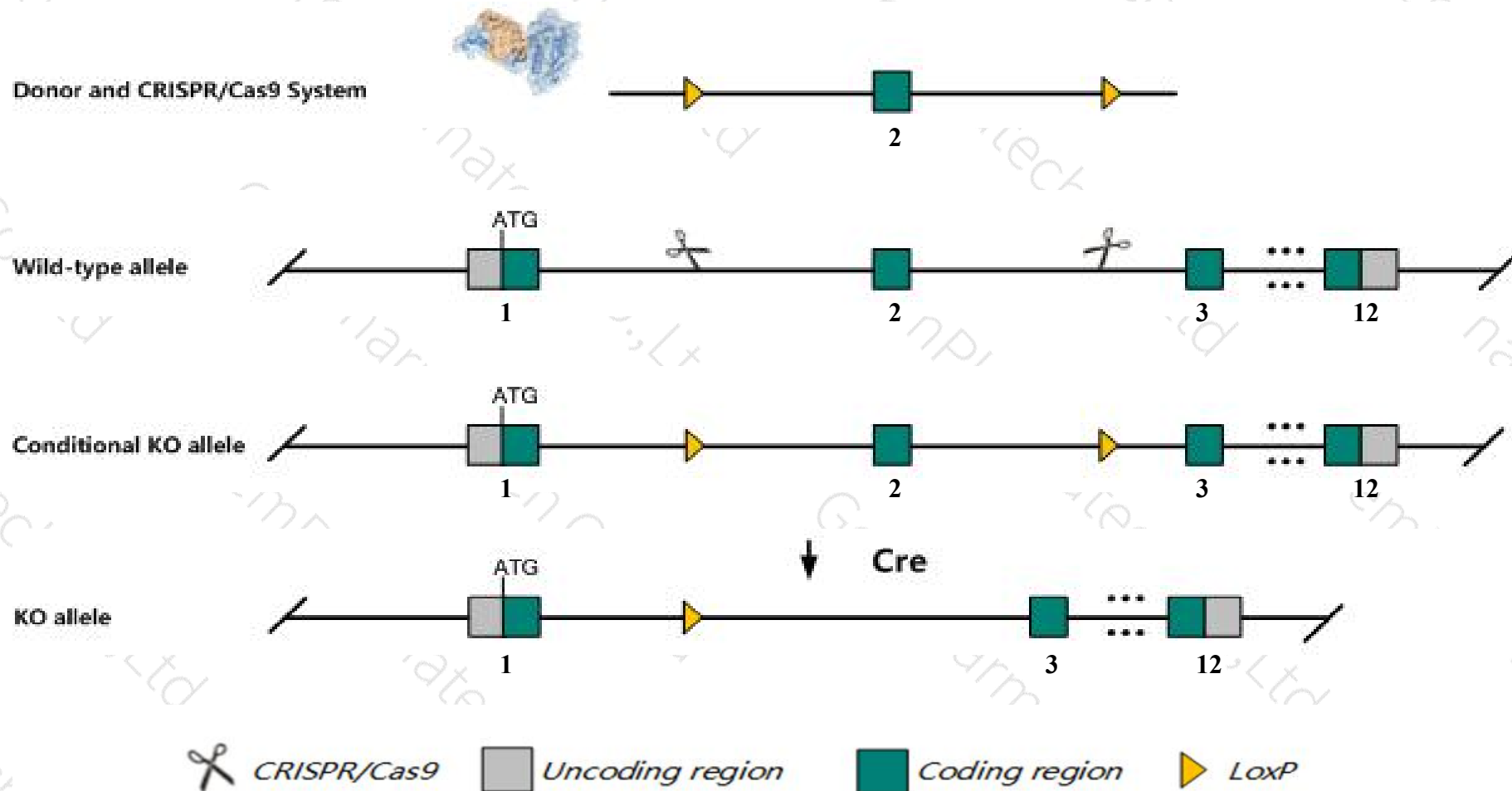
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wipi2* gene. The schematic diagram is as follows:



- The *Wipi2* gene has 5 transcripts. According to the structure of *Wipi2* gene, exon2 of *Wipi2-201* (ENSMUST00000036872.15) transcript is recommended as the knockout region. The region contains 83bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wipi2* 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 *Wipi2* gene is located on the Chr5. 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)

Wipi2 WD repeat domain, phosphoinositide interacting 2 [*Mus musculus* (house mouse)]

Gene ID: 74781, updated on 31-Jan-2019

Summary

Official Symbol	Wipi2 provided by MGI
Official Full Name	WD repeat domain, phosphoinositide interacting 2 provided by MGI
Primary source	MGI:MGI:1923831
See related	Ensembl:ENSMUSG00000029578
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	1110018O08Rik; 2510001110Rik
Expression	Ubiquitous expression in ovary adult (RPKM 25.2), adrenal adult (RPKM 22.3) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

