

Haus8 Cas9-CKO Strategy

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Project Overview

Project Name

Haus8

Project type

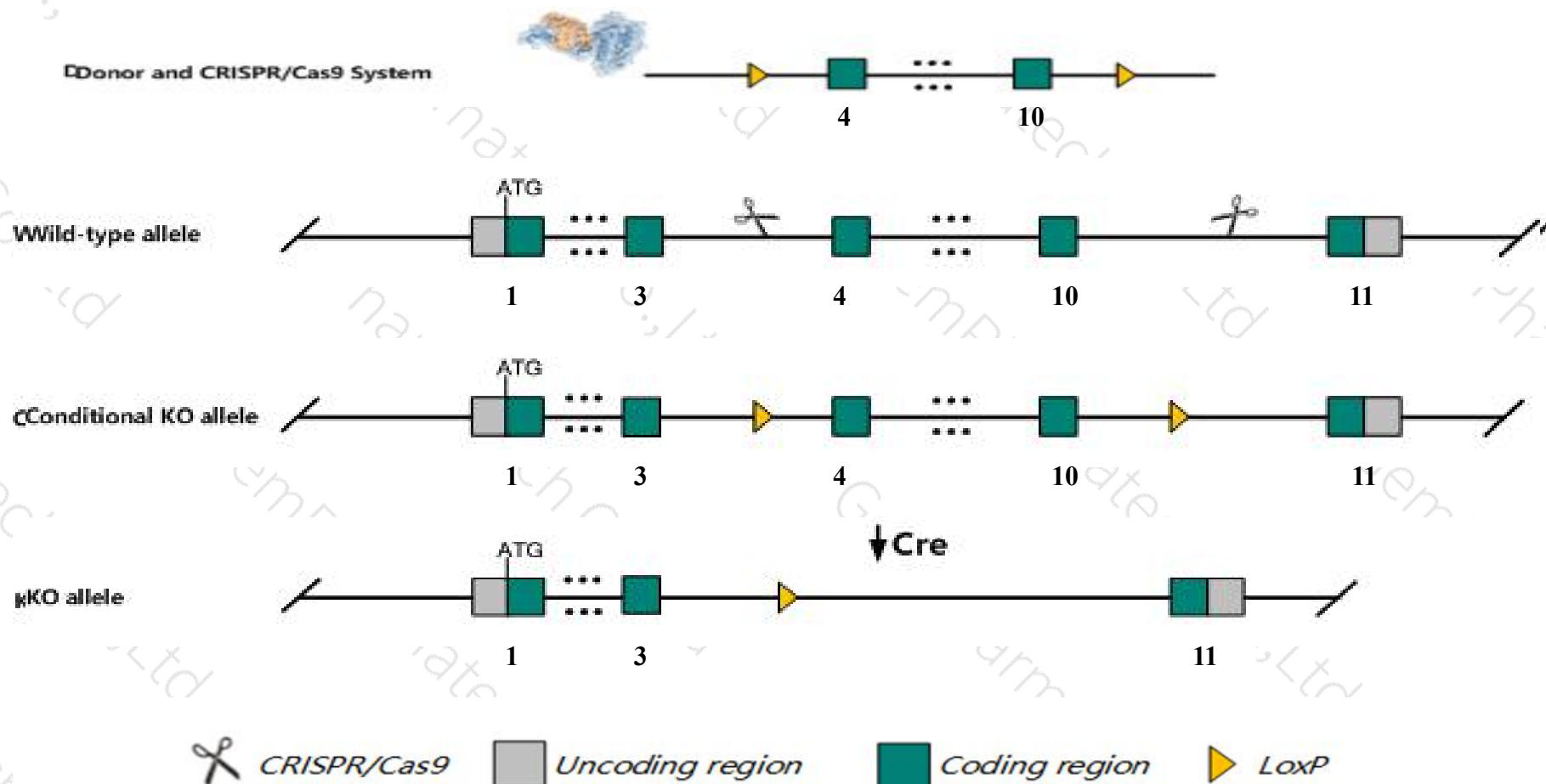
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Haus8* gene. The schematic diagram is as follows:



- The *Haus8* gene has 8 transcripts. According to the structure of *Haus8* gene, exon4-exon10 of *Haus8-201* (ENSMUST00000035960.12) transcript is recommended as the knockout region. The region contains 830bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Haus8* 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

