

***Zdhhc6* Cas9-CKO Strategy**

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Project Overview

Project Name

Zdhhc6

Project type

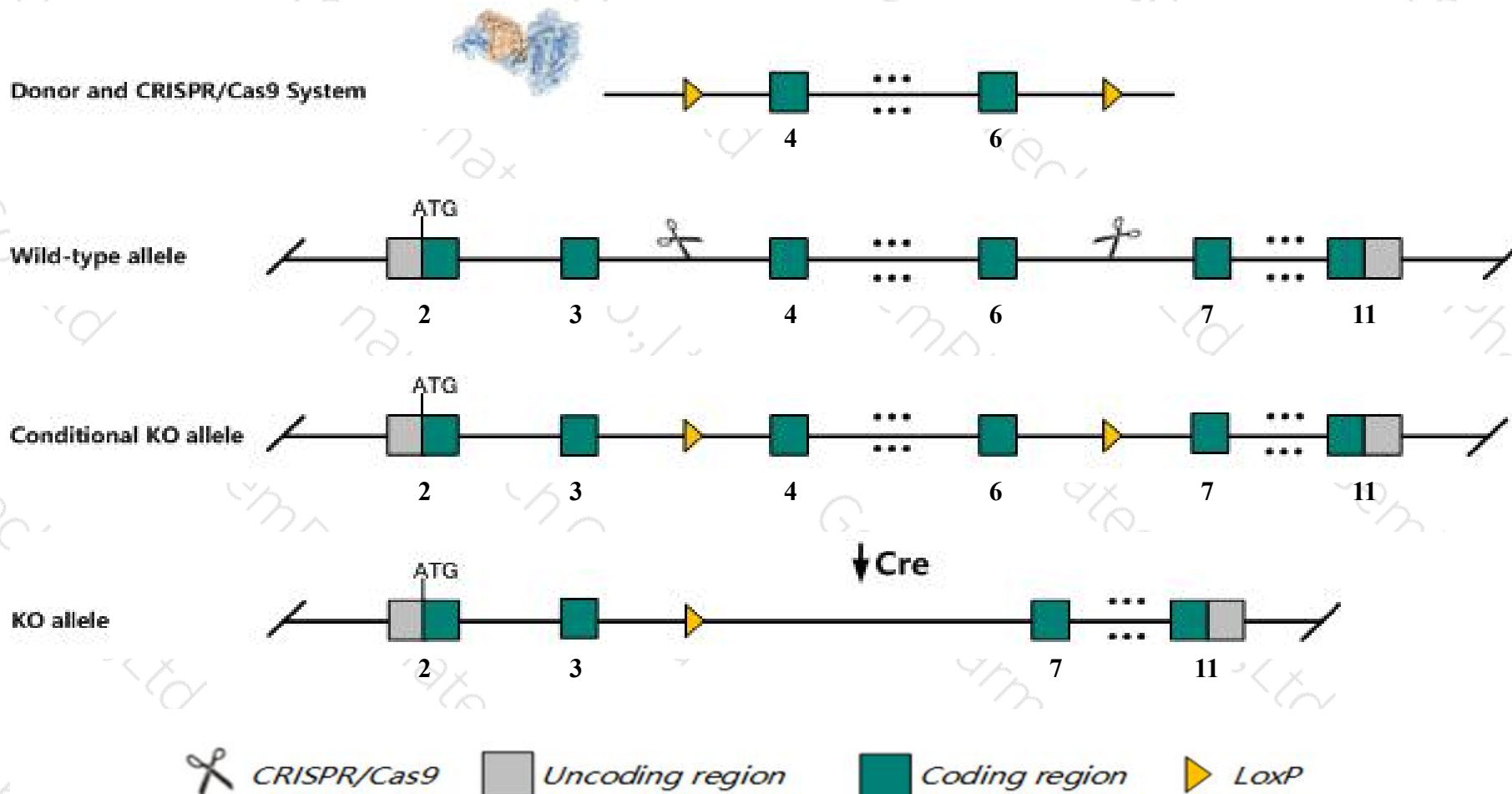
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zdhhc6* gene. The schematic diagram is as follows:



Technical routes

- The *Zdhhc6* gene has 11 transcripts. According to the structure of *Zdhhc6* gene, exon4-exon6 of *Zdhhc6*-201(ENSMUST00000076891.6) transcript is recommended as the knockout region. The region contains 376bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zdhhc6* 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 *Zdhhc6* gene is located on the Chr19. 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)

Zdhhc6 zinc finger, DHHC domain containing 6 [Mus musculus (house mouse)]