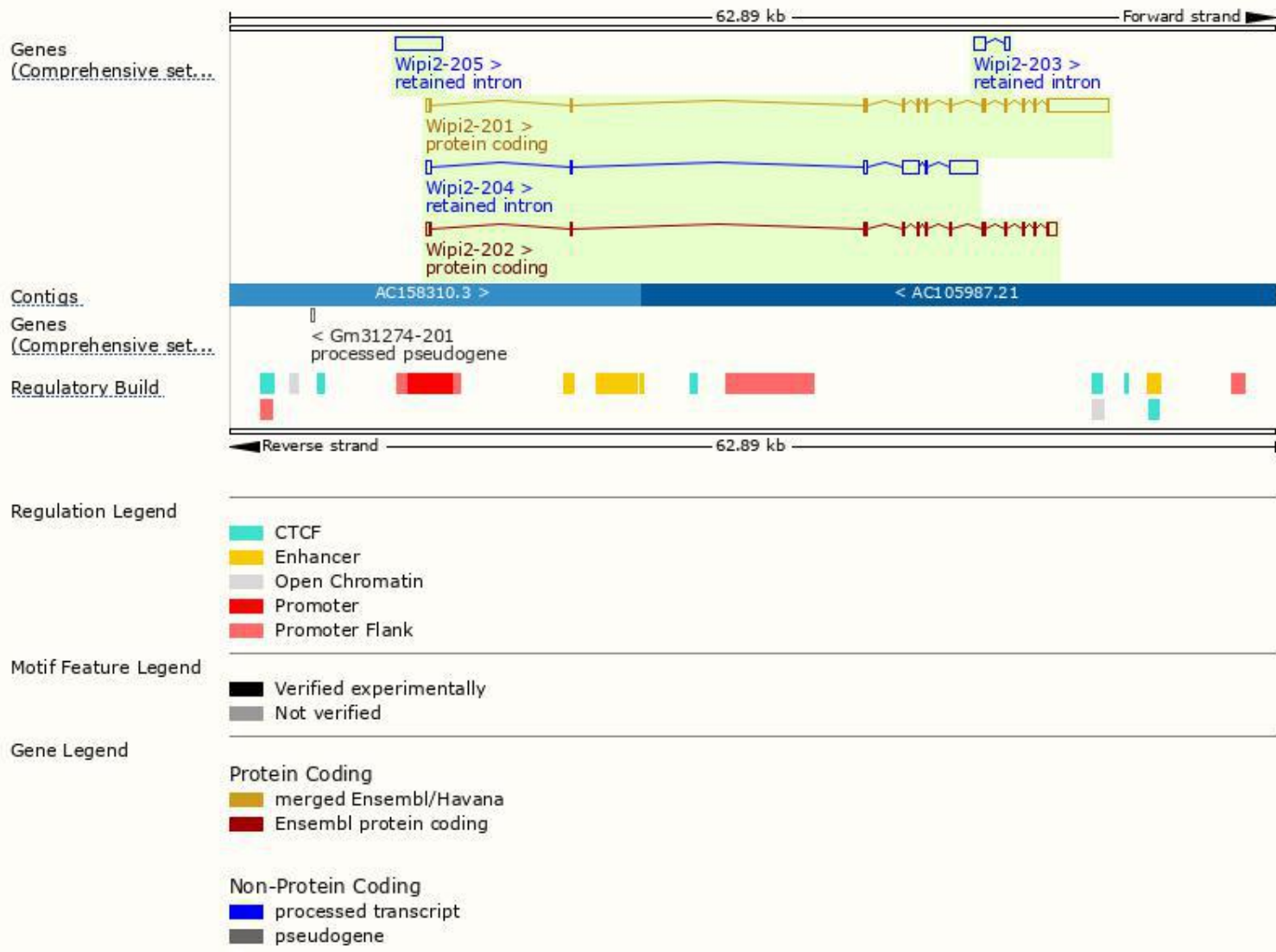
The gene has 5 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wipi2-205	ENSMUST00000197864.1	2793	No protein	Retained intron	-	-	TSL:NA
Wipi2-204	ENSMUST00000153936.1	3244	No protein	Retained intron	-	-	TSL:1
Wipi2-203	ENSMUST00000143980.1	949	No protein	Retained intron	-	-	TSL:2
Wipi2-202	ENSMUST00000110778.1	1959	425aa	Protein coding	-	D3YWK1	TSL:5 GENCODE basic APPRIS P1
Wipi2-201	ENSMUST00000036872.15	5171	445aa	Protein coding	CCDS19828	Q80W47	TSL:1 GENCODE basic

The strategy is based on the design of *Wipi2-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