- Transcript *Haus8-204* may be unaffected.
- The *Haus8* 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.
- This Strategy is designed based on genetic information in existing databases. Due to the complexity of gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information (NCBI)

Haus8 4HAUS augmin-like complex, subunit 8 [Mus musculus (house mouse)]

Gene ID: 76478, updated on 31-Jan-2019

Summary



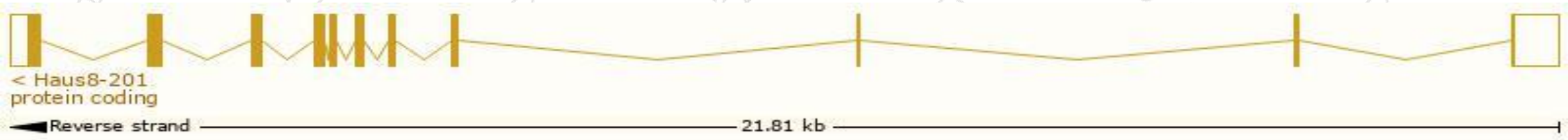
Official Symbol	Haus8 provided by MGI
Official Full Name	4HAUS augmin-like complex, subunit 8 provided by MGI
Primary source	MGI:MGI:1923728
See related	Ensembl:ENSMUSG000000035439
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2410004L22Rik, Hice1
Expression	Ubiquitous expression in liver E14 (RPKM 13.3), liver E14.5 (RPKM 11.9) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

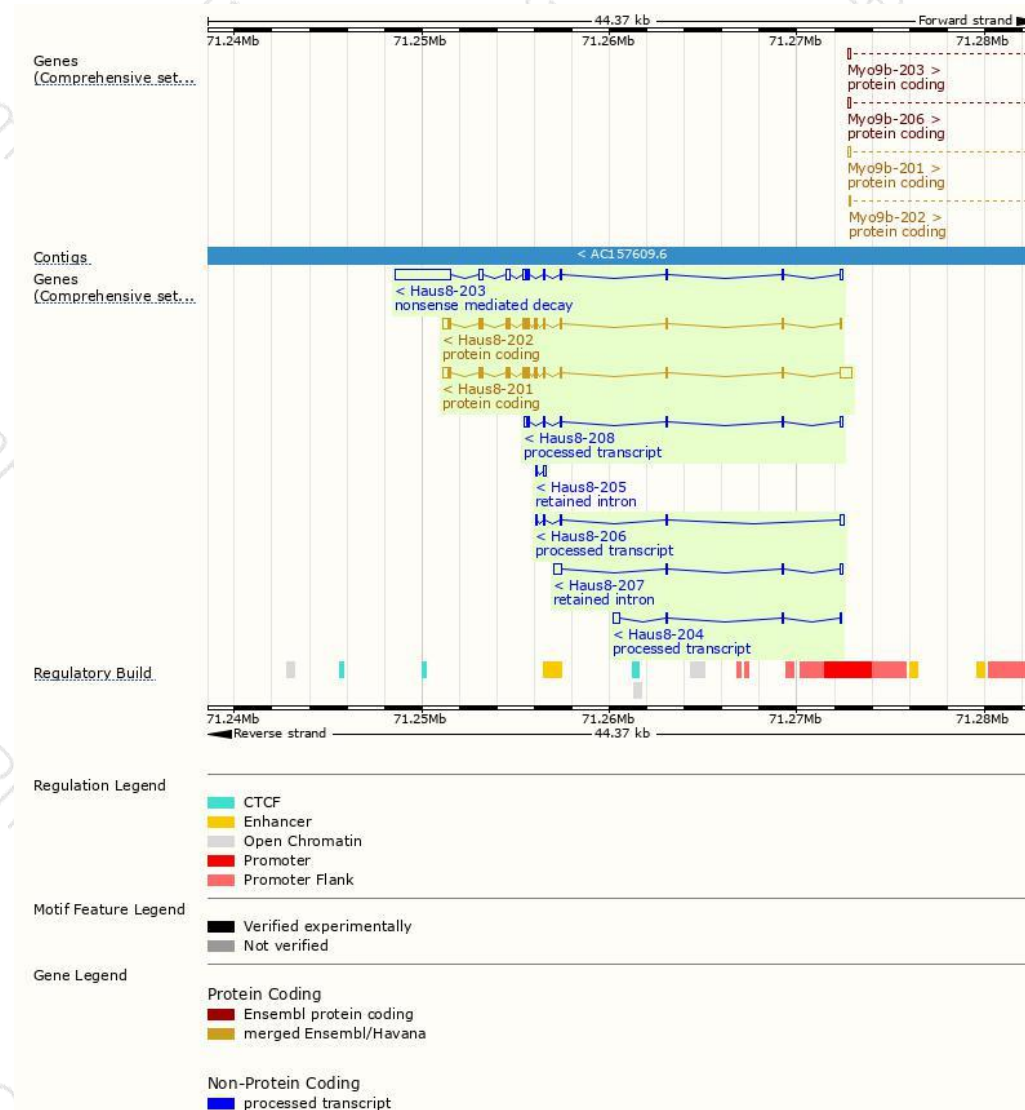
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Haus8-201	ENSMUST00000035960.12	2013	373aa	Protein coding	CCDS52579	Q99L00	TSL:1 GENCODE basic APPRIS ALT2
Haus8-202	ENSMUST00000110071.2	1452	372aa	Protein coding	CCDS22389	Q99L00	TSL:1 GENCODE basic APPRIS P3
Haus8-203	ENSMUST00000123495.7	3987	144aa	Nonsense mediated decay	-	D6RCV2	TSL:5
Haus8-208	ENSMUST00000157039.7	644	No protein	Processed transcript	-	-	TSL:3
Haus8-204	ENSMUST00000128833.1	471	No protein	Processed transcript	-	-	TSL:3
Haus8-206	ENSMUST00000134361.7	470	No protein	Processed transcript	-	-	TSL:2
Haus8-207	ENSMUST00000144726.7	659	No protein	Retained intron	-	-	TSL:3
Haus8-205	ENSMUST00000129455.1	278	No protein	Retained intron	-	-	TSL:5

