

***Zdhhc20* Cas9-CKO Strategy**

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Project Overview

Project Name

Zdhhc20

Project type

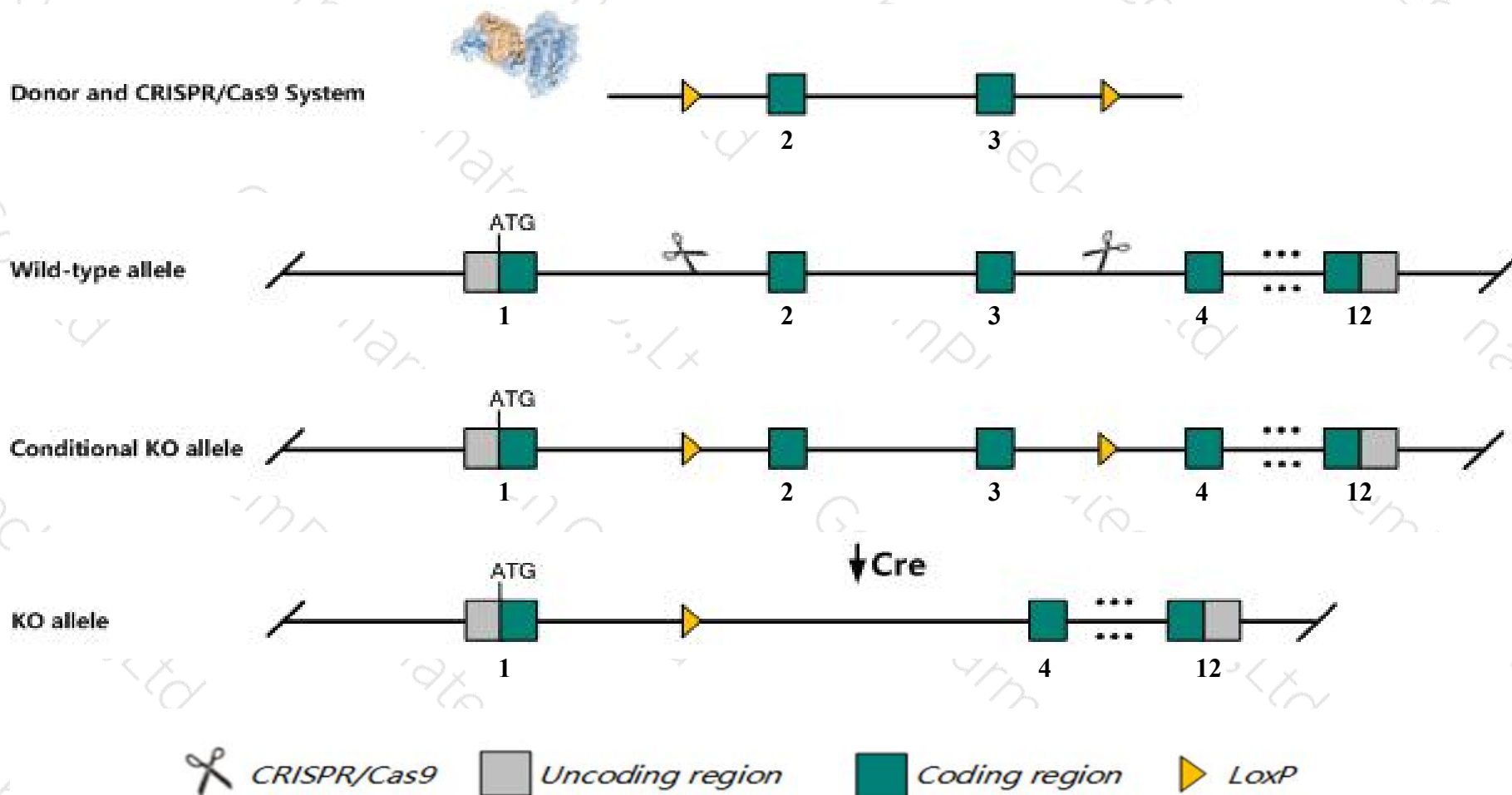
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zdhhc20* gene. The schematic diagram is as follows:



- The *Zdhhc20* gene has 5 transcripts. According to the structure of *Zdhhc20* gene, exon2-exon3 of *Zdhhc20-201* (ENSMUST00000089473.4) transcript is recommended as the knockout region. The region contains 131bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zdhhc20* 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 *Zdhhc20* gene is located on the Chr14. 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)

Zdhhc20 zinc finger, DHHC domain containing 20 [Mus musculus (house mouse)]

Gene ID: 75965, updated on 19-Feb-2019

Summary



Official Symbol	Zdhhc20 provided by MGI
Official Full Name	zinc finger, DHHC domain containing 20 provided by MGI
Primary source	MGI:MGI:1923215
See related	Ensembl:ENSMUSG000000021969
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	4930542A17Rik, 5033406L14Rik, AI448102, B230110O18Rik, HK11
Expression	Ubiquitous expression in bladder adult (RPKM 9.8), limb E14.5 (RPKM 8.5) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

