

***Chid1* Cas9-KO Strategy**

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Project Overview

Project Name

Chid1

Project type

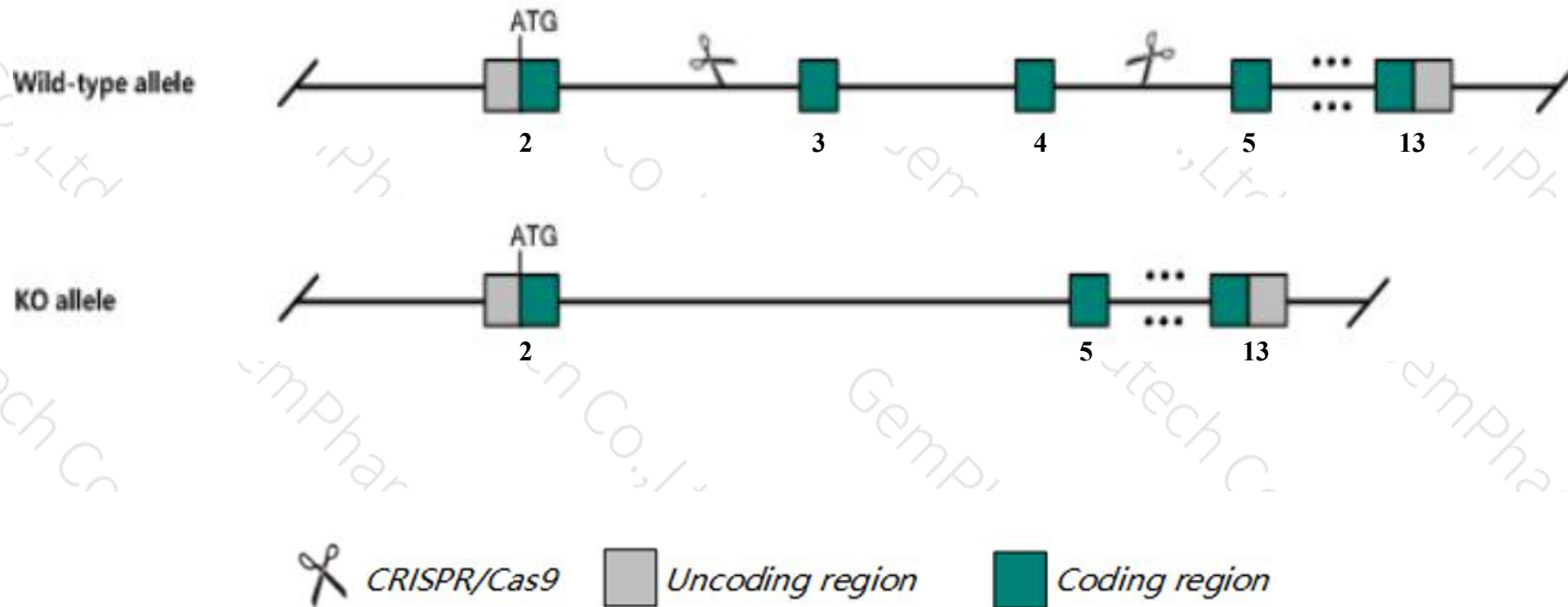
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Chidl1* gene. The schematic diagram is as follows:



- The *Chidl1* gene has 10 transcripts. According to the structure of *Chidl1* gene, exon3-exon4 of *Chidl1*-209(ENSMUST00000166082.7) transcript is recommended as the knockout region. The region contains 283bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Chidl1* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Chidl1* gene is located on the Chr7. 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Chid1 chitinase domain containing 1 [Mus musculus (house mouse)]

Gene ID: 68038, updated on 13-Mar-2020

Summary



Official Symbol	Chid1 provided by MGI
Official Full Name	chitinase domain containing 1 provided by MGI
Primary source	MGI:MGI:1915288
See related	Ensembl:ENSMUSG00000025512
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	3110023E09Rik, AI841869
Expression	Ubiquitous expression in genital fat pad adult (RPKM 13.0), placenta adult (RPKM 12.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