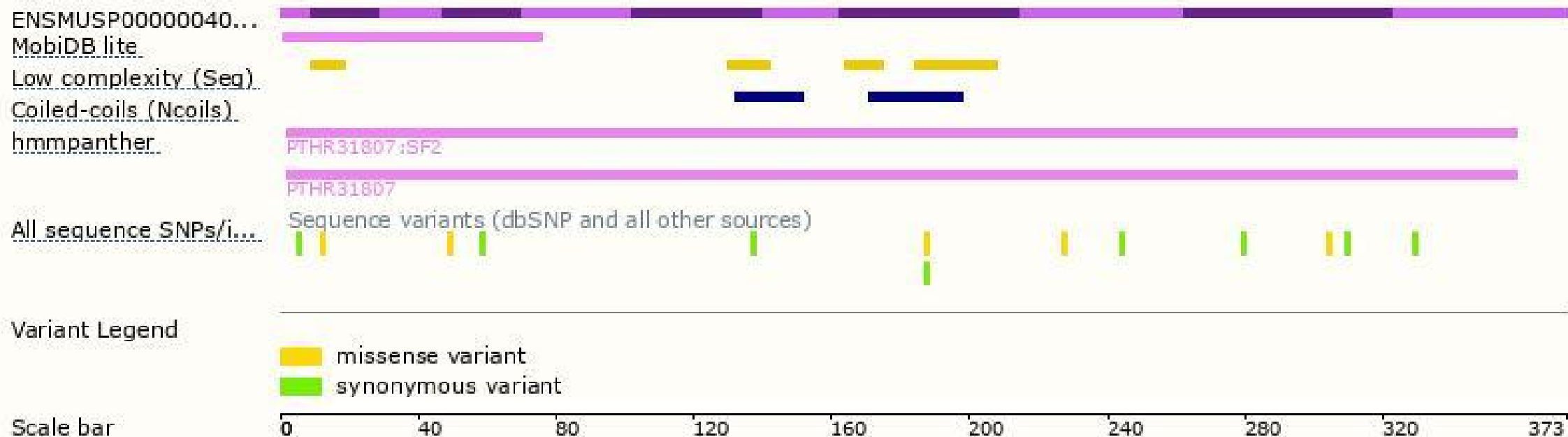
The strategy is based on the design of *Haus8-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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