Gene ID: 66980, updated on 13-Mar-2020

Summary



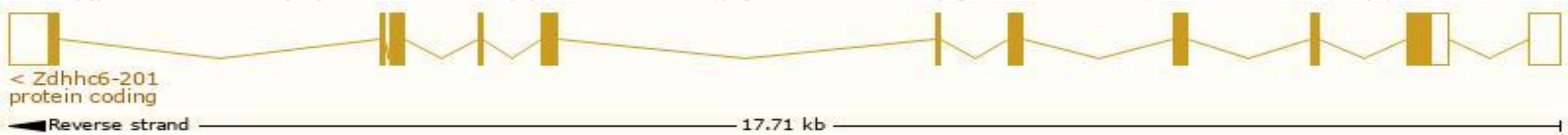
Official Symbol	Zdhhc6 provided by MGI
Official Full Name	zinc finger, DHHC domain containing 6 provided by MGI
Primary source	MGI:MGI:1914230
See related	Ensembl:ENSMUSG00000024982
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2400007G07Rik, 5930409M18Rik, AI462345, C77369, DHHC-6
Expression	Ubiquitous expression in bladder adult (RPKM 8.6), kidney adult (RPKM 8.4) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

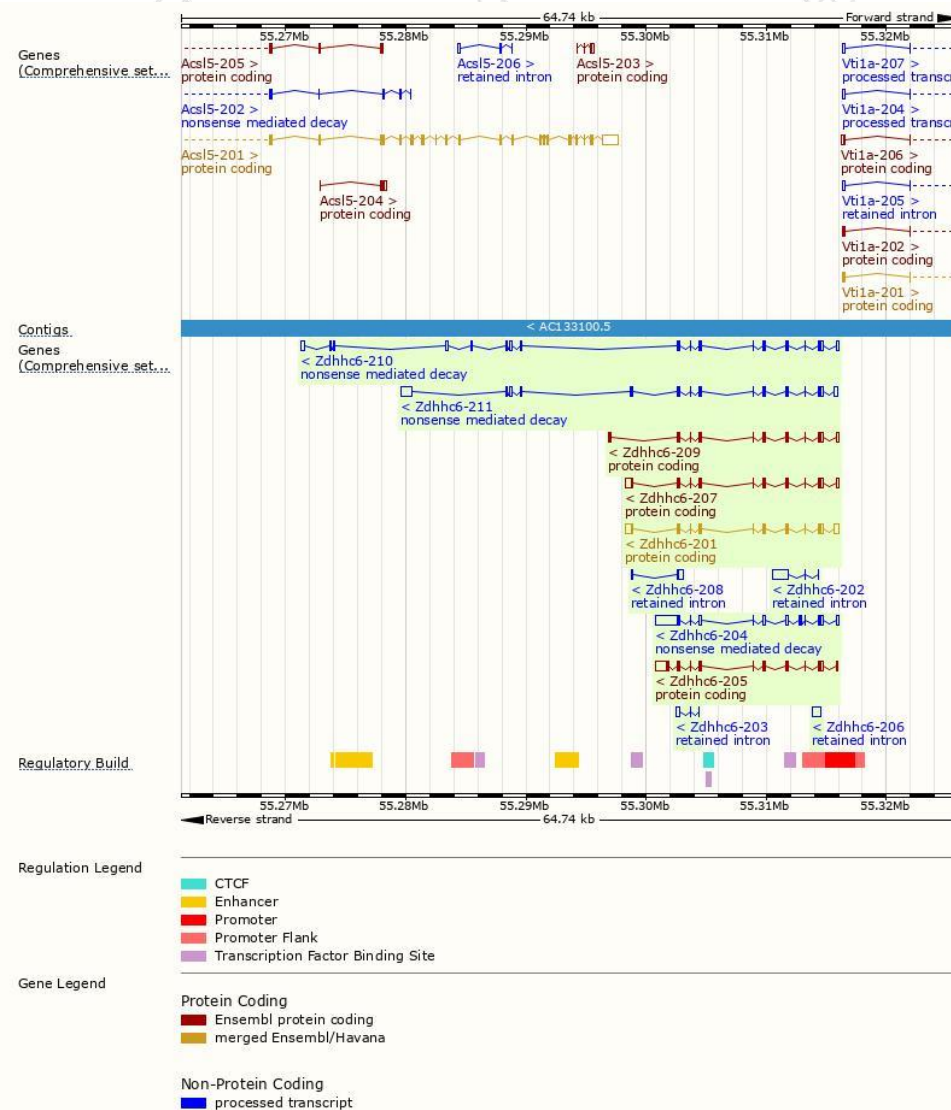
The gene has 11 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zdhhc6-201	ENSMUST00000076891.6	2263	413aa	Protein coding	CCDS29909	Q9CPV7	TSL:1 GENCODE basic APPRIS P1
Zdhhc6-207	ENSMUST00000224897.1	2168	413aa	Protein coding	CCDS29909	Q9CPV7	GENCODE basic APPRIS P1
Zdhhc6-205	ENSMUST00000224291.1	2603	421aa	Protein coding	-	Q9CPV7	GENCODE basic
Zdhhc6-209	ENSMUST00000225495.1	1711	397aa	Protein coding	-	Q9CPV7	GENCODE basic
Zdhhc6-204	ENSMUST00000223807.1	3457	144aa	Nonsense mediated decay	-	A0A286YE37	
Zdhhc6-211	ENSMUST00000226103.1	3357	413aa	Nonsense mediated decay	-	Q9CPV7	
Zdhhc6-210	ENSMUST00000225963.1	2647	410aa	Nonsense mediated decay	-	Q9CPV7	
Zdhhc6-202	ENSMUST00000223625.1	1420	No protein	Retained intron	-	-	
Zdhhc6-206	ENSMUST00000224474.1	646	No protein	Retained intron	-	-	
Zdhhc6-208	ENSMUST00000225032.1	547	No protein	Retained intron	-	-	
Zdhhc6-203	ENSMUST00000223743.1	407	No protein	Retained intron	-	-	