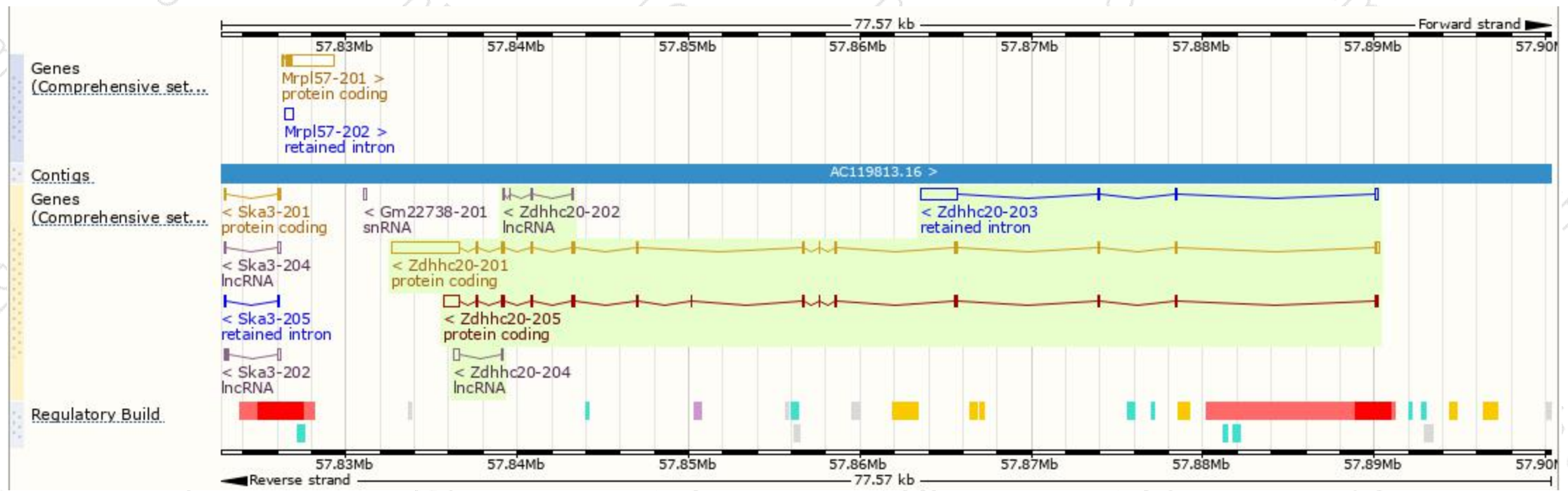
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zdhhc20-201	ENSMUST00000089473.4	5186	368aa	 Protein coding	CCDS27162	Q5Y5T1	TSL:1 GENCODE basic APPRIS P1
Zdhhc20-205	ENSMUST00000226057.1	2179	380aa	 Protein coding	-	Q5Y5T1	GENCODE basic
Zdhhc20-203	ENSMUST00000225955.1	2356	No protein	 Retained intron	-	-	-
Zdhhc20-204	ENSMUST00000226029.1	465	No protein	 lncRNA	-	-	-
Zdhhc20-202	ENSMUST00000224133.1	299	No protein	 lncRNA	-	-	-

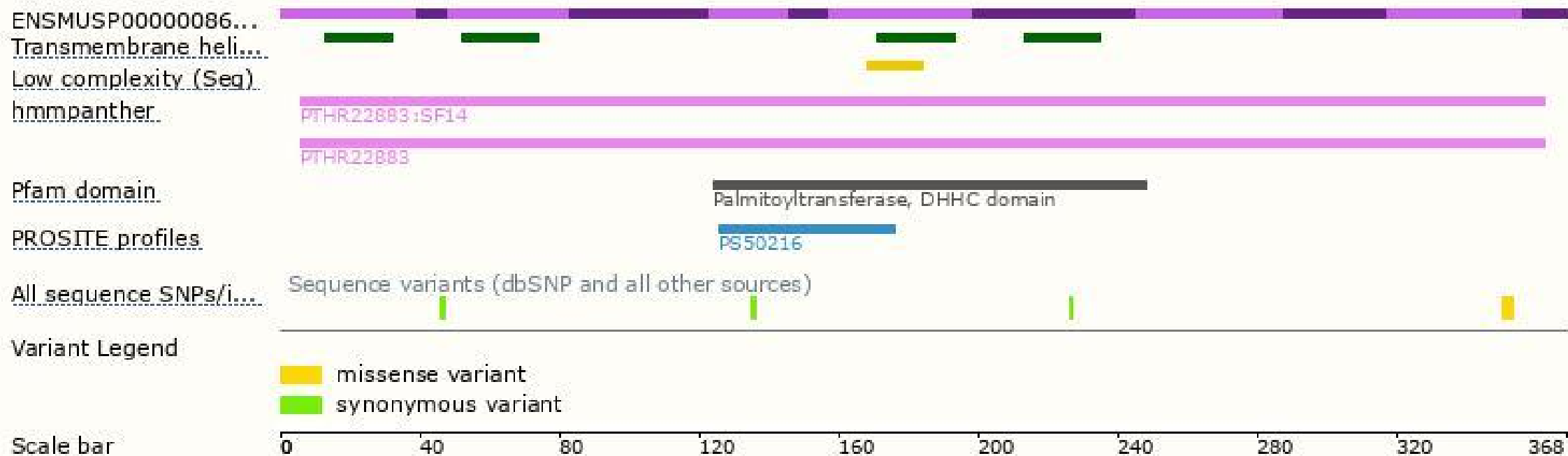
The strategy is based on the design of *Zdhhc20-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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