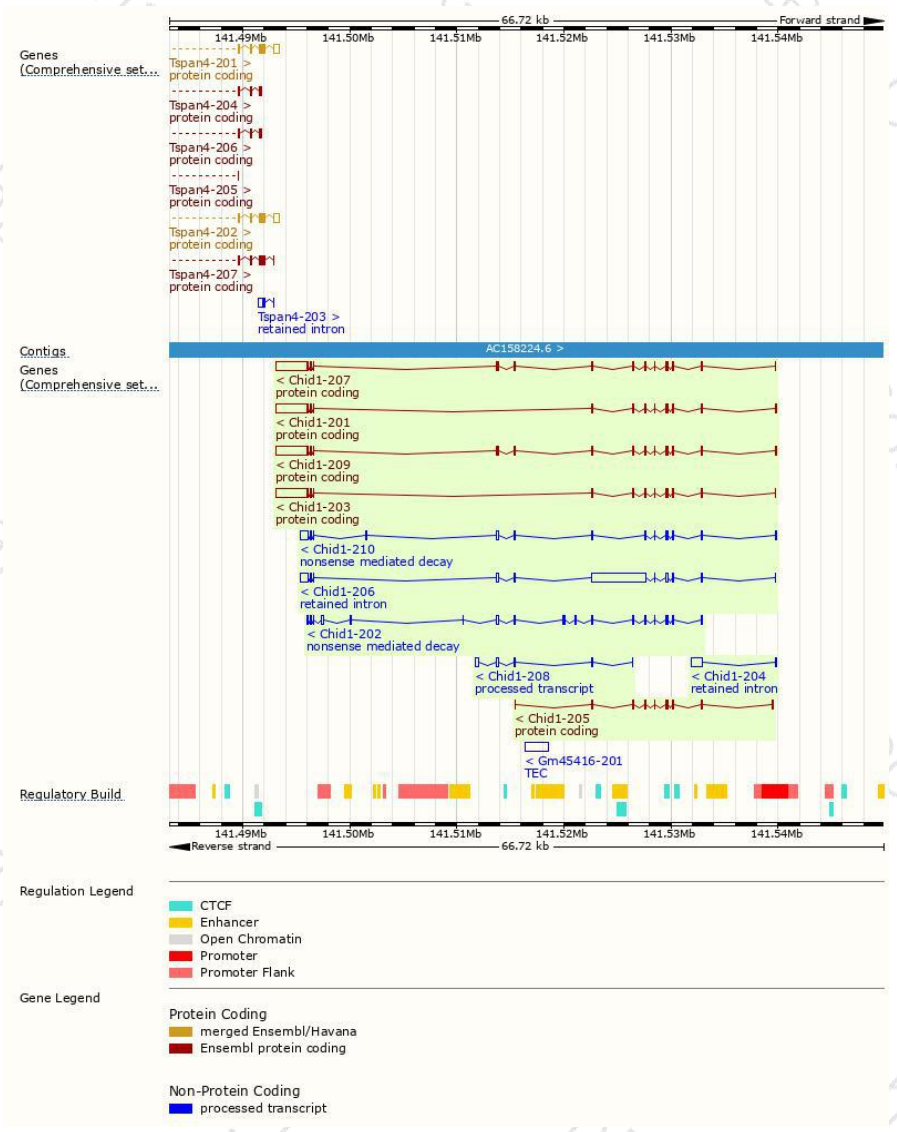
The gene has 10 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Chid1-209	ENSMUST00000166082.7	4222	396aa	Protein coding	CCDS52447	A0A0R4J242	TSL:1 GENCODE basic APPRIS P2
Chid1-201	ENSMUST00000026586.12	3964	310aa	Protein coding	CCDS22019	A0A0R4J058	TSL:1 GENCODE basic
Chid1-207	ENSMUST00000153191.7	4182	393aa	Protein coding	-	Q922Q9	TSL:1 GENCODE basic APPRIS ALT1
Chid1-203	ENSMUST00000118694.7	3910	307aa	Protein coding	-	Q922Q9	TSL:1 GENCODE basic
Chid1-205	ENSMUST00000143561.1	889	263aa	Protein coding	-	D3YWG2	CDS 3' incomplete TSL:5
Chid1-210	ENSMUST00000209452.1	1979	192aa	Nonsense mediated decay	-	A0A1B0GSH5	TSL:5
Chid1-202	ENSMUST00000064642.11	1696	297aa	Nonsense mediated decay	-	G8JL55	CDS 5' incomplete TSL:5
Chid1-208	ENSMUST00000155305.1	652	No protein	Processed transcript	-	-	TSL:3
Chid1-206	ENSMUST00000147610.7	6759	No protein	Retained intron	-	-	TSL:2
Chid1-204	ENSMUST00000133359.1	1127	No protein	Retained intron	-	-	TSL:1