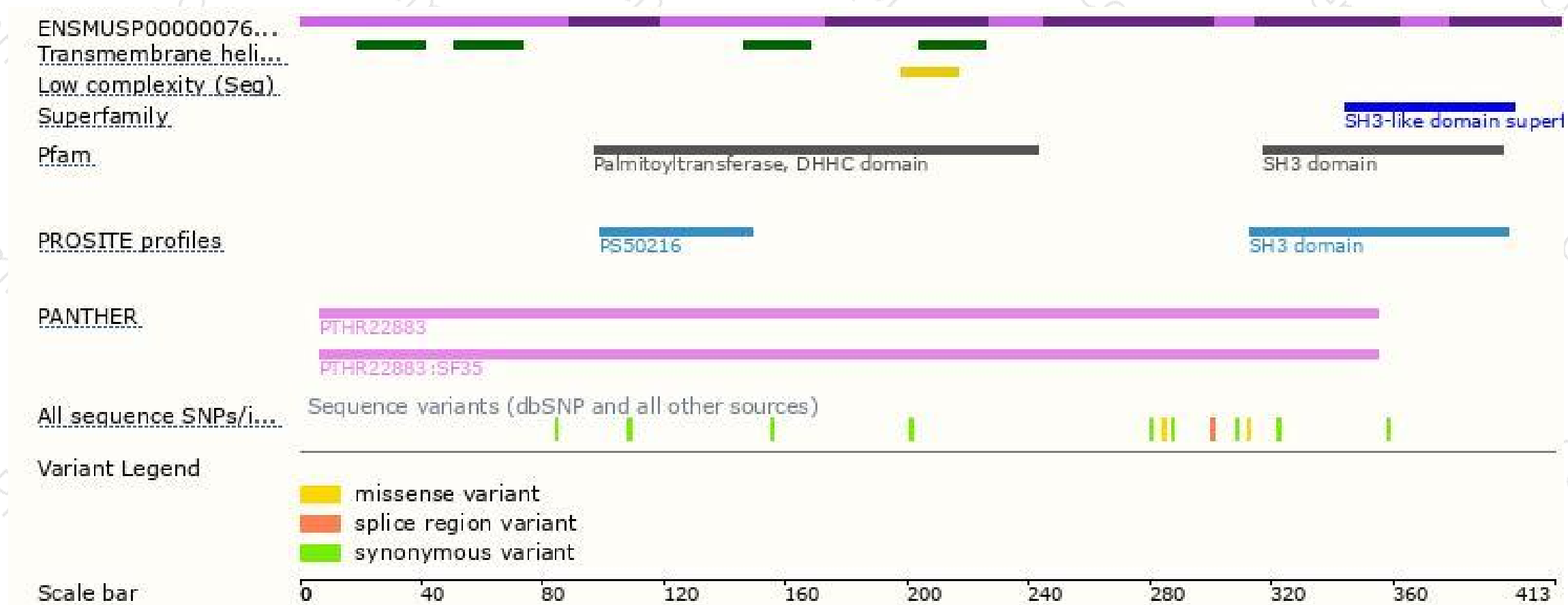
The strategy is based on the design of *Zdhhc6-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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