

Zdhhc7 Cas9-CKO Strategy

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Reviewer:

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Design Date:

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Project Overview

Project Name

Zdhhc7

Project type

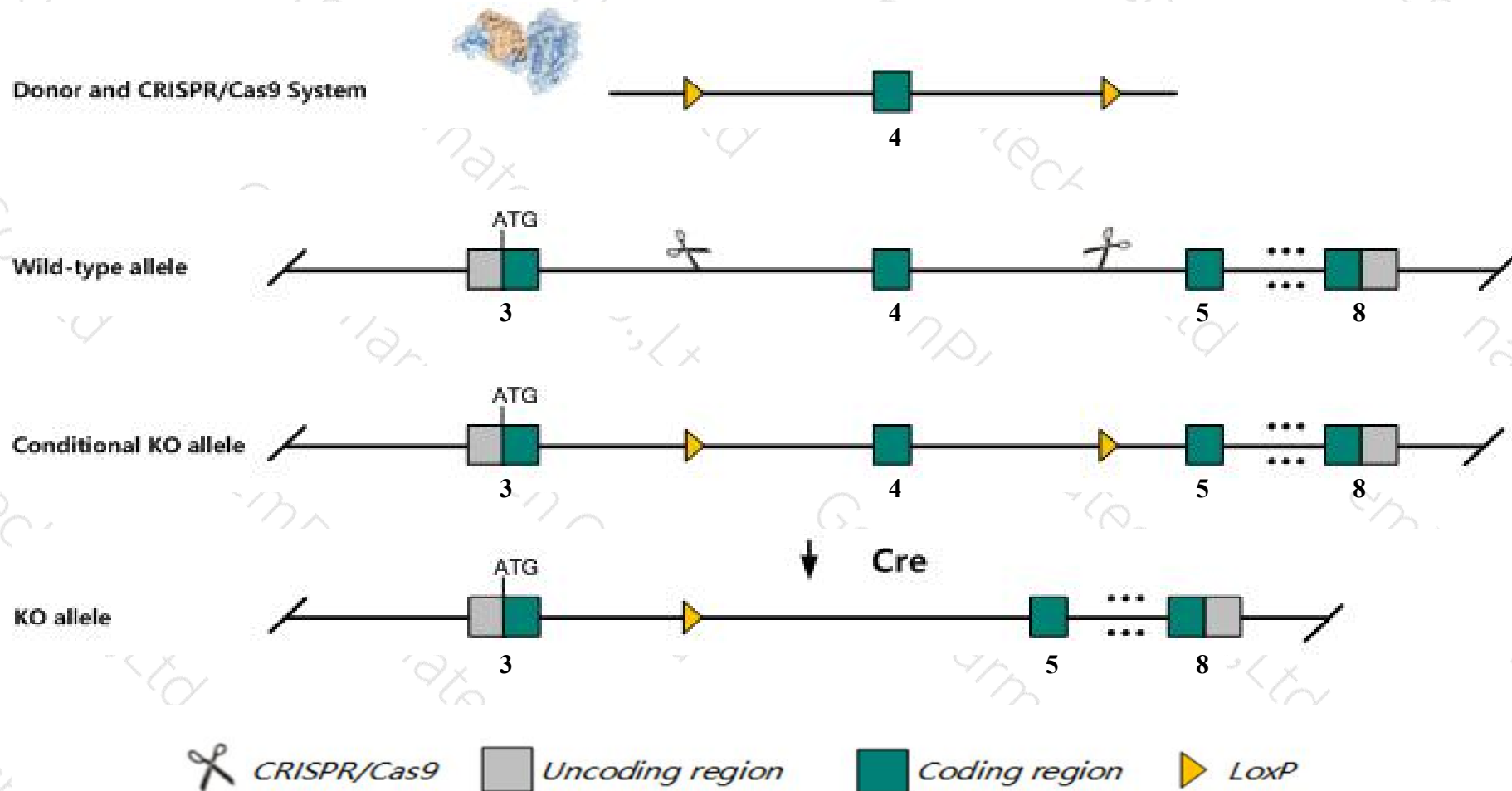
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zdhhc7* gene. The schematic diagram is as follows:



Technical routes

- The *Zdhhc7* gene has 5 transcripts. According to the structure of *Zdhhc7* gene, exon4 of *Zdhhc7-201* (ENSMUST00000034280.8) transcript is recommended as the knockout region. The region contains 125bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zdhhc7* 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 *Zdhhc7* gene is located on the Chr8. 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.
- The KO region contains functional region of the *Gm20388* gene. Knockout the region may affect the function of *Gm20388* gene.
- 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)

Zdhhc7 zinc finger, DHHC domain containing 7 [Mus musculus (house mouse)]

Gene ID: 102193, updated on 31-Jan-2019

Summary



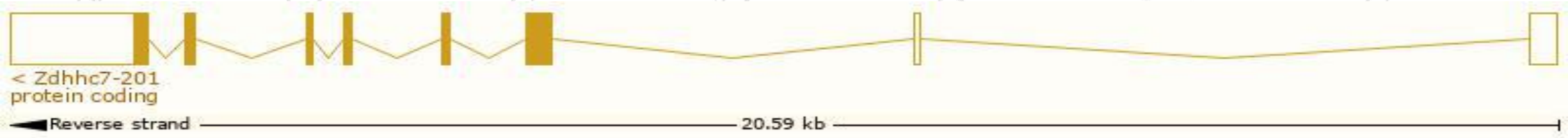
Official Symbol	Zdhhc7 provided by MGI
Official Full Name	zinc finger, DHHC domain containing 7 provided by MGI
Primary source	MGI:MGI:2142662
See related	Ensembl:ENSMUSG000000031823
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AL024087, Gramp2
Expression	Ubiquitous expression in duodenum adult (RPKM 81.1), adrenal adult (RPKM 55.0) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

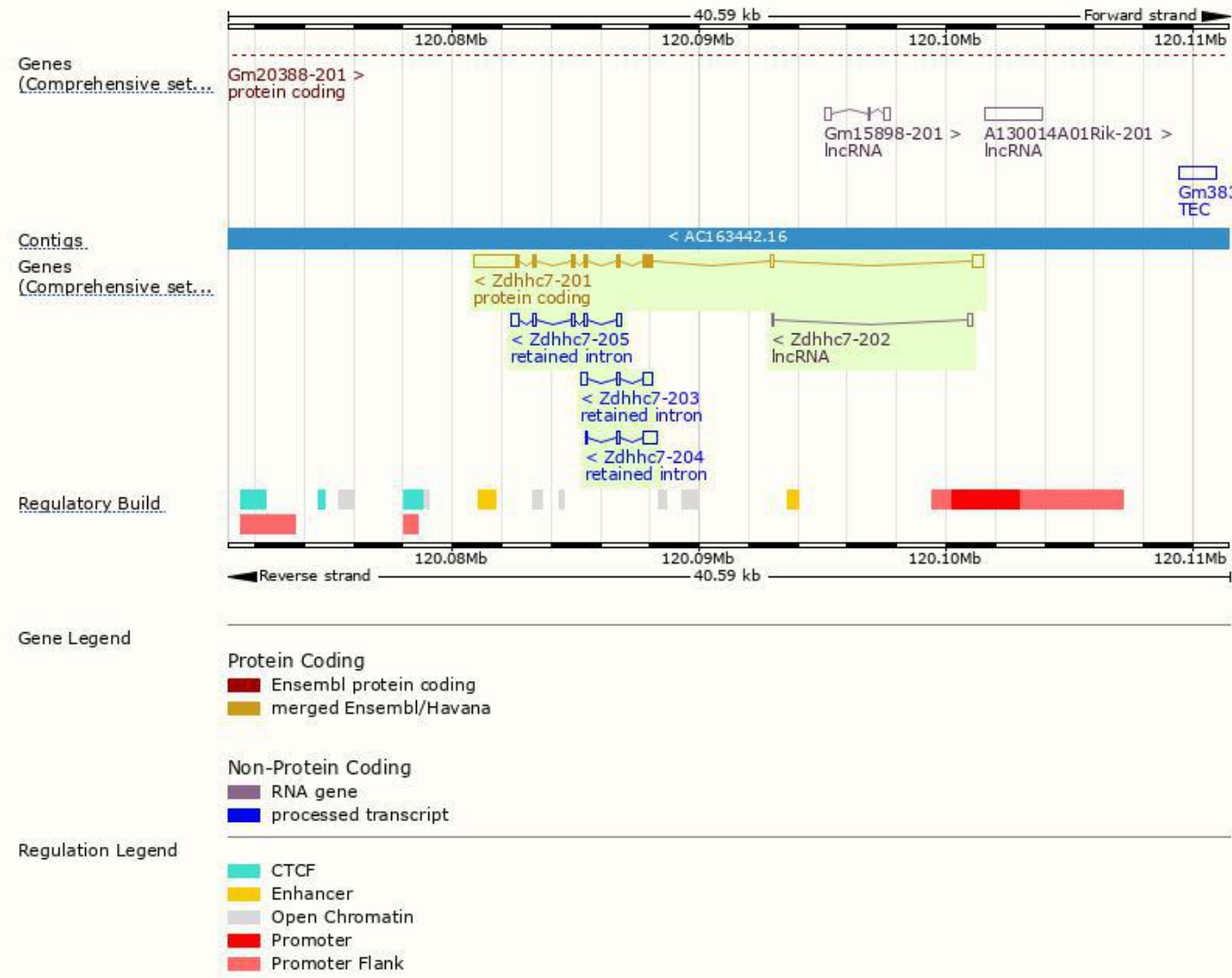
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zdhhc7-201	ENSMUST00000034280.8	3069	308aa	Protein coding	CCDS22715	Q91WU6	TSL:1 GENCODE basic APPRIS P1
Zdhhc7-205	ENSMUST00000150444.1	831	No protein	Retained intron	-	-	TSL:1
Zdhhc7-204	ENSMUST00000141886.1	670	No protein	Retained intron	-	-	TSL:2
Zdhhc7-203	ENSMUST00000124044.7	667	No protein	Retained intron	-	-	TSL:2
Zdhhc7-202	ENSMUST00000123186.1	246	No protein	lncRNA	-	-	TSL:2