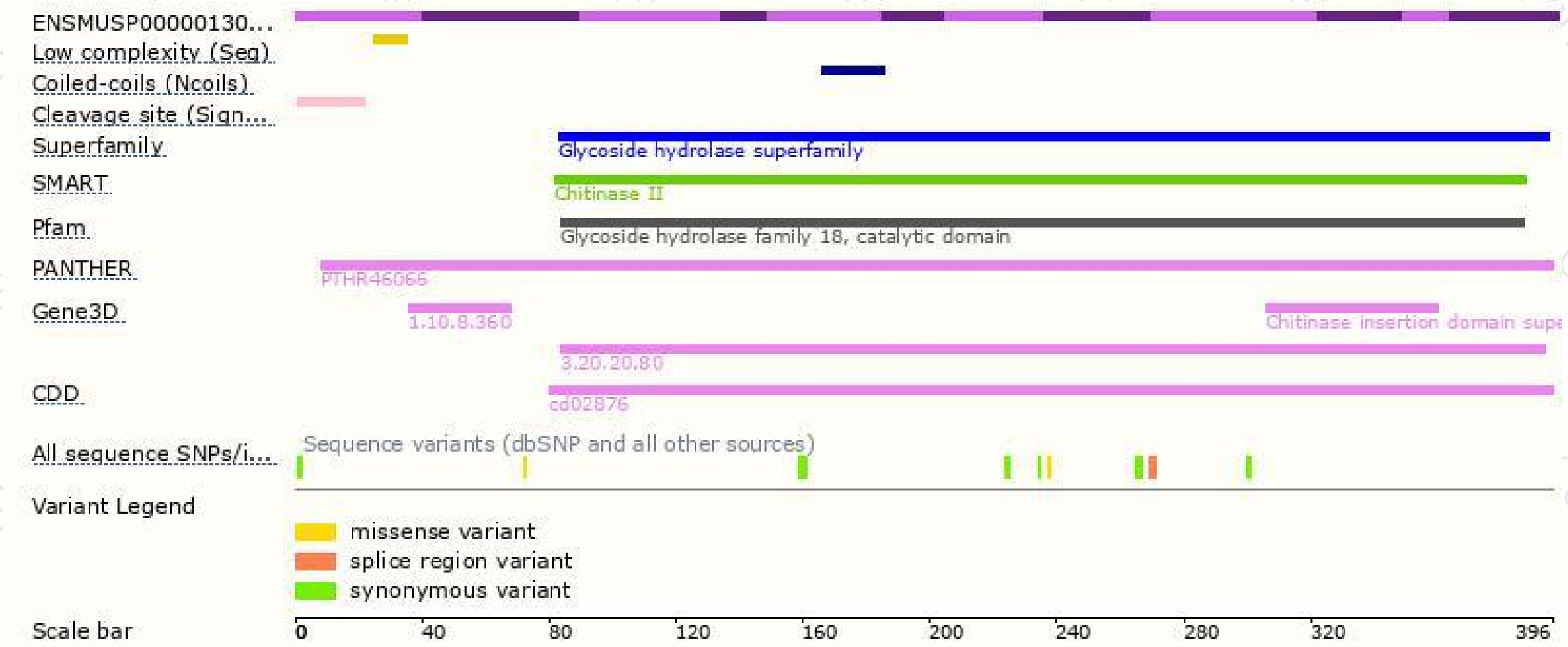
The strategy is based on the design of *Chid1-209* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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