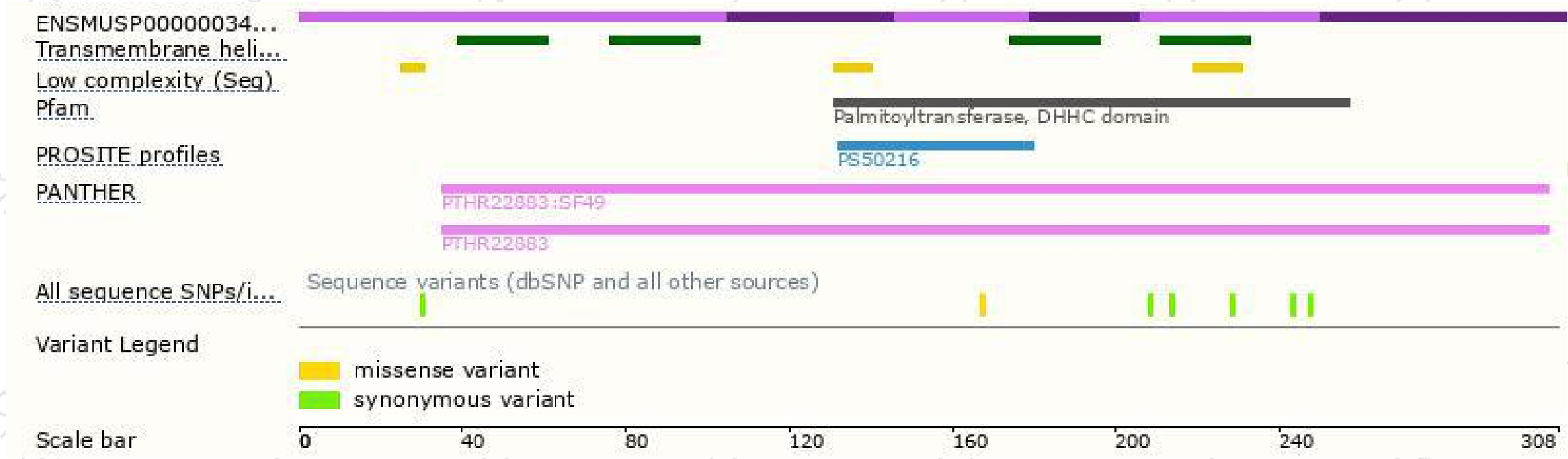
The strategy is based on the design of *Zdhhc7